From: VTA Board Secretary
Sent: Wednesday, February 24, 2021 9:48 AM
To: VTA Board of Directors; VTA Advisory Committee Members
Subject: VTA Takes You to COVID Vaccination Sites

VTA Board Members and Advisory Committee Members:

As Santa Clara County increases the number of COVID-19 vaccination locations, we are promoting those which are easily accessed by public transit.

Staff is working with the County to regularly update the attached interactive map that identifies transit routes serving vaccination sites. We ask that you please share this information from our website (link below) in your newsletters and any time you have an opportunity to speak to the media about good access to vaccination sites via public transit. And it's free to ride!

https://www.vta.org/blog/vta-takes-you-covid-vaccination-sites

Please also share from our social media channels that will direct people to the VTA website for more information and trip planning options.

Thank you!

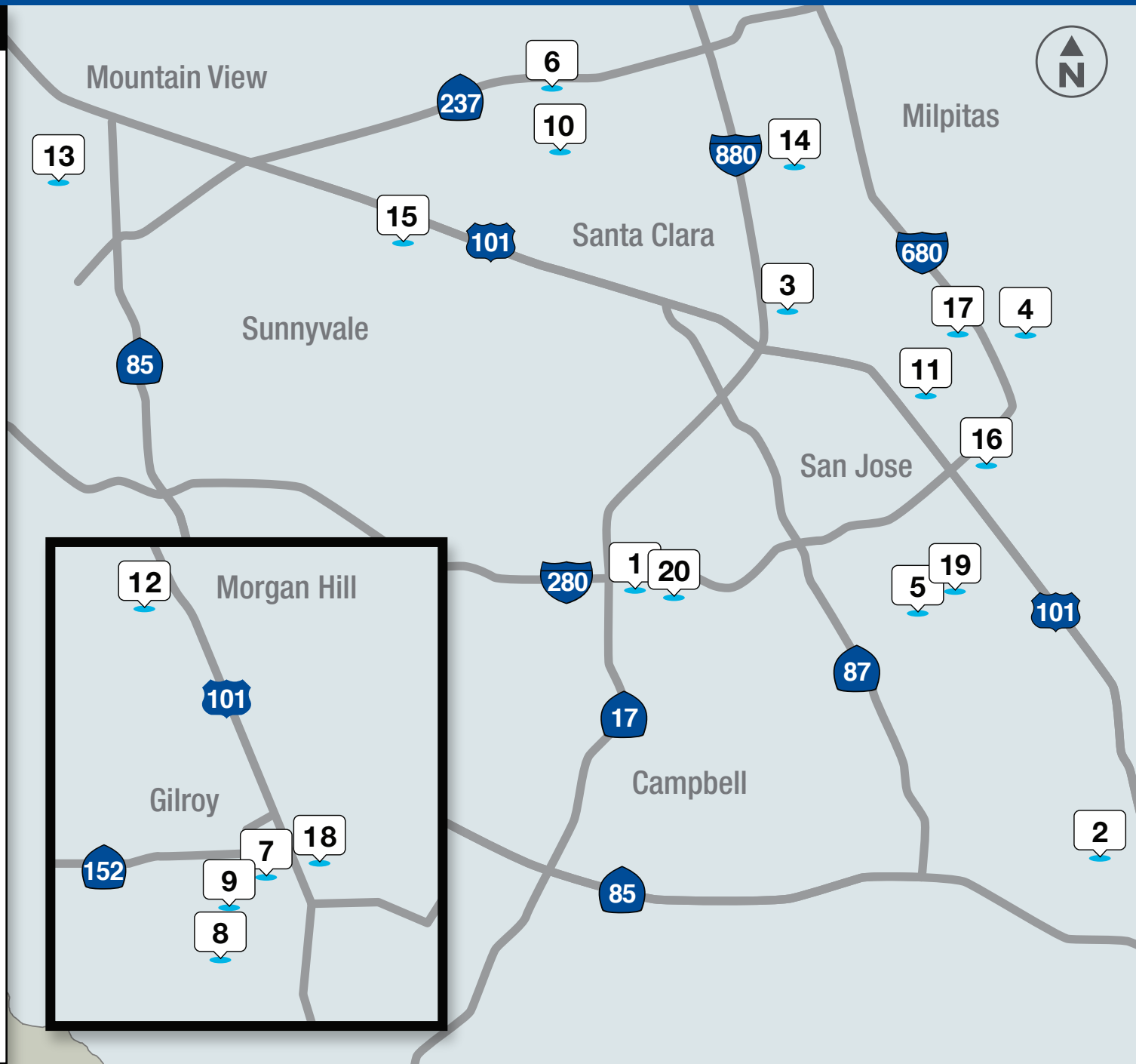
Santa Clara Valley Transportation Authority
3331 North First Street, Building B-1
San Jose, CA 95134-1927
Email: board.secretary@vta.org

Santa Clara Valley Transportation Authority
Solutions that move you

Take VTA to COVID-19 Vaccination Sites

Transit Routes

1. **AACI - Moorpark**
   Bus 25, 61
2. **Bay Area Community Health - Monterey**
   Bus 42, 68
3. **Berger Drive Auditorium**
   Bus 66
4. **Emmanuel Baptist Church**
   Bus 64A/B, 71
5. **Fairgrounds Expo Hall**
   Bus 26, 66, 68
6. **First Street Clinic**
   Bus 59
7. **Gardner South County Health Center**
   Bus 68
8. **Gilroy High School**
   Bus 86
9. **Gilroy Senior Center**
   Bus 85
10. **Levi's Stadium**
    Bus 55, 57, 59 / LR Orange & Green Lines
11. **Mexican Heritage Plaza**
    Bus 22, 23, 77, 522
12. **Morgan Hill Community Center**
    Bus 68
13. **Mountain View Community Center**
    Bus 21, 40
14. **North East Medical Services (NEMS)**
    Bus 60, 77
15. **Ravenswood**
    Bus 56
16. **Story Road Hub**
    Bus 22, 25, 77
17. **Valley Health Center - East Valley**
    Bus 64A/B, 70
18. **Valley Health Center - Gilroy**
    Bus 84
19. **Valley Health Center - Tully**
    Bus 26
20. **Valley Specialty Center (at VMC Campus)**
    Bus 25, 61



From: VTA Board Secretary
Sent: Wednesday, February 24, 2021 4:26 PM
To: VTA Board Secretary; VTA Board of Directors
Subject: From VTA: CORRECTION: American Rescue Plan Addition

CORRECTION: See below.

VTA Board of Directors:

Last night the House Budget Committee approved the American Rescue Plan. The Budget Committee added $461.3 ~~$61.3~~ million of additional funds to the Capital Investment Grant programs. As a result the amount for BART Phase 2 was increased from $112.5 million to $140.6 million. This is money that is outside the 25% cap mandated by the Expedited Project Delivery program. After approval by the full House the bill will proceed to the Senate.

Jim Lawson
Chief, External Affairs
Santa Clara Valley Transportation Authority
3331 North First Street, Building B
San Jose, CA 95134

From: VTA Board Secretary
Sent: Wednesday, February 24, 2021 6:08 PM
To: VTA Board of Directors
Subject: VTA Letter to Dr. Cody and Mr. Williams re: Public Transit Employee Vaccination Priority
Importance: High

VTA Board of Directors:

Attached is a letter addressed to Dr. Cody, Health Officer and Public Health Department Director and James Williams, Santa Clara County Counsel, from VTA's General Counsel and Interim General Manager/CEO Evelynn Tran.

The letter is regarding the Public Transit Employee Vaccination Priority. It requests that transit employees and VTA frontline essential workers be eligible to receive the COVID-19 vaccine under the California's current eligibility Phase 1B Education/Childcare and Emergency Workers.

If you have any questions, please reply to this message.

Santa Clara Valley Transportation Authority
3331 North First Street, Building B-1
San Jose, CA 95134-1927
Main line: 408.321.5680
Email: board.secretary@vta.org

Santa Clara Valley Transportation Authority
Solutions that move you

Santa Clara Valley Transportation Authority

February 24, 2021

Dr. Sara Cody, MD
Health Officer and Public Health Department Director
Santa Clara County Public Health Department
976 Lenzen Avenue
San Jose, CA 95126

James R. Williams, esq.
County Counsel
Office of the Santa Clara County Counsel
70 West Hedding Street, East Wing
San Jose, CA 95110

RE: Public Transit Employee Vaccination Priority

Dear Dr. Cody and Mr. Williams

The Santa Clara Valley Transportation Authority (VTA) requests that transit employees, our frontline essential workers, be eligible to receive the COVID-19 vaccine under the State of California's current eligibility Phase 1B Education/Childcare and Emergency Workers. As you know, when the March Shelter in Place Order was issued, transit workers were recognized as essential governmental functions. Public transit workers have been and continue to remain on the front lines of this pandemic -- transporting the most vulnerable in our communities every day. Over 50% of VTA's riders claim a household income below $50,000 per year. 33% of our riders identify as Latinx and over 70% of our riders are non-white.

VTA is providing emergency services. Currently, VTA provides free rides to over 20 vaccination sites in the County and is actively promoting this through a campaign, highlighting all locations along our transit routes, making it that much easier for transit riders to access the vaccine. (Please see attached access map)

Through its paratransit program, VTA provides rides to and from vaccination sites for those paratransit customers who meet the vaccination eligibility requirements, and VTA anticipates that rides would greatly increase under the State's expanded eligibility to those under 65 with comorbidity.

Moreover, VTA has vehicles in its paratransit fleet that could be used to provide transportation to vaccination sites for seniors who may not be eligible for paratransit services. Due to social distancing requirements, VTA is currently unable to use approximately 50 of its small paratransit vehicles, which could be mobilized for this purpose if the drivers were vaccinated. The balance of VTA's paratransit fleet is currently used accommodate our paratransit clients.

VTA provides transportation to schools. As educators and others supporting the education sector (such as school bus drivers) begin to receive their vaccinations, so should transit employees. Pre-pandemic, VTA carried approximately 6,300 K-12 school age students (mostly middle and high school students) to and from school on any typical day on the routes shown in the chart below. VTA

had 2.3 million boarding per year of K – 12 students. It important to recognize the significant role VTA plays in transporting school children.

Alum Rock Union School District, Berryessa Union School District, Cambrian School District, Cupertino Union School District, Campbell Union School District, Evergreen School District, Franklin-Mckinley School District, Lakeside Joint School District, Loma Prieta Joint Union School District, Los Altos School District, Los Gatos Union School District, Luther Burbank School District, Moreland School District, Mount Pleasant School District, Mountain View Whisman School District, Oak Grove School District, Orchard School District, Saratoga Union School District, Sunnyvale School District, Union Elementary School District, East Side Union High School District, Fremont Union High School District, Los Gatos-Saratoga Union High School District, Campbell Union High School District, Metropolitan Education District, Mountain View-Los Altos Union High School District, Gilroy Unified School District, Milpitas Unified School District, Morgan Hill Unified School District, Palo Alto Unified School District, San Jose Unified School District, Santa Clara Unified School District	246, 247, 256, 270, 287, 288, 288L, 288M, 51, 23, 51H, 31, 40, 52, 55, 523, 53, 61, 66, 37, 56, 86, 87	San Jose State University, De Anza College, Evergreen Valley College, Foothill Community College, Mission College, West Valley College, San Jose City College, Santa Clara University, Stanford University, Gavilan College	Green Line, Blue Line, Orange Line, 522, 523, 168, 31, 42, 22, 59, 61, 25, 57, 20, 37, 26, 51, 23, 51, 55, 40, 52, 21, 86

To ensure VTA employees receive the vaccine at the first available opportunity, VTA provided our Vaccine Rollout Plan and list of employees prioritized by job classifications to the County in a letter dated to you on January 12, 2021. This plan has become ever more critical as schools and businesses open up more and more people use public transit.

VTA has a total of 2,084 current employees: 831 are bus operators, 115 are light rail operators, and 65 are employed as drivers in our paratransit operation.

We ask for your continued support of essential workers who are at a substantially higher risk of exposure to COVID to receive the vaccine as soon as possible. VTA looks forward to receiving the vaccinations and appreciates the County's efforts to ensure that our frontline workers can continue to provide vital transit services to other essential workers, students, low income, minority, elderly and disabled residents of Santa Clara County.

Sincerely,

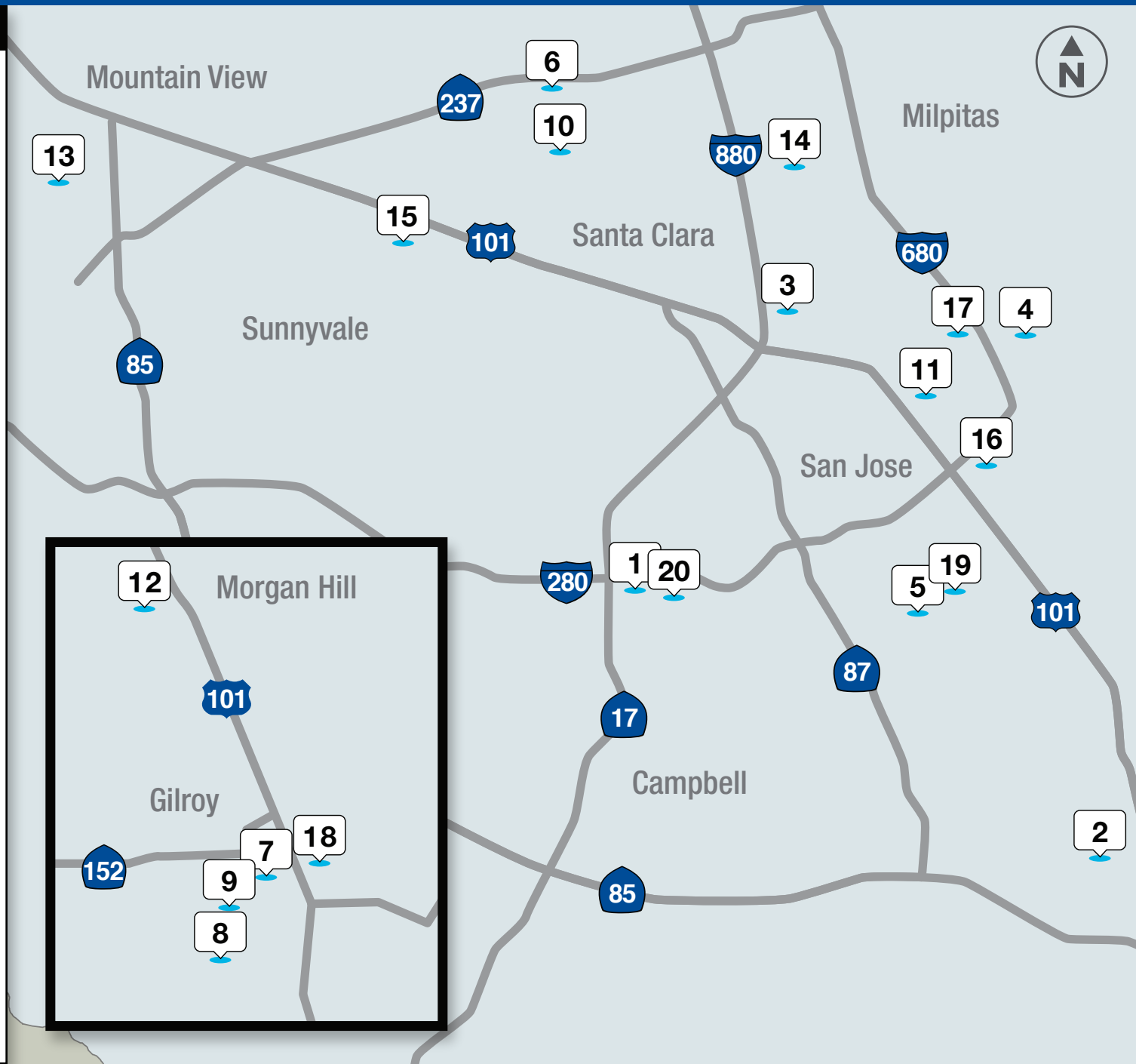
Evelynn Tran
General Counsel and Interim General Manager/CEO

cc: Board of Directors
Greta Hansen

Take VTA to COVID-19 Vaccination Sites

Transit Routes

1. **AACI - Moorpark**
   Bus 25, 61
2. **Bay Area Community Health - Monterey**
   Bus 42, 68
3. **Berger Drive Auditorium**
   Bus 66
4. **Emmanuel Baptist Church**
   Bus 64A/B, 71
5. **Fairgrounds Expo Hall**
   Bus 26, 66, 68
6. **First Street Clinic**
   Bus 59
7. **Gardner South County Health Center**
   Bus 68
8. **Gilroy High School**
   Bus 86
9. **Gilroy Senior Center**
   Bus 85
10. **Levi's Stadium**
    Bus 55, 57, 59 / LR Orange & Green Lines
11. **Mexican Heritage Plaza**
    Bus 22, 23, 77, 522
12. **Morgan Hill Community Center**
    Bus 68
13. **Mountain View Community Center**
    Bus 21, 40
14. **North East Medical Services (NEMS)**
    Bus 60, 77
15. **Ravenswood**
    Bus 56
16. **Story Road Hub**
    Bus 22, 25, 77
17. **Valley Health Center - East Valley**
    Bus 64A/B, 70
18. **Valley Health Center - Gilroy**
    Bus 84
19. **Valley Health Center - Tully**
    Bus 26
20. **Valley Specialty Center (at VMC Campus)**
    Bus 25, 61



From: VTA Board Secretary
Sent: Thursday, February 25, 2021 4:57 PM
To: VTA Board of Directors; VTA Advisory Committee Members
Subject: From VTA: link to updated vaccination site map

VTA Board of Directors and Advisory Committees:

Like most things these days, our vaccination site map has already evolved ...and for the better!

VTA will be making periodic updates to the vaccination site map as we get more information. Below is the website link that will have the most recent updates. Please share the website link below with your networks instead of the static map that we sent you yesterday.

Thank you for helping us spread the word!

https://www.vta.org/blog/vta-takes-you-covid-vaccination-sites

Santa Clara Valley Transportation Authority
Office of the Board Secretary
3331 North First Street, Building B
San Jose, CA 95134-1927
Phone **408-321-5680**
Board.secretary@vta.org

Santa Clara Valley Transportation Authority
Solutions that move you

From: VTA Board Secretary
Sent: Thursday, February 25, 2021 5:49 PM
To: VTA Board of Directors
Subject: VTA Information: March 4, 2021 Board of Directors Agenda Packet

VTA Board of Directors:

You may now access the VTA Board of Directors Agenda packet for the **Thursday, March 4, 2021 Meeting** on our agenda portal.

Board Members will receive a unique "Panelist" link via email from VTA Board Secretary. The email will provide instructions on how to join the meeting.

Thank you,

Office of the Board Secretary
Santa Clara Valley Transportation Authority
3331 North First Street, Building B
San Jose, CA 95134-1927
Phone **408-321-5680**

Santa Clara Valley Transportation Authority
Solutions that move you

From: VTA Board Secretary
Sent: Friday, February 26, 2021 9:54 AM
To: VTA Board of Directors
Subject: From VTA: Responses to Board Member Questions/Referral

VTA Board of Directors:

Listed below are the answers to several Board Members' questions on:

1) Negative Variance for Advertising (question from Board Member Liccardo)
2) Cost and Ridership projection for Phase I (question from Board Member Simitian)
3) Phase II Tunnelling (question from Board Member Montano)

Question 1: At the February AF meeting, Board Member Liccardo asked why there is negative variance in the advertising line item when we have a guaranteed payment as part of our contracts with the advertising companies.

Response: *We currently have contracts with two advertising companies, Outfront Media and Clear Channel Outdoor. Both are public companies that work with many transit agencies. The entire Out of Home Advertising Industry experienced a near collapse in its business with the onset of the pandemic.*

Our contracts have a high Minimum Annual Guarantee (MAG) payment, with a formula that calculates VTA's percentage share of sales revenues. In the event the percentage share exceeds the MAG the companies pay that additional increment to VTA. However, if sales fall short the companies absorb that loss (i.e. they are at risk if sales are less than what is assumed to establish the MAG). Prior to the pandemic, neither company had sales high enough to pay VTA any increment above the MAG.

VTA and along with other transit agencies were approached by Outfront and Clear Channel, and while we and the other agencies could have held them to the MAG payments, that would have forced them to file for bankruptcy.

In VTA's situation, we decided to temporarily amend the contracts so payment would be at the set VTA percentage times actual sales, i.e. we waived the MAG. Other transit agencies have done much the same. We continued to waive the MAG in quarterly increments and intend to do so until advertising sales recover closer to 70% - 80% of the pre-pandemic level amount, best case late this year. Sales by the advertising agencies are not driven by VTA ridership. Rather they are driven by what is known as "eyeballs on the street" a description of traffic volumes that can observe the advertising.

As a result, the negative variance shown in the budget reflects the difference between the budgeted MAG payment and the actual sales with VTA's share based on the percentage rate in

the contract. The large variance highlights the huge impact of the pandemic on the Out of Home Advertising industry.

Below is a breakdown showing the difference between contractual payment and adjusted revenue received for both companies:

Total Lost Advertising Revenue between Q4 FY20 - Q2 FY21

	Contracted Payments	Amended Payments	Difference
Q4 FY20*	$ 838,750	$ 637,500	$ (201,250)
Q1 FY21	$ 863,750	$ 442,535	$ (421,215)
Q2 FY21	$ 863,750	$ 607,757	$ (255,993)
Total	$ 2,566,250	$ 1,687,792	$ (878,458)

Question 2: At the February Board Orientation, Board Member Simitian asked whether the numbers cited in the article for the capital cost of the Phase I extension and the projected daily ridership are accurate.

Answer: *The Mercury News ran an article on December 14, 2020 regarding the South Bay's two new BART stations, the Milpitas BART Station and the Berryessa/North San Jose Station. A question was asked whether the numbers cited in the article for the capital cost of the extension and the projected daily ridership are accurate. The simple answer is yes; the $2.3 billion capital cost for the extension is accurate. The actual daily trip information was obtained from BART and the ridership projection is consistent with the FY21 Ridership Trend information that was presented to VTA's SSTPO Committee on November 18, 2020.*

Question 3: At the February Board Orientation, Board Member Montano requested information on Phase II tunelling.

Answer: *During the environmental clearance phase of the VTA's BART Silicon Valley Phase II Extension Project ("Project"), both the twin-bore and single-bore tunneling methodologies were evaluated and assessed in regard to constructability, system operations, passenger experience, economic development, costs, schedule and risk impacts. This included an Independent Comparative Analysis Risk Assessment conducted in 2017 with findings presented to the VTA Board of Directors in September 2017. Copies of this presentation along with additional reference material can be found here:* http://santaclaravta.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=2501&MediaPosition=&ID=6217&CssClass=

The Board adopted the BART Silicon Valley Phase II Extension Project with the single bore tunneling methodology at their April 5, 2018 meeting. The attached document has the staff report and presentation. Subsequently, the Board held a special meeting on April 17, 2020 and staff presented optimized single bore stacked concepts. The presentation can be found here: http://santaclaravta.iqm2.com/Citizens/FileOpen.aspx?Type=4&ID=9516&MeetingID=3331

Santa Clara Valley Transportation Authority

Date: April 2, 2018
Current Meeting: April 5, 2018
Board Meeting: April 5, 2018

BOARD MEMORANDUM

APPROVED ACCEPTED ADOPTED AMENDED DEFERRED REVIEWED
Santa Clara Valley Transportation Authority
Board of Directors
Elaine F. Baltao, Board Secretary
BY:
DATE: 4/5/18

TO: Santa Clara Valley Transportation Authority Board of Directors

THROUGH: General Manager, Nuria I. Fernandez

FROM: Chief Engineering & Program Delivery Officer, Carolyn M. Gonot

SUBJECT: Final Subsequent Environmental Impact Report Certification and VTA's BART Silicon Valley Phase II Extension Project Approval

Policy-Related Action: No **Government Code Section 84308 Applies: No**

ACTION ITEM

RECOMMENDATION:

Approve VTA's BART Silicon Valley Phase II Extension Project (Phase II Project), formerly called the Silicon Valley Rapid Transit Corridor Bay Area Rapid Transit (BART) Extension Project to Milpitas, San Jose and Santa Clara, through the following actions:

1. Certify that the Subsequent Environmental Impact Report (SEIR):
    a. Meets the requirements of California Environmental Quality Act (CEQA);
    b. Represents the independent judgment of the Lead Agency; and
    c. Was presented to, and reviewed and considered by, the VTA Board of Directors prior to making its decision on the Phase II Project.
2. Adopt:
    a. Findings;
    b. Facts in Support of Findings; and
    c. Statement of Overriding Considerations.
3. Adopt a Mitigation Monitoring and Reporting Program.
4. Adopt the Recommended Project Description and approve the Phase II Project that consists of the BART Extension with Transit-Oriented Joint Development

BACKGROUND:

VTA's BART Silicon Valley Program consists of a 16-mile extension of the BART system from BART's Warm Springs/South Fremont Station in southern Fremont in Alameda County into Santa Clara County through the Cities of Milpitas, San Jose, and Santa Clara. VTA's BART Silicon Valley Program is being implemented in two phases: the Phase I Berryessa Extension Project (Phase I) and the Phase II Project. Phase I is a 10-mile extension currently under construction and scheduled to be open in late 2018. The remaining approximately 6-mile extension of VTA's BART Silicon Valley Program, called Phase II, was the subject of the combined Final Supplemental Environmental Impact Statement and Subsequent Environmental Impact Report (SEIS/SEIR), which includes both a National Environmental Policy Act (NEPA) and a California Environmental Quality Act (CEQA) analysis.

A CEQA SEIR was prepared to address substantial changes in the previously-approved project, including new alternatives considerably different from previous EIRs, and to consider new circumstances and information, such as new existing conditions, regulatory requirements, potential impacts, and mitigation measures. VTA's Board of Directors certified the first Final Environmental Impact Report (FEIR) and approved the 16-mile project on December 9, 2004. As preliminary engineering progressed, a number of design changes were identified, and a supplemental document was prepared to evaluate the environmental impacts. VTA's Board of Directors considered these changes and certified the first Final Supplemental Environmental Impact Report (FSEIR1) and approved the revised project on June 7, 2007. VTA's Board of Directors then certified a Final Second Supplemental Environmental Impact Report (FSEIR2) and approved the 10-mile Phase I extension on March 3, 2011.

On December 28, 2016, a combined Draft CEQA/NEPA SEIS/SEIR for the Phase II Project was released for public review. The Notice of Availability was published in local newspapers, distributed through a mass mailing, and posted on VTA's web site (<http://www.vta.org/bart/draft2016seis-seir>). Copies were also provided to eight local libraries. A Notice of Availability of the Draft SEIS/SEIR was published in the Federal Register on January 7, 2017. There were several requests to extend the public comment period. As a result, the close of the public comment period was extended from February 20, 2017, to March 6, 2017. Three public hearings were held during the public comment period at the following locations: East San Jose, at the Mexican Heritage Plaza on Wednesday, January 25, 2017, at 6:00 p.m.; City of Santa Clara, at the Santa Clara Senior Center on Thursday, January 26, 2017 at 6:00 p.m.; and City of San Jose, at the San Jose City Hall on Monday, January 30, 2017 at 6:00 pm.

DISCUSSION:

The Final SEIS/SEIR was released to the public on February 21, 2018 and consists of three volumes. Volume I includes edits/changes to the Draft SEIS/SEIR as a result of public comments and changes resulting from refinements of the designs of the build alternatives. Volume II includes all of the comments received on the Draft SEIS/SEIR and responses to those comments. Volume III contains the Appendices.

Three alternatives were evaluated in the Final SEIS/SEIR in accordance with CEQA: the No Build Alternative, the BART Extension Alternative, and the BART Extension with Transit-Oriented Joint Development (TOJD) Alternative. The No Build Alternative consisted of planned

and programmed transit improvements but did not include the 6-mile BART Extension to Santa Clara. The BART Extension Alternative consisted of the 6-mile extension of the BART system from the Berryessa/North San Jose BART Station, currently under construction, through downtown San Jose to the vicinity of the Santa Clara Caltrain Station. The BART Extension with TOJD Alternative is the staff-recommended project and consists of the 6-mile BART Extension as described previously as well as TOJD at the BART Extension's four stations and two mid-tunnel ventilation structure sites. The TOJD may be constructed at the same time as the BART Extension or later in time dependent on the availability of funding and subject to market forces. VTA's TOJD is intended to be consistent with the general plans and approved area plans of the Cities of San Jose and Santa Clara, as applicable.

Staff Recommendations:

After evaluation of each alternative and each option based on the environmental analysis and other factors, staff is making the following recommendations as described in the Recommended Project Description (Attachment A) and the Tunneling Methodology Background (Attachment B):

CEQA Alternatives
- BART Extension Alternative
- BART Extension with TOJD Alternative - Staff recommendation

Downtown San Jose Station Location Options
- Downtown San Jose Station East Option
- Downtown San Jose Station West Option - Staff recommendation

Diridon Station Location Options
- Diridon Station North Option - Staff recommendation
- Diridon Station South Option

Tunneling Methodology Options
- Single-Bore Option - Staff recommendation
- Twin-Bore Option

CEQA Project Alternative - Staff Recommendation: BART Extension with TOJD Alternative

Staff recommends the BART Extension with TOJD Alternative because it would achieve the primary objective of encouraging transit ridership and supporting land use development patterns that make the most efficient and feasible use of the existing infrastructure and public services while promoting a sense of community as envisioned by the San Jose and Santa Clara General Plans and relevant adopted specific plans. The benefits of this alternative include: providing mobility choices, increasing public safety, increasing transit ridership, reducing rates of vehicle miles traveled, increasing household disposable income, reducing air pollution and energy consumption rates, conserving resource lands and open space, playing a role in economic development, contributing to more affordable housing, and decreasing local infrastructure costs.

Downtown San Jose Station Location Options - Staff Recommendation: Downtown San Jose

Station West Option

Staff recommends the Downtown San Jose Station West Option because it would provide the following benefits as compared to the East Option:

1. More opportunities for long-term revitalization of the downtown core;
2. Greater transit connectivity with a direct connection to VTA's light rail and key VTA bus transfer points in the downtown core;
3. More opportunity for maximizing high-density developable square footage and transit-oriented development; and
4. More convenient access to the downtown's western employment center.

In addition, the West Option would avoid the conflicts with the existing San Jose City Hall's underground parking garage that are associated with the East Option. The East Option's secondary entrance would be constructed on the plaza of San Jose City Hall, which would result in the removal of a large portion of the building's underground parking.

Although the East Option provides an adequate connection to key VTA bus and light rail transfer points, it is on the eastern edge of the downtown core and located farther from the downtown's western employment center and would not provide the benefits to the extent as associated with the West Option. The East Option would provide direct access to San Jose City Hall and to San Jose State University east of the downtown core.

Construction of the West Option would result in significant temporary impacts on vehicular traffic, bicyclists, pedestrians, and access to nearby businesses similarly to the East Option. However, VTA will implement a Construction Transportation Management Plan and an extensive outreach program to minimize disruption to businesses and inconvenience to customers.

The West Option is also supported by the City of San Jose because of its proximity to the higher-density areas of downtown, long-term economic development potential, and transit connectivity.

Diridon Station Location Options - Staff Recommendation: Diridon Station North Option

The North Option would maximize the potential and flexibility for development by consolidating transit infrastructure close to Santa Clara Street, whereas the South Option would bisect the station area and would restrict future underground parking garages and development densities. Near-term, the North Option would provide opportunities to reduce construction impacts to transit rider and business patron parking through construction sequencing and coordination efforts.

The North Option would avoid conflict with the planned Delmas development project located east of Los Gatos Creek by crossing under Santa Clara Street rather than bisecting the future development site, as the South Option would, and thereby potentially reducing future underground parking garages and development densities.

The Diridon Station North Option is also supported by the City of San Jose with the recommendation that the station configuration and facility location be confirmed through the San

Jose Diridon Integrated Station Concept Plan process being led by VTA in partnership with the City, Caltrain, BART, and High Speed Rail.

Tunneling Methodology Options - Staff recommendation: Single-Bore Option

Selection of the Single-Bore tunneling methodology option is the recommendation of staff based on evaluation of recent tunneling industry advancements, review of feasible alternative tunneling methodologies to reduce cut-and-cover construction and minimize impacts to street level activities in downtown San Jose, a peer agency review, and the following key benefits listed below. For decision-making purposes, the cost estimates for both tunneling options are comparable within a rough order of magnitude, and both tunneling methodology options meet all applicable operations maintenance and safety requirements.

The Single-Bore tunneling methodology would:

1. Provide for greater operational flexibility as compared to the Twin-Bore Option, allowing for the ability to provide multiple crossover tracks and areas to store train cars within the tunnel for emergencies, special events, or regular maintenance activities;

2. Provide for reduced tunnel maintenance resulting from minimal groundwater intrusion because egress passageways would be built inside the tunnel and the only key interfaces connecting to the tunnel structure would be the station entrances and ventilation structures;

3. Reduce impacts to vehicular traffic, bicyclists, and pedestrians as compared to the Twin-Bore Option because it would not require the closure of Santa Clara Street and adjacent roadways during construction;

4. Eliminate impacts to VTA's light rail service as compared to the Twin-Bore Option because the north/south light rail trackways that cross Santa Clara Street at 1st and 2nd Streets would not have to be temporarily closed for months with service maintained by bus bridges.

5. Reduce impacts to bus service as compared to the Twin-Bore Option because key bus transfer stations on Santa Clara Street would not have to be relocated;

6. Result in limited excavation within the street right-of-way, with most construction activities limited to off-street station entrance areas, which would result in less construction impacts to businesses and the community during construction way as compared to the Twin-Bore Option; and

7. Result in a greatly reduced area of cut-and-cover construction near historic buildings fronting Santa Clara Street as compared to the Twin-Bore Option and therefore would require a much lower level of effort for the mitigation measures to protect historic buildings.

Environmental Findings and VTA's Board of Directors' Actions:

The actions required to complete the environmental review process and approve the Phase II Project are listed below with supporting information provided as attachments.

1) Certification of the Final SEIR as adequately addressing the environmental impacts resulting from the Recommended Project Description (Attachment A).

2) Adoption of Findings, Facts in Support of Findings, and Statement of Overriding Considerations (Attachment C). This acknowledges that the following impacts remain significant and unavoidable, but the Project's benefits outweigh the impacts. The significant unavoidable impacts identified in the Final SEIS/SEIR are as follows:

   a) Significant unavoidable construction-related impacts (Project and Cumulative) on vehicular traffic, bicyclists, and pedestrians at all four stations, the West Tunnel Portal, and the Newhall Maintenance Facility

   b) Significant unavoidable construction-related impacts (Project and Cumulative) on bus transit at the Downtown San Jose and Diridon Stations

   c) Significant unavoidable construction-related impacts (Project and Cumulative) on air quality due to total nitrogen oxides and reactive organic gases emissions from all facilities.

   d) Significant unavoidable construction-related noise impacts (Project and Cumulative) at the Downtown San Jose and Diridon Stations.

   e) Significant unavoidable operational impacts to vehicular traffic at the De La Cruz Boulevard and Central Expressway intersection resulting from TOJD at Santa Clara Station.

   f) Significant unavoidable operational air quality impacts due to total reactive organic gases resulting from all TOJD locations.

   g) Significant unavoidable operational greenhouse gas impacts due to total emissions resulting from all TOJD locations.

3) Adoption of the Mitigation Monitoring and Reporting Program to ensure that the mitigation measures in the Final SEIS/SEIR are implemented (Attachment D).

4) Approval of the Recommended Project Description for the BART Silicon Valley Phase II Project (Attachment A).

ALTERNATIVES:

VTA's Board of Directors could adopt the BART Extension Alternative or No Build Alternative, some or all of the options in staff's Recommended Project Description, or other options where there is no staff recommendation but are addressed in the Final SEIS/SEIR. However, if VTA's Board of Directors selects the BART Extension Alternative, then this item would need to be

brought back to VTA's Board of Directors at a later date with revised supporting Findings, Facts in Support of Findings, and Statement of Overriding Considerations and a Mitigation Monitoring and Reporting Program for review and consideration prior to certification of the Final SEIS/SEIR.

FISCAL IMPACT:

The current estimated capital cost of the Phase II Project is $4.78 billion in year of expenditure excluding unallocated BART Extension contingencies and potential borrowing costs. VTA has developed a funding strategy for the Phase II Project that relies on three key funding categories: 1) local sales tax, 2) state funds, and 3) federal funds. Local sales taxes supporting capital costs include the 2000 Measure A and 2016 Measure B. Operating and maintenance cost are supported by 2008 Measure B. State funds would be derived from the State Traffic Congestion Relief Program and the Transit and Intercity Rail Capital Program. VTA is also exploring other sources to augment the existing local and state commitments. Federal dollars would come from the Section 5309 New Start Program.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION:

Not applicable.

SMALL BUSINESS ENTERPRISE (SBE) PARTICIPATION:

Not applicable.

Prepared by: Tom Fitzwater
Memo No. 6509

ATTACHMENTS:

- 6509 Attachment A - RPD (PDF)
- 6509 Attachment B - Tunneling Methodology Background (PDF)
- 6509 Attachment C - Findings and SOC (PDF)
- 6509 Attachment D - MMRPTable (PDF)

Recommended Project Description

Introduction

Santa Clara Valley Transportation Authority's (VTA's) Bay Area Rapid Transit (BART) Silicon Valley Program consists of the extension of the BART system from its terminus at Warm Springs Station in southern Fremont in Alameda County, which opened in March 2017, into Santa Clara County through the Cities of Milpitas, San Jose, and Santa Clara. The BART Silicon Valley Program is being implemented in two phases: the Phase I Berryessa Extension Project (Phase I) and the Phase II Extension Project (Phase II) as shown on Figure 1. The Phase I Project is currently under construction and scheduled to be operational in 2018. The remaining approximately 6 miles of the BART Silicon Valley Program is called VTA's BART Silicon Valley Phase II Extension Project (Phase II Project) as described in detail below.

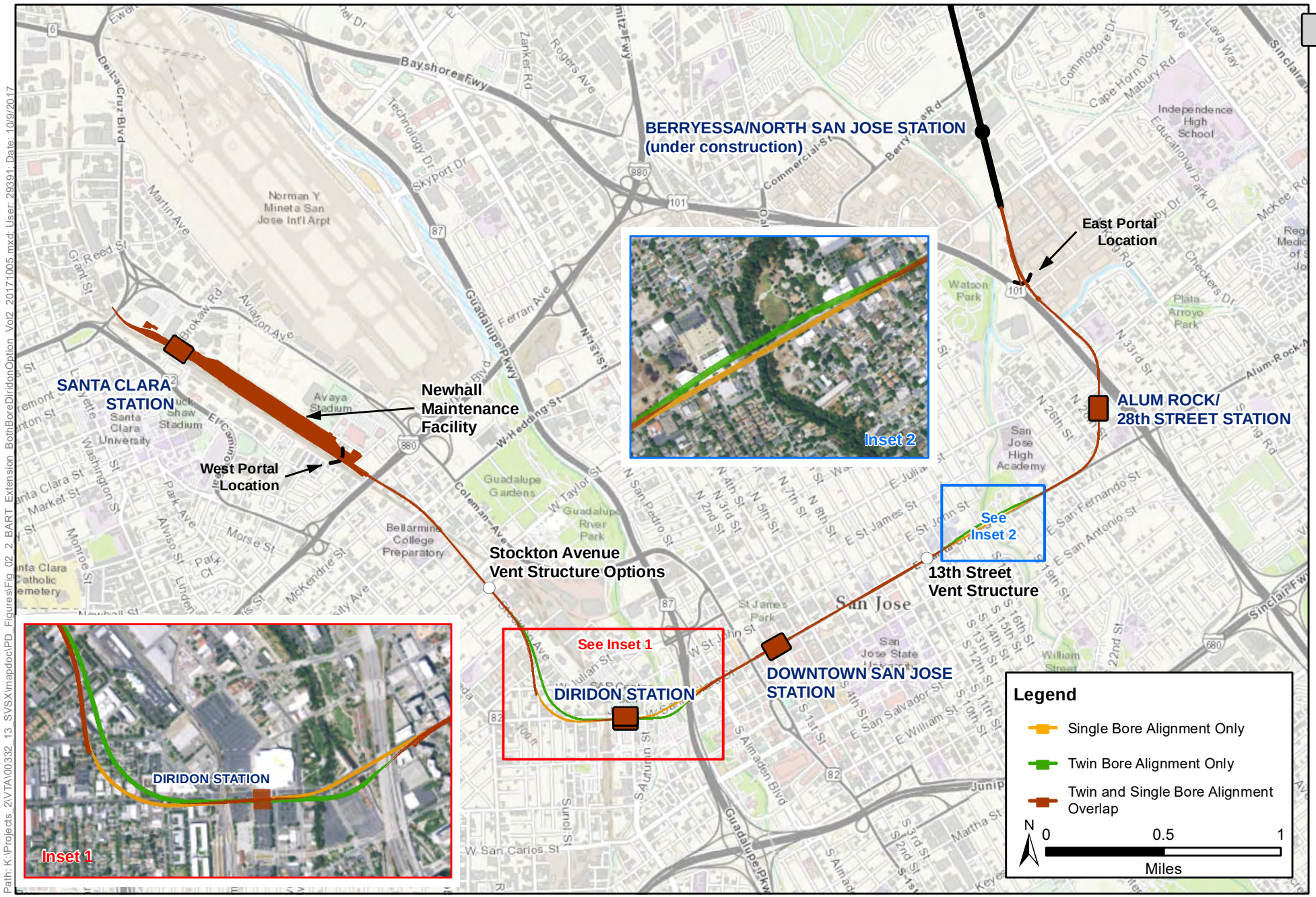
The Phase II Project's Transit-Oriented Joint Development (TOJD) would consist of retail, office, and residential uses. The TOJD would be consistent with the Public Utilities Code 100130.5 (b) (1) definition of TOJD, which includes commercial, residential or mixed-use development.

The Alum Rock/28th Street and Santa Clara Stations would include retail, office, and residential uses. The Downtown San Jose and Diridon Stations would incorporate retail and office uses. Two ventilation structures would have retail uses on the street frontage.

BART Extension

The Phase II Project would consist of the approximately 6-mile extension of the BART system from the Berryessa/North San Jose Station through downtown San Jose in an approximately 5-mile-long tunnel terminating in Santa Clara near the Santa Clara Caltrain Station, as shown in Figure 1.

Two BART lines are planned to serve the Phase II Project: Santa Clara–Richmond and Santa Clara–Daly City. The following service level description represents the combined service of these two lines in one direction. BART would operate every weekday from 4 a.m. to 1 a.m., with 6- to 12-minute average headways from 4 a.m. to 6 a.m., 6-minute peak to 7.5-minute average headways from 6 a.m. to 7 p.m., and 15- to 20-minute average headways after 7 p.m. Saturday BART service would be from 6 a.m. to 1 a.m., with 7.5- to 10-minute average headways from about 9 a.m. to 6:30 p.m., and 15- to 20-minute average headways before 9 a.m. and after 6:30 p.m. Sunday BART service would be from 8 a.m. to 1 a.m., with 15- to 20-minute headways all day. However, BART service levels are subject to refinement based on BART's updates to their systemwide operating plan. Approximately 48 new BART vehicles would be needed to accommodate these service levels and the 2035 Forecast Year ridership demand.



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

Figure 1
BART Extension Alternative
VTA's BART Silicon Valley – Phase II Extension Project

A summary of parking by station location is provided in Table 1 and is described in detail in the individual City discussions below.

Table 1: Parking to be Provided as Part of the BART Extension

BART Station	Parking Spaces
Alum Rock/28th Street	1,200
Downtown San Jose	No park-and-ride facilities
Diridon	No park-and-ride facilities
Santa Clara	500

Alignment and Station Features by City

City of San Jose

Connection to Phase I Berryessa Extension

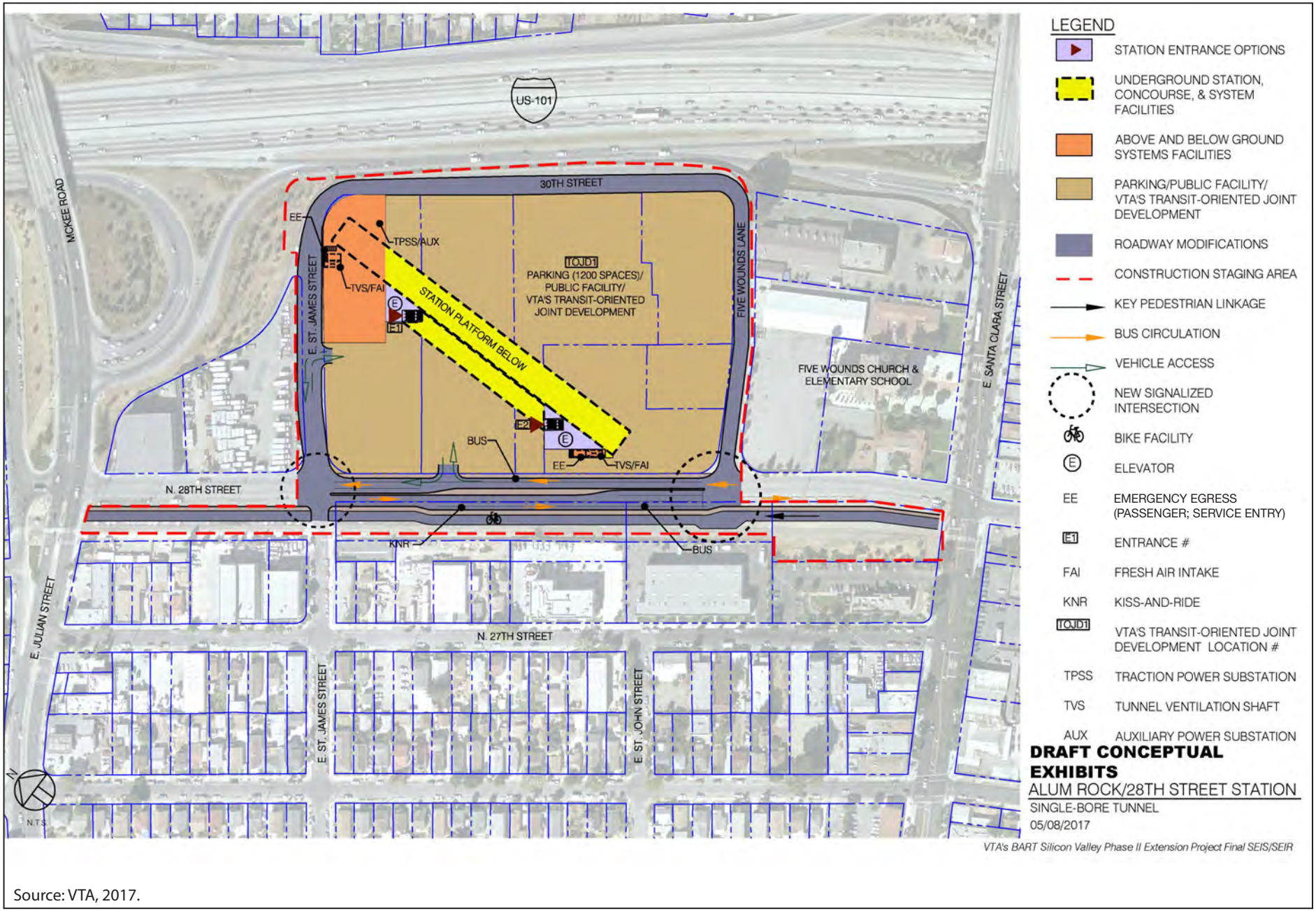
The BART Extension would begin in the City of San Jose where the Phase I tail tracks end. The at-grade Phase I tail tracks would be partially removed to allow for construction of the bored tunnel, East Tunnel Portal, and supporting facilities. The new tracks would be connected to the Phase I tracks to allow for future BART operation along the entire BART Silicon Valley corridor from southern Fremont to Santa Clara.

The alignment would transition from a retained-fill configuration east of U.S. 101 and south of Mabury Road near the end of the Phase I alignment into a retained-cut configuration and enter the East Tunnel Portal near Las Plumas Avenue (approximately STA 573+00).

South of the portal, the alignment would pass beneath North Marburg Way, then approximately 30 feet below the creek bed of Lower Silver Creek (STA 581+00), just to the east of U.S. 101 (STA 581+00), then curve under U.S. 101 south of the McKee Road overpass, and enter Alum Rock/28th Street Station.

Alum Rock/28th Street Station

Alum Rock/28th Street Station would be located between U.S. 101 and North 28th Street (starting at approximately STA 600+00) and between McKee Road and Santa Clara Street. The approximately 11-acre station campus would include facilities such as a parking structure, systems facilities, and roadway improvements to North 28th Street, as shown on Figure 2. The station would be underground with street-level entrance portals with elevators, escalators, and stairs covered by canopy structures. The station would have a minimum of two entrances. An underground concourse level would span between the two entrances adjacent to the tunnel. The location and configuration of the station entrances would be finalized during final design based on applicable BART Facilities Standards and ridership projections. Signage for all stations would comply with Metropolitan Transportation Commission's Regional Transit Wayfinding Guidelines and Standards.



Graphics ... 0033213 (1-23-2018)

Source: VTA, 2017.

Figure 2
Alum Rock/28th Street Station Plan
VTA's BART Silicon Valley–Phase II Extension Project

A parking structure of up to seven levels would accommodate BART park-and-ride demand with 1,200 parking spaces. Areas for automobiles, shuttles, and buses to drop off passengers would be provided on North 28th Street and/or within the station campus.

Access to Alum Rock/28th Street Station would be primarily from McKee Road and North 28th Street at the north end of the station site, and from Santa Clara and North 28th Streets at the south end of the site. New or modified traffic signals would be provided at the intersections of North 28th Street and McKee Road, and North 28th and Santa Clara Streets. New traffic signals would also be provided in the station area on North 28th Street at St. James Street and at Five Wounds Lane for access to the parking structure and passenger loading areas. A pedestrian connection along the south side of the station campus at North 28th Street from Santa Clara Street would be designed as a pedestrian/bicycle/transit gateway into the station campus with amenities such as street trees, wide sidewalks, bicycle facilities, and pedestrian-scaled lighting. This gateway would link the station with buses and Bus Rapid Transit (BRT) operating on Santa Clara Street and Alum Rock Avenue. Accommodations for the future Five Wounds Trail would be provided along North 28th Street as part of station access improvements.

The station would include systems facilities such as electrical, ventilation, and communication equipment. Systems facilities include a Traction Power Substation (TPSS), Train Control Communications Room (TCCR), an auxiliary power substation, and an emergency generator. Systems facility sites within public view would be surrounded by an approximately 9-foot-high concrete masonry unit (CMU) wall, and sites outside of public view would be surrounded by a 9-foot-high fence. Most of these system facilities would be located underground; however, some systems facilities may also be located aboveground. If aboveground, access to the aboveground systems facilities and parking areas for service vehicles would be restricted by access gates. The station would include emergency exhaust ventilation facilities and ventilation shafts as shown on Figure 2. Fresh air intake/exhaust hatches at grade would be near the emergency ventilation facilities.

From Alum Rock/28th Street Station, the alignment would curve under North 28th Street, North 27th Street, and North 26th Street before aligning under Santa Clara Street (STA 620+00). The alignment would continue under the Santa Clara Street right-of-way (ROW) until the alignment approaches Coyote Creek (STA 644+00).

TOJD would be located within the station campus and would consist of a maximum of 500,000 square feet of office space with approximately 1,650 parking spaces, 20,000 square feet of retail with 100 parking spaces, and up to 275 dwelling units with approximately 400 parking spaces. The TOJD would range from 4 to 9 stories within the station area. Design of the TOJD plans would be coordinated with parking provided for BART.

Tunnel Alignment near Coyote Creek

The alignment would continue directly under Santa Clara Street and pass approximately 55 feet beneath the creekbed of Coyote Creek and approximately 20 feet below the existing bridge foundations.

13th Street Ventilation Structure

A systems facility site would be located at the northwest corner of Santa Clara and 13th Streets. This site would include a tunnel ventilation structure, which would be an aboveground structure with an associated ventilation shaft.

TOJD would be co-located with the ventilation structure at the northwest corner of Santa Clara and 13th Streets. The development would consist of a maximum of 13,000 square feet of ground-level retail along the street frontage facing Santa Clara Street.

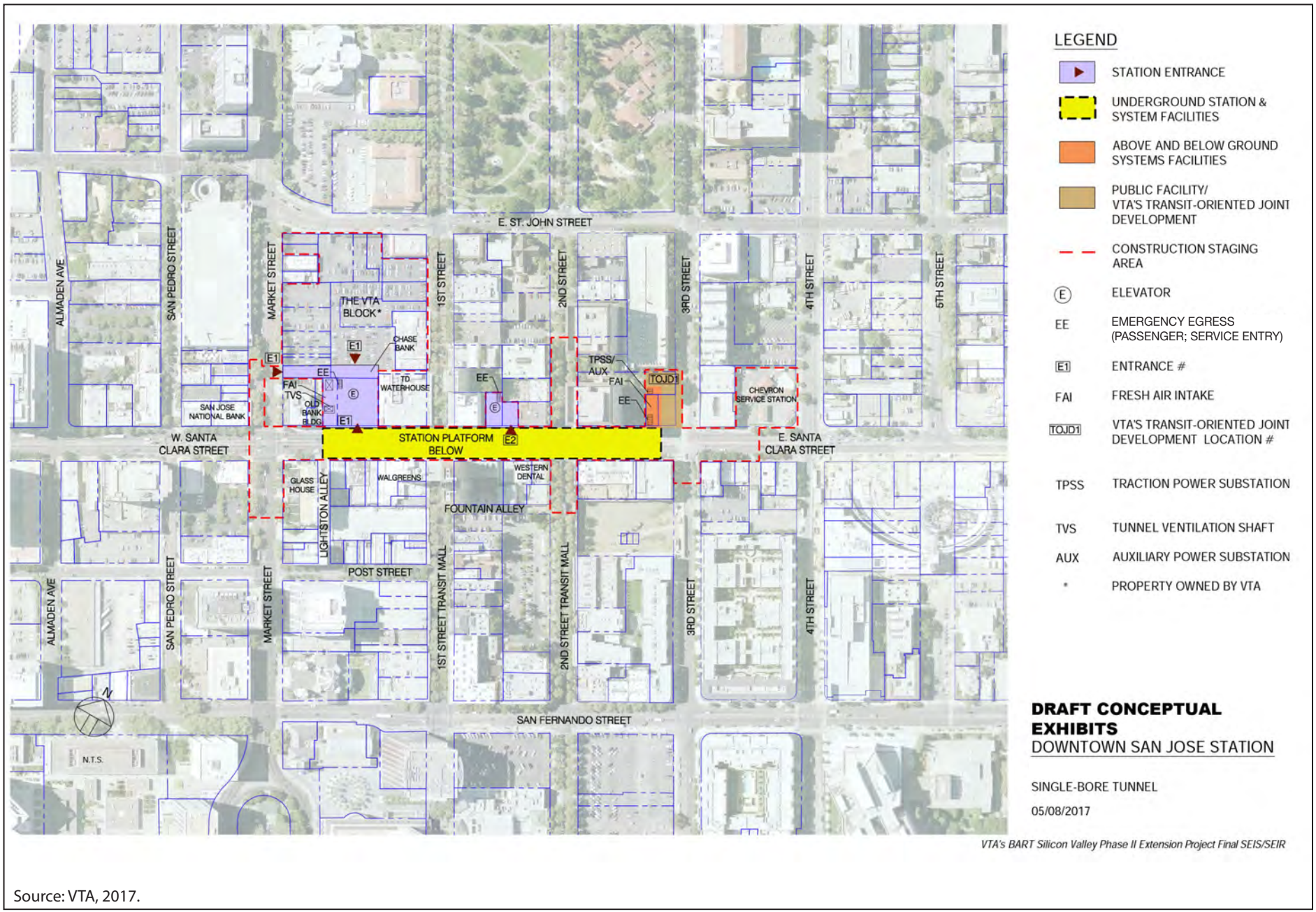
Downtown San Jose Station

The alignment would continue beneath Santa Clara Street to the Downtown San Jose Station. Crossover tracks would be located east of the station within the limits of 8th and 13th Streets. The station would not have dedicated park-and-ride facilities.

The Downtown San Jose Station would be located between Market and 3rd Streets. The station would consist of boarding platform levels and some systems facilities within the tunnel beneath Santa Clara Street, and entrances at street level, as shown on Figure 3. Vertical circulation elements, including elevators, escalators, and stairs, would be at station portal entrances, providing pedestrian access to the boarding platforms. Escalators and stairs would have canopy structures. The station would have a minimum of two entrances. One station entrance would be located north of Santa Clara Street between 2nd and 1st Streets, and a second entrance would be located north of Santa Clara Street between 1st and Market Streets on the VTA-owned property, the VTA Block. Stairs and escalators would be provided at each of the entrances.

Elevators would be provided near each end of the station. The configuration of the station entrances would be finalized during final design and would be based on applicable BART Facilities Standards and ridership projections.

Systems facilities would be located aboveground and underground, and would include a TPSS, an auxiliary power substation, ventilation facilities, and a TCCR. Most of these system facilities would be located underground; however, some may be aboveground. The station would also include emergency exhaust ventilation facilities with ventilation shafts and fresh air intake/exhaust hatches.



Source: VTA, 2017.

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Figure 3
Downtown San Jose Station Plan
VTA's BART Silicon Valley–Phase II Extension Project

Streetscape improvements would be provided along Santa Clara Street from Market and 4th Streets to San Jose City Hall and San Jose State University in order to create a pedestrian corridor connecting San Jose City Hall and San Jose State University with the Downtown Commercial District. Streetscape improvements would be guided by San Jose's Master Streetscape Plan.

The TOJD site for the Downtown Station is 0.35 acre and located north of Santa Clara Street and west of 3rd Street. System facilities—including a TPSS, elevator, tunnel ventilation shaft, fresh air intake, exhaust, emergency egress, and an equipment access shaft—would also be located at this site. Because of the high groundwater table, underground parking would be limited to three levels. The TOJD would consist of one level of retail (approximately 10,000 square feet) and two and one-half levels of office (approximately 35,000 square feet). Three levels of underground parking would accommodate approximately 128 spaces (40 spaces for retail uses and 88 spaces for office uses).

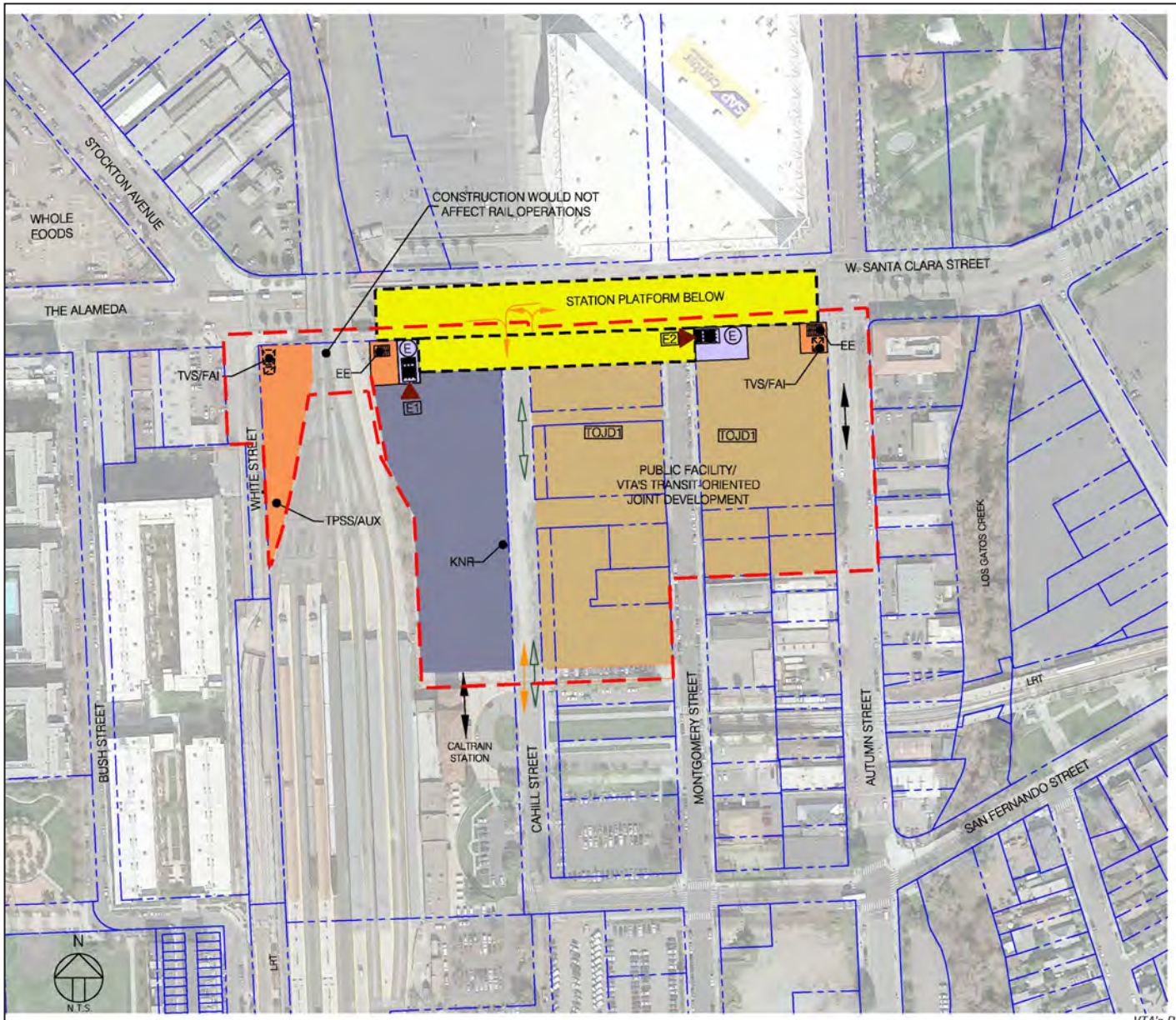
Tunnel Alignment into Diridon Station

The alignment would remain beneath Santa Clara Street and continue 45 feet below the riverbed of the Guadalupe River and 40 feet below the creekbed of Los Gatos Creek. The boarding platforms within tunnel would be located between Montgomery and White Streets.

Diridon Station

Diridon Station would be located between Autumn Street to the east, White Street to the west, Santa Clara Street to the north, and West San Fernando Street to the south, as shown on Figure 4. The underground station platforms would be located directly under Santa Clara Street.

The station would consist of a boarding platform level, a concourse level, and entrances at street-level portals. Street-level station entrance portals would provide pedestrian linkages to the Diridon Caltrain Station and SAP Center. Entrances would have elevators, escalators, and stairs covered by canopy structures. The station would have a minimum of two entrances. An underground concourse level would span the two entrances adjacent to the tunnel. Stairs and escalators would be provided at each of the entrances, and elevators would be provided at each station near each end. The location and configuration of station entrances would be finalized during final design based on applicable BART Facilities Standards and ridership projections.



LEGEND

- STATION ENTRANCE
- UNDERGROUND STATION, CONCOURSE, & SYSTEM FACILITIES
- ABOVE AND BELOW GROUND SYSTEMS FACILITIES
- PUBLIC FACILITY/ VTA'S TRANSIT-ORIENTED JOINT DEVELOPMENT
- TRANSIT FACILITY
- CONSTRUCTION STAGING AREA
- KEY PEDESTRIAN LINKAGE
- BUS CIRCULATION
- VEHICLE ACCESS
- (E) ELEVATOR
- EE EMERGENCY EGRESS (PASSENGER; SERVICE ENTRY)
- E1 ENTRANCE #
- FAI FRESH AIR INTAKE
- KNR KISS-AND-RIDE
- TOJD1 VTA'S TRANSIT-ORIENTED JOINT DEVELOPMENT LOCATION #
- TPSS TRACTION POWER SUBSTATION
- TVS TUNNEL VENTILATION SHAFT
- AUX AUXILIARY POWER SUBSTATION

DRAFT CONCEPTUAL EXHIBITS

DIRIDON STATION

SINGLE-BORE TUNNEL
10/05/2017

VTA's BART Silicon Valley Phase II Extension Project Final SEIS/SEIR

Graphics ... 00332.13 (1-23-2018)

Source: VTA, 2017.

Figure 4
Diridon Station Plan
VTA's BART Silicon Valley–Phase II Extension Project

The existing VTA bus transit center would be reconfigured for better access and circulation to accommodate projected bus and shuttle transfers to and from the BART station. The reconfiguration would be compatible/consistent with the Diridon Transportation Facilities Master Plan's design of the area. Kiss-and-ride facilities would be located along Cahill Street. No park-and-ride parking would be provided.

Systems facilities would be located aboveground and underground, and would include a TPSS, an auxiliary power substation, ventilation facilities, associated ventilation shafts, and a TCCR. Most of these system facilities would be located underground; however, some may be located aboveground. The station would also include emergency exhaust ventilation facilities with ventilation shafts and fresh air intake/exhaust hatches. System facility sites within public view would be surrounded by an approximately 9-foot-high CMU wall, and sites outside of public view would be surrounded by a 9-foot-high fence. Access to the aboveground systems facilities and parking areas for service vehicles would be restricted by access gates.

West of the station, the alignment would continue under Santa Clara Street/The Alameda. The alignment would then turn towards the north at Wilson Avenue, crossing under Rhodes Court and under West Julian Street before aligning under Stockton Avenue (STA 775 + 00).

TOJD would be located adjacent to Diridon Station and would consist of a maximum of 640,000 square feet of office space and 72,000 square feet of retail. The TOJD would be approximately eight levels high and would have three levels of underground parking with approximately 400 parking spaces.

Tunnel Alignment along Stockton Avenue

Around Pershing Avenue, the alignment lines up directly under Stockton Avenue. On the east side of Stockton Avenue between Schiele Avenue and West Taylor Street, there are four alternate locations for a systems facility site that would house a tunnel ventilation structure, an auxiliary power substation, and a gap breaker station. Sites within public view would be surrounded by an approximately 9-foot-high CMU wall, and sites outside of public view would be surrounded by a 9-foot-high fence. Access to the aboveground systems facilities and parking areas for service vehicles would be restricted by access gates.

The alignment would continue north and cross under the Caltrain tracks then under Hedding Street (STA 802+00 and STA 808+00). The alignment would continue on the east side of the Caltrain tracks and cross under Interstate (I-) 880 before ascending and exiting the West Tunnel Portal near Newhall Street (between STA 829+00 and STA 838+00).

A high-voltage substation, TPSS, and TCCR would be located at a systems facility site above the West Tunnel Portal and near Pacific Gas & Electric Company's (PG&E's) FMC Substation. A 115-kilovolt (kV) line from PG&E's existing FMC substation would serve the high-voltage substation. There are two alternate routes for this 115-kV line connection. The first would begin at the high-voltage substation, run north to Newhall Street, east on upgraded poles along Newhall Street, then south on an existing line along Stockton Avenue.

The second route would also run north to Newhall Street and then east on upgraded poles along Newhall Street, but a new line would be constructed to traverse the PG&E substation site. The 115-kV line would require approximately 80- to 115-foot-high galvanized tapered tubular steel poles or wood poles spaced approximately every 150 to 300 feet.

Crossover tracks would be located in the retained-cut trench just outside the West Tunnel Portal (between approximately STA 830+00 and STA 840+00). The alignment would then transition to an at-grade configuration (between STA 839+00 and STA 851+00) as it enters the Newhall Maintenance Facility and Santa Clara Station to the north.

TOJD would be located on the east side of Stockton Avenue, south of Taylor Street, with the ventilation structure at the rear of the site. The development would consist of a maximum of 15,000 square feet of ground level retail along the street frontage facing Stockton Avenue.

City of Santa Clara

The BART Extension in Santa Clara would consist of the project Maintenance Facility and the Santa Clara Station. The San Jose/Santa Clara boundary is located approximately midway through the Newhall Maintenance Facility.

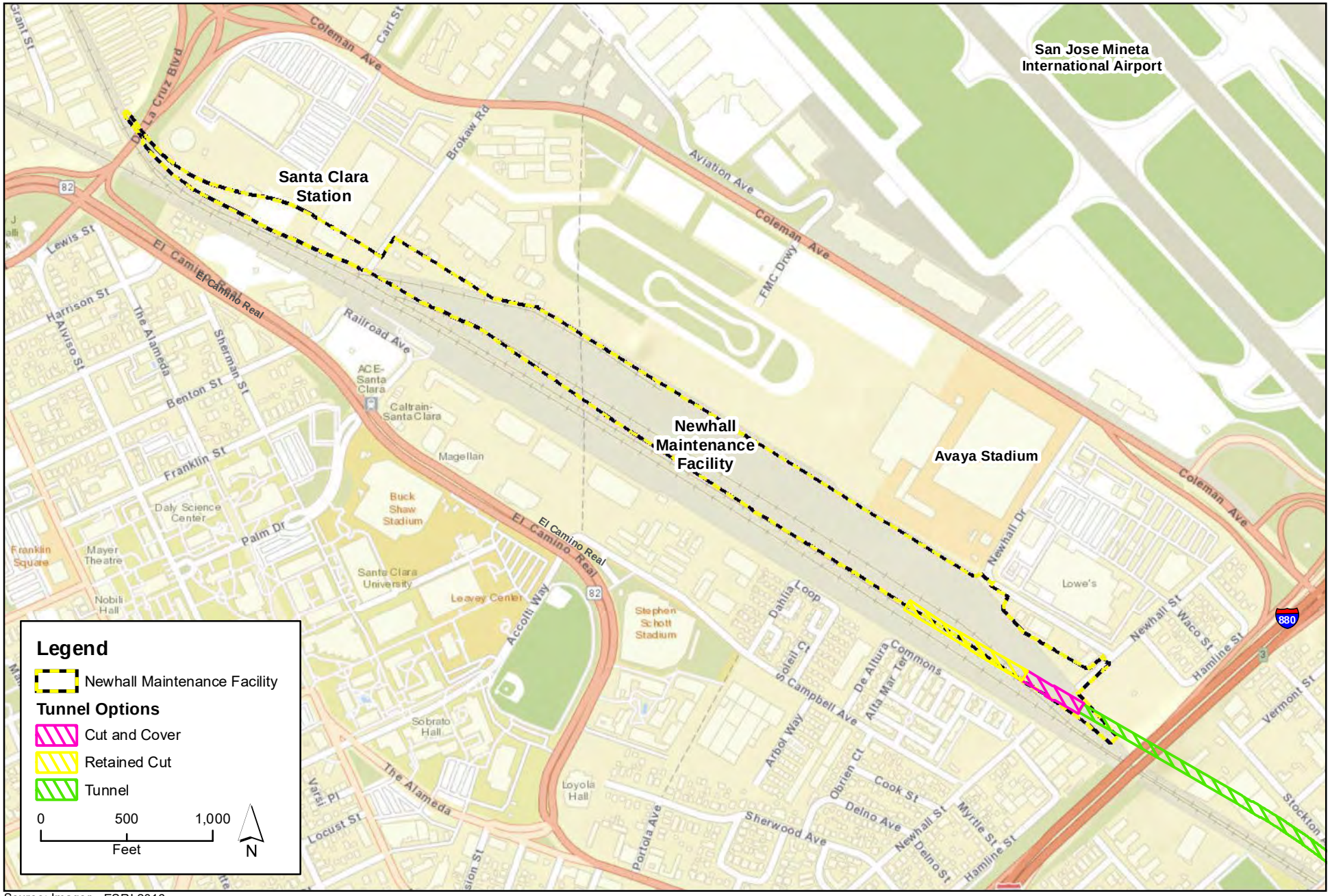
Newhall Maintenance Facility

The Newhall Maintenance Facility is approximately 40 acres and would begin north of the West Tunnel Portal at Newhall Street in San Jose and extend to De La Cruz Boulevard near the Santa Clara Station in Santa Clara, as shown in Figure 5.

A single tail track would extend north from the Santa Clara Station and cross under the De La Cruz Boulevard overpass and terminate on the north side of the overpass. A systems facility that includes a radio tower, traction power substation, and auxiliary power substation is located north of Brokaw Road.

The maintenance facility would be constructed on the former Union Pacific Railroad (UPRR) Newhall Yard that was purchased by VTA in 2004 and has been cleared of all structures. The main entrance to the facility would be from Newhall Drive. Other secured entrances would be provided at various locations for employees and emergency personnel. The site would include service roads to all buildings and approximately 225 onsite parking spaces for employees, authorized visitors, and delivery and service vehicles.

The maintenance facility would serve two purposes: (1) general maintenance, running repairs, and storage of up to 200 BART revenue vehicles and (2) general maintenance of non-revenue vehicles. The facility would also include maintenance and engineering offices and a yard control tower. To provide for these functions, several buildings and numerous transfer and storage tracks would be constructed.



Source: Imagery, ESRI 2016

Figure 5
Newhall Maintenance Facility
VTA's BART Silicon Valley – Phase II Extension Project

The following systems facilities would be located in the maintenance facility: a TPSS (11,000 square feet and 12 feet high), an auxiliary power substation (3,000 square feet and 12 feet high), two gap breaker stations (one 3,800 square feet and 12 feet high, and the other 3,200 square feet and 12 feet high), and a TCCR (3,300 square feet and 35 feet high).

System facility sites within public view would be surrounded by an approximately 9-foot-high CMU wall, and sites outside of public view would be surrounded by a 9-foot-high fence. The systems site would require two access points with gates and internal parking areas for service vehicles. An approximately 150-foot-high radio tower and an associated equipment shelter would be located within the systems site north of Brokaw Road.

Provisions would be made in the maintenance facility area for storage of maintenance equipment and supplies. Two detention basins, one in each city, would be constructed to retain and provide controlled release of stormwater into the respective city's storm drain systems.

Specific features of the Newhall Maintenance Facility are described below.

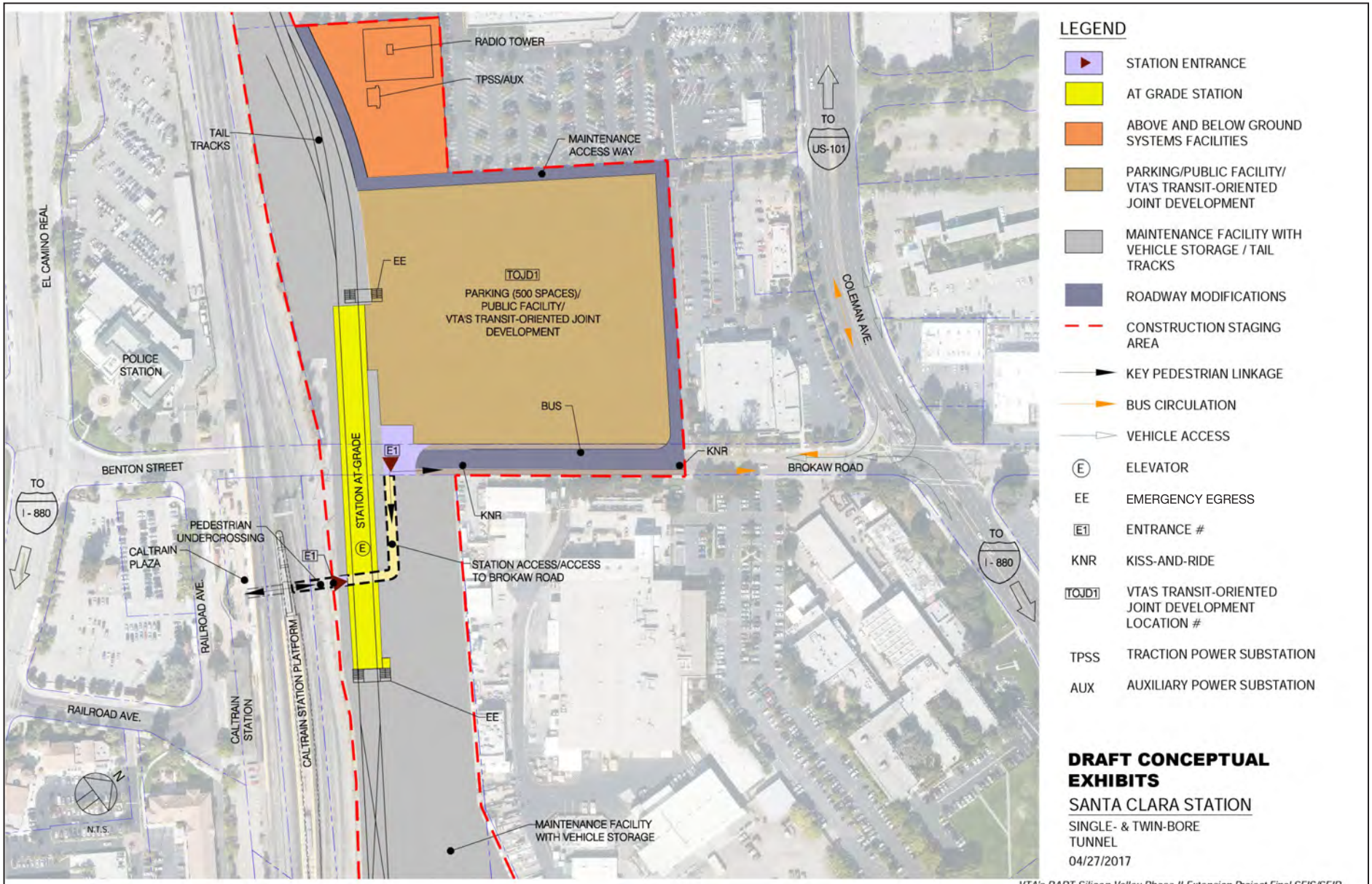
- **Train Car Washer.** The train car washer would be an open-ended building with an automated vehicle washing machine. As each train returns to the yard for storage, it would be driven through the car washer, where the exterior would be cleaned.
- **Yard Control Tower.** The yard control tower would be approximately three stories in height. The tower would be situated to have a view of train operations in the maintenance yard area. Employees staffing the tower would control the majority of train movements within the yard area, while shop area movements would be made under local control.
- **Inspection Pit.** The inspection pit would be enclosed in a shed and open at each end to allow trains to travel over a depressed pit so that the underside of trains could be inspected.
- **Blowdown Facility.** The blowdown facility would be used primarily for cleaning the underside of trains in a combined wet and dry process in preparation for scheduled inspections. The cleaning operation would be performed within a service pit.
- **Wheel Truing Facility.** The wheel truing facility would be located next to the revenue vehicle maintenance shop. The primary function of this facility would be to enclose the wheel truing pit and equipment to facilitate the maintenance and repair of BART vehicle wheel sets.
- **Revenue Vehicle Maintenance Shop.** The revenue vehicle maintenance shop would be approximately 70,000 square feet. Tracks would lead to and through the building. Vehicle car lifts, bridge cranes, and jib cranes would be located within the first floor of the shop. The second floor would be primarily for administration offices. The major functions carried out in the shop would include car inspections and repairs, parts storage, heavy component repairs, electro-mechanical repairs, and electronic repairs.

- **Vehicle Turntable.** The approximately 85-foot-diameter vehicle turntable would be located on a spur track close to the storage tracks. The vehicle turntable would be used for turning cars that must be oriented in the correct direction before they are added to a consist (a group of rail vehicles that make up a train).
- **Non-revenue Vehicle Maintenance Shop and Maintenance and Engineering Offices.** The non-revenue vehicle maintenance facility would be for maintenance of non-revenue service vehicles, such as rubber-tired vehicles, and cars for the maintenance of track and equipment. The facility would contain maintenance bays for rubber-tired vehicles, a service bay with a depressed pit for train maintenance, and a storage area for replacement parts. It would also contain an overhead crane, vehicle hoists, and diagnostic repair equipment.
- **Material Storage Area.** The material storage area would be utilized to store maintenance equipment and stockpile supplies.
- **Train Control House.** The train control house would be a one-story building located within the maintenance facility.
- **Gap Breaker Station.** The maintenance facility gap breaker station would be located adjacent to the train control house.
- **Radio Tower.** An approximately 150-foot-high radio tower and associated equipment shelter would be located near the traction power substation.
- **High-Voltage Substation.** A high-voltage substation and switching station would be located in the northeast corner of the maintenance facility.

Santa Clara Station

The closest streets to the Santa Clara Station would be De La Cruz Boulevard to the northwest, Coleman Avenue to the northeast, and Brokaw Road to the east. The station would be at grade, centered at the west end of Brokaw Road, and would contain an at-grade boarding platform with a concourse one level below (Figure 6). Access to the boarding platform would be provided via elevators, escalators, and stairs covered by canopy structures. A pedestrian underpass would connect from the concourse level of the BART station to the Santa Clara Caltrain station. The pedestrian underpass would continue from the station concourse level to a new BART plaza near Brokaw Road. Kiss-and-ride, bus, and shuttle loading areas would be provided on Brokaw Road.

A parking structure of up to five levels would be located north of Brokaw Road and east of the Caltrain tracks within the approximately 10-acre station campus area and would accommodate 500 BART park-and-ride parking spaces in addition to public facilities on the site. Vehicular access to the parking structure would be provided from Brokaw Road. Pedestrian access from the parking structure to the Santa Clara BART Station would be provided from Brokaw Road to the below-grade BART concourse level.



Source: VTA, 2017.

Figure 6
Santa Clara Station Plan
VTA's BART Silicon Valley–Phase II Extension Project

TOJD would be located within the station. The TOJD would consist of a maximum of 500,000 square feet of office space with approximately 1,650 parking spaces, 30,000 square feet of retail with approximately 150 parking spaces, and up to 220 dwelling units with approximately 400 parking spaces. The TOJD would range from 4 to 11 stories and have one level of underground parking. The 500 spaces of parking to accommodate BART park-and-ride demand would be coordinated with the TOJD around the station campus.

Description of BART Extension Auxiliary Features

This section describes various features of the Phase II Project to assist the reader's understanding of the electrical, communication, cross passages, ventilation, and pump facilities required to operate the transit system.

Electrical Facilities

Several types of electrical facilities are required to provide power to BART trains, stations, and associated facilities. High-voltage substations transform 115-kV AC power distributed from PG&E to 34.5-kV AC power that is then distributed to the dual 34.5-kV subtransmission cable system (two sets of cables on the guideway that deliver this intermediate voltage to various locations throughout the system such as the traction power substations). Traction power substations convert the 34.5-kV power to 1,000-volt (V) DC power that is then distributed to the BART third rail (also called the contact rail). Switching and sectionalizing stations control power on the 34.5-kV subtransmission system. The switching stations are co-located with the high-voltage substations, and the sectionalizing stations are between these locations and co-located with traction power substations.

High-Voltage Substations and Switching Stations

High-voltage substations transform 115-kV AC power distributed from PG&E to 34.5-kV AC power that is then distributed to the dual 34.5-kV subtransmission cable system. High-voltage substations include outdoor type equipment consisting of power utility interface equipment, such as a disconnect switch; metering potential and current transformers; a revenue metering facility; a 115-kV, outdoor-type power circuit breaker; a power transformer; a 34.5-kV indoor-type power circuit breaker; and electrical auxiliary equipment, protection relays, meters, telemetering devices, and supervisory control and data acquisition system (SCADA).

Switching stations consist of 34.5-kV metal-clad, walk-in type switchgear circuit breakers, protection relays and meters, and SCADA, all of which are used for switching, distribution, and protection of the dual 34.5-kV subtransmission cable system.

High-voltage substations would require installation of high-voltage (115-kV) power feed lines connecting to nearby existing PG&E towers and lines or to PG&E substations. Permanent overhead or underground easements would be required for the 115-kV lines. Site dimensional requirements would vary based on site-specific requirements and where sites would be combined with other facilities such as traction power substations and train control

buildings. However, approximate dimensional requirements are 75 by 190 feet and 20 feet in height for high-voltage substations and 30 by 60 feet and 20 feet in height for switching stations. Some sites would require construction of an access road.

Traction Power Substations and Sectionalizing Stations

Traction power substations provide the power required to run BART trains on the mainlines, storage tracks, and maintenance facility tracks. These substations transform 34.5-kV AC to 1,000-V DC for distribution through BART's electrified third rail (also called the contact rail). Traction power substations include both outdoor and indoor equipment. The equipment consists of 34.5-kV AC metal clad walk-in type switchgear, transformer-rectifier assemblies, 1,000-V DC switchgear circuit breakers, control equipment, electrical auxiliary equipment, protection relays, meters and telemetering devices, SCADA, and connecting AC and DC power and control cables.

Sectionalizing stations consist of metal-clad, walk-in-type 34.5-kV switchgear circuit breakers, protection relays and meters, and SCADA, all of which are used to tie-in existing BART 34.5-kV cable distribution circuits or new 34.5-kV cable distribution circuits to obtain a flexible and reliable power supply system during contingency operations.

Site dimensional requirements would vary based on site-specific requirements and where sites would be combined with other facilities, such as train control buildings. Some sites would require an access easement or construction of an access road. Minimum approximate dimensional requirements for traction power substations are 60 by 200 feet and 15 feet in height. Approximate dimensional requirements of sectionalizing stations are 30 by 20 feet, and the equipment would be combined with the traction power substation's 34.5-kV AC switchgear assembly.

Auxiliary Power Substations

Auxiliary power substations provide the power required to run the stations and Newhall Maintenance Facility. Electric power to the substations would be supplied by nearby overhead and underground medium voltage 480-V, 12.47-kV, and 21-kV distribution lines. Short (typically less than 1,000 feet) sections of overhead and underground power lines would be constructed from existing distribution facilities to the new facilities. Transformers and switching equipment would be located within ancillary areas at stations. In addition, each station and the Newhall Maintenance Facility would have a standby diesel-electric generator located aboveground. Additional standby diesel-electric generators would be located at pump stations and possibly at train control buildings.

Gap Breaker Stations

Gap breaker stations isolate appropriate electrified third rail sections for maintenance and repair purposes or de-energize third rail sections during an emergency. Gap breaker stations include indoor equipment in prefabricated enclosures or custom-built buildings. The equipment consists of 1,000-V DC switchgear circuit breakers and associated ancillary

equipment such as relays and meters. DC power cables run in ductbanks from the gap breaker circuit breakers to BART's electrified third rail. Approximate dimensional requirements for gap breaker stations are 30 by 40 feet and 15 feet in height.

Train Control and Communication Equipment

Train control equipment would be installed to provide automatic train control functions (e.g., accelerating, maintaining speed, braking, switching tracks, maintaining separation between different trains on the same track) and to integrate operations with the existing BART system. Some of the equipment required to monitor and control trains would be mounted along the trackways and on the trains. This equipment would include radios and antennae. Much of the wayside equipment would be contained in stand-alone train control buildings along the alignment or in train control rooms within the station areas. Train control buildings would be custom-built structures that range from 50 by 60 feet to 35 by 90 feet and 15 feet in height.

Communications equipment for transmission of voice, video, and data would be installed as a means to: (1) provide information to passengers; (2) facilitate communication between passengers, BART staff, and BART Central; (3) provide transmission of closed circuit television camera data to a BART security center; and (4) enable subsystems to be monitored and remotely controlled where necessary.

Emergency Egress

Both tracks guideways would be located within one large diameter tunnel either in a stacked, side-by-side, or transitional configuration (i.e., transitioning between the stacked configuration and the side-by-side configuration). Emergency egress provided would depend on the track configuration at that particular location. In the side-by-side configuration, a fire-rated door between the two guideways would be used. For the stacked configuration, an enclosed stairwell with fire-rated doors would be used to get patrons from one guideway to another (top to bottom or bottom to top). For the transitional areas where the track is transitioning from a side-by-side configuration to a stacked configuration, a combination of fire-rated door and emergency egress enclosure/corridor would be utilized.

Tunnel and Underground Station Ventilation Facilities

Tunnel and underground station ventilation facilities consist of emergency ventilation, fresh air intake, and exhaust facilities.

Emergency Ventilation Facilities

Emergency ventilation facilities would be located along the tunnel alignment between the underground stations (called mid-tunnel ventilation structures) and within the underground stations. The facilities include fans, dampers, ventilation shafts, and associated facilities and they operate primarily to remove smoke in cases of emergency in either the tunnels or the stations. In addition, the facilities limit air velocities as trains pass through the tunnel and

push the air forward and ventilate the tunnel when diesel-propelled vehicles are being used during tunnel maintenance. Periodic testing of the facilities is required to ensure their proper operation.

There would be two mid-tunnel ventilation structures: one located at the northwest corner of Santa Clara and 13th Streets and another located east of Stockton Avenue south of Taylor Street. There are four optional locations for the Stockton Avenue ventilation structures. The final decision of a location would be based on the environmental impacts, property negotiations, and acquisition costs. The mid-tunnel ventilation structures would include an aboveground structure, or building, that houses the equipment required to ventilate the tunnel. The area required to accommodate each facility would be approximately 110 by 200 feet (including a small paved area used for maintenance activities or parking for maintenance personnel and an area for electrical transformers) with most of the equipment housed in a structure approximately 90 by 140 feet and 25 feet in height. A ventilation shaft would connect the structure to the tunnel below. The shaft opening would be located on the roof of the structure, with the smoke and air exhaust discharging vertically out of, or fresh air being drawn into, a protective grate.

There would be several underground ventilation facilities at the Alum Rock/28th Street, Downtown San Jose, and Diridon Stations, with all of the equipment located in the ancillary areas at both ends of the station boxes. The surface feature would be one or more ventilation shafts at each end of the station. Each shaft would be approximately 15 by 20 feet and 10 to 15 feet in height above ground level. An opening would be located at the top of each ventilation shaft with the smoke and air exhaust discharging vertically out of a protective grate.

Fresh Air Intake and Exhaust Facilities

Fresh air intake and exhaust facilities would be located within the underground stations. Dedicated fresh air intake and exhaust facilities supply fresh air exchange to the non-public ancillary areas. Similar to the tunnel and underground emergency ventilation facilities, these facilities would include shafts leading to the surface. Each shaft would be approximately 10 by 10 feet and approximately 18 feet in height above ground level. As trains pass through the tunnel and push air forward, fresh air exchanges into the station public area through the station entrances.

Pump Stations

All the equipment for pump stations along the tunnel alignment or in underground stations would be located underground. Access to these facilities for maintenance purposes would be from the nearest underground station or another facility. Access to pump stations located elsewhere along the alignment would be from within the retained cuts or from an at-grade location.

Pump stations would be located in the East and West Tunnel Portals, in the tunnel south of Lower Silver Creek, in the tunnel at Santa Clara and 13th Streets, in the tunnel west of State Route 87, and in the tunnel between Schiele and Villa Avenues (location would vary depending on location of the ventilation structure near Stockton Avenue).

Sustainability Strategies

To the maximum extent practicable and in consultation with BART as required, the design and operation of the BART Extension would incorporate VTA's Sustainability Program green strategies through features that reduce energy, water, and solid resource consumption and improve indoor environmental quality. Some features that VTA will consider are listed below.

- **Daylighting and lighting controls.** Daylight combined with controls for artificial lighting can reduce electric power consumption. Photosensor-driven lighting control and dimming control is a well-established technology that could be applied to station platforms and interiors, and also on train cars. Controls should also offer low-power settings for after-hours periods at stations.
- **Escalators.** Because many passengers arrive at BART stations during peak hours, running escalators at full speed during non-peak hours uses energy needlessly. To reduce energy consumption, variable speed escalators that can stop and re-start or that operate at a low-speed mode (which may result in fewer maintenance problems than the start/stop escalators) could be installed.
- **Renewable power.** Photovoltaic solar panels are typically used to generate onsite power for transportation facilities. The top of roofs provide an opportunity for installing solar panels.
- **Water.** There are numerous well-established ways to save water, reduce stormwater flooding, and improve water quality in landscape design that are directly applicable to station areas and potentially to BART trackways. These methods include planting native, drought-resistant plants; using low-flow fixtures; increasing pervious surface with porous paving and unit pavers; capturing surface flow with bioswales and raingardens; and using soil-water separators and other filters. At the Newhall Maintenance Facility, the train car washing process could use recycled grey water and save up to 90 percent of the water used. If access to the San Jose and Santa Clara recycled water networks is available, then recycled water could be used where possible for both indoor and outdoor uses.
- **Replacement and New Landscaping**. Replacement and new landscaping on VTA ROW will comply with VTA's Sustainable Landscaping Policy, which emphasizes native and drought-tolerant plantings.
- **Plant-based lubricants and coolants.** Soy-based oil is being considered in the design for use with large transformers and potentially other system machinery.

- **Materials and resources.** Green strategies in this category include the management of construction and demolition waste through recycling and reuse to keep waste out of landfills to the maximum extent practicable; the use of recycled and regionally or locally available materials; and the reuse of soils on site or elsewhere in the vicinity. Excavated soils could also be made available for use at other sites.
- **Indoor environmental quality.** Given that there would be indoor space involved, measures are being considered to address indoor environmental quality. These include the use of paints, coatings, carpet, and other materials containing reduced volatile organic compounds and green cleaning products.

Transit-Oriented Joint Development

The TOJD would involve VTA staff working with a private developer to develop mixed-use developments consistent with California Public Utilities Code Section 100130-100133. The code defines TOJD as a commercial, residential, or mixed-use development that is undertaken in connection with existing, planned, or proposed transit facilities and is located ¼ mile or less from the external boundaries of that facility. However, the design of the stations and structures would not preclude TOJD.

The TOJD may be constructed at the same time as the Project or later in time, dependent on the availability of funding and subject to market forces. However, the design of the BART stations and structures would not preclude TOJD. No private developer has been identified at this time, and the TOJD may be subject to refinement once a private developer is identified. The TOJD is intended to be consistent with the City of San Jose and City of Santa Clara general plans and approved area plans, as applicable.

Planned Development

TOJD (office, retail, and residential land uses) would be constructed at the four BART stations (Alum Rock/28th Street, Downtown San Jose, Diridon, and Santa Clara), which offers the benefit of encouraging transit ridership. TOJD would also be constructed at two mid-tunnel ventilation structure locations (the northwest corner of Santa Clara and 13th Streets and east of Stockton Avenue south of Taylor Street). The primary objective for the TOJD is to encourage transit ridership and support land use development patterns that make the most efficient and feasible use of existing infrastructure and public services while promoting a sense of community as envisioned by the San Jose and Santa Clara General Plans and relevant adopted specific plans. The TOJD planned densities at the station sites and at the mid-tunnel ventilation structure locations are provided below and are based on current San Jose and Santa Clara General Plans, approved area plans, the existing groundwater table constraints, and market conditions.

Table 2 summarizes the land uses at each TOJD location. The number of parking spaces is based on meeting the Cities of San Jose and Santa Clara parking requirements for residential

and commercial land uses. Parking for BART riders is not included in the table nor is it shared parking with BART riders.

Table 2: TOJD Densities and Parking

Location	Residential (dwelling units)	Retail (square feet)	Office (square feet)	Parking (spaces)	Acres
Alum Rock/28th Street Station	275	20,000	500,000	2,150[a]	11
Santa Clara and 13th Streets Ventilation Structure	N/A	13,000	N/A	N/A	1.18
Downtown San Jose Station	N/A	10,000	35,000	128	0.35
Diridon Station	N/A	72,000	640,000	400	8
Stockton Avenue Ventilation Structure	N/A	15,000	N/A	N/A	1.18–1.7
Santa Clara Station	220	30,000	500,000	2,200[b]	10

[a] Total Parking (BART Extension + TOJD) at Alum Rock/28th Street Station will be 3,350 spaces.
[b] Total Parking (BART Extension + TOJD) at Santa Clara Station will be 2,700 spaces.

Timeline for Future Option Decisions

This section describes future refinements to the design options and construction methodology during the engineering phase. All the environmental impacts of these options have been fully addressed and disclosed in the Final SEIS/SEIR.

1. **Refine Location for Stockton Avenue Ventilation Structure**

   The decision regarding location of the Stockton Avenue Ventilation Structure will be made during the engineering phase prior to right-of-way acquisition. This decision will be made by VTA after the Record of Decision. All of the environmental impacts associated with the location options have been fully disclosed in the Final SEIS/SEIR.

2. **Refine Underground Entrances Locations**

   The decision regarding design and configuration of underground entrances at the Alum Rock/28th Street and Downtown San Jose Stations will be made by VTA after FTA issues the Record of Decision during the engineering phase prior to right-of-way acquisition. The decisions will be made in coordination with the City of San Jose and in consideration of input from public workshops and public involvement. This decision will be made by VTA after the Record of Decision. All of the environmental impacts associated with the entrance location options have been fully disclosed in the Final SEIS/SEIR.

3. **Refine Tunnel-Boring Machine Option (Earth-Pressure-Balanced, Slurry, or Hybrid of the two)**

   After the Record of Decision, the decision regarding the type of tunnel-boring machine will be made by VTA with input from, and the recommendations of, the Contractor selected to perform the tunnel excavation work based on their experience and expertise.

All of the environmental impacts associated with the tunnel-boring machine options have been fully disclosed in the Final SEIS/SEIR.

Tunneling Methodology Background

In previous engineering phases (2004-2009), the planned methodology for constructing VTA's BART Silicon Valley Phase II Extension Project's underground stations and tunnel system included a twin-bore tunnel design with cut-and-cover station construction. The twin-bore design option includes two approximately 20-foot diameter tunnels that would be constructed with one or two tunnel-boring machines (TBMs), and would each house tracks for a single direction of travel. Underground stations would be constructed with cut-and-cover or open-cut construction, which would excavate ground material from the surface down to the depth of a station or facility within the public right-of-way or on off-street parcels. Cut-and-cover construction in areas of public right-of-way (such as downtown San Jose) would require relocation of underground utilities, and have significant impacts to existing infrastructure and street level activities.

In 2014, as Phase II planning efforts were renewed, staff began studying advances made in the tunneling industry since completing engineering on the twin-bore tunnel design in 2008, identifying lessons learned from other tunneling projects, and reviewing the feasibility of alternate tunneling methodologies. VTA's other objectives in reviewing the project plans were to ensure the best project was being built for Santa Clara County and to look for opportunities to minimize impacts to streets, VTA's light rail system, bus operations, and underground utilities that would be caused by cut-and-cover construction.

In 2015, after reviewing the project plans and receiving comments from stakeholders and the public at environmental scoping meetings, along with interactions with tunneling subject matter experts, staff identified a single-bore tunneling methodology as a possible option to further study.

The design concept for the single-bore tunneling methodology option included a tunnel constructed with a tunnel boring machine and compartmentalized into two trackways separated by fire-rated center walls or fire-rated concrete slabs. A benefit of this concept is that it would allow station boarding platforms to be entirely accommodated within the tunnel rather than constructed by a cut-and-cover construction technique. All other station facilities, including vertical circulation elements (elevators, escalators and stairs), station agent booths, ticket vending machines, fare gates, etc. necessary to access the platforms would be constructed via open-cut construction on off-street parcels and connect to the single-bore tunnel via mined passageways below ground. Because most open-cut construction would be located off-street outside the public right-of-way (similar to a high- rise development with underground parking), impacts to street level activities and underground utilities would be significantly reduced. A single-bore tunneling methodology option and related station construction approach would offer operational flexibility and enables station construction with reduced impacts to street level activities and underground utilities. Preliminary analysis of the single-bore tunneling methodology option indicated it would be feasible to construct and operate.

In early 2016, VTA reviewed the preliminary analysis for the single-bore tunneling methodology with BART and FTA, and elected to analyze the environmental impacts of both tunnel

construction approaches in the project's *Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (SEIS/SEIR).* Later in 2016, VTA initiated additional technical studies to further analyze and to develop concepts for key areas of the tunnel and station system configurations.

In October 2016, VTA initiated *VTA's BART Silicon Valley Phase II Single-Bore Tunnel Technical Studies*. This report, based on the criteria established in consultation with BART, provided verifications of the preliminary findings and conceptual designs for a single-bore tunnel alignment, profile, station configuration, station and tunnel ventilation, and emergency egress and response based on current national codes and standards, including the National Fire Protection Association (NFPA 130), California Building Code (CBC), and applicable BART Facility Standards (BFS). The findings of the report confirmed that the single-bore tunneling methodology would meet applicable industry and applicable BART facility standards.

To aid in selecting the tunneling methodology, VTA initiated an independent risk assessment in March 2017 to comprehensively evaluate risks associated with overall project cost, schedule, constructability and operability of both the twin-bore and single-bore tunneling options. The objective of the analysis was to compare common subsurface elements of each tunneling option, and determine risk impacts to project cost, schedule, and performance. Due to differing levels of design for each option, uncertainties related to the single-bore option are greater until additional design is completed. However, the majority of uncertainties are expected to be eliminated through the technical work in the next phase of engineering.

The study concluded that baseline capital costs and operations and maintenance costs were relatively close on a rough order of magnitude, while single-bore tunnel subsurface elements could be completed in a shorter time duration than twin-bore tunnel subsurface elements.

To further assist in the selection of a tunneling approach, representatives from VTA, BART and the City of San Jose traveled to Barcelona, Spain, in July 2017 to meet with officials of the Line 9 metro system and experience the system's operations. Line 9 includes a single-bore tunnel containing two independent stacked trackways. The platforms are within the tunnel with entrances connecting to the side of the tunnel. Discussions with the Line 9 system officials included system operations and maintenance, systems safety, and features such as platform edge doors and high speed elevators.

At the September 22, 2017 VTA Board of Directors Workshop, VTA staff presented tunneling methodologies and station location options for the project description that were included in the Draft SEIS/SEIR. Criteria used to evaluate the options included constructability, safety and security, operations and maintenance, passenger experience, cost and schedule, and economic impacts. Exhibit 1 provides descriptions of constructability, system operations, economic development, and passenger experience related to the twin-bore and single-bore options. After comparing the single-bore option against the twin-bore option in the listed areas, staff found that the single-bore option was equal to or superior to the twin-bore in all of the areas. Therefore, staff made a preliminary recommendation for the single-bore tunneling methodology.

At the September 28, 2017 joint VTA and BART Board of Directors meeting, VTA and BART agreed to engage a panel of peers from public transit agencies currently operating heavy rail subway systems with deep stations to review the single-bore tunneling methodology concept with a focus on operations and safety. The peer review panel met the week of November 13, 2017, and included current and retired managers from Los Angeles Metropolitan Transportation Authority (LAMTA), Washington Metropolitan Area Transit Authority (WMATA), Metropolitan Atlanta Rapid Transit Authority (MARTA), New York City Transit (NYCT), New York Metropolitan Transportation Authority (NYMTA), and San Francisco Municipal Transportation Agency (SFMTA). Key considerations for the panel were the risks and/or challenges associated with the single-bore option; and, whether the option could be operated and maintained safely as an extension of the BART system.

As part of the peer review process, the panel heard presentations from VTA and BART staff regarding relevant aspects of the single-bore and twin-bore options and opined that a single-bore tunnel could be operated safely as an extension of the BART system, and with some operational refinements, VTA could address BART's operational preferences. However, due to timing constraints related to the federal funding schedule and BART's strong preferences, the panel advised that twin-bore tunnels were the preferred option for Phase II of VTA's BART Silicon Valley Program.

In December 2017, after considering the rationale for the panel's conclusions, VTA formally requested a three-month extension of time from the Federal Transit Administration (FTA) to complete the Project Development Phase of the New Starts Funding Program. This request, which was granted in February 2018, provided time for VTA to address BART's operational safety concerns related to the single-bore configuration.

DISCUSSION

Conceptual design for the single-bore option meets applicable industry and BART facility standards for operations and safety, provides operational flexibility, and would reduce impacts to street level activities and underground utilities that would occur with construction of the twin-bore option.

After receiving feedback from the Peer Review Panel, VTA engaged with BART staff and management and subject matter experts to come to a consensus regarding BART's operational-related concerns with or the single-bore option.

As a result of the discussions between VTA and BART, VTA staff and their design consultants considered potential operational-related approaches to address BART's preferences for the single-bore design, including, fire/life/safety criteria, emergency evacuation procedures, platform capacity and configurations, tunnel guideway safety features, etc.

VTA also held a twin-bore construction workshop with tunnel construction experts to review and re-evaluate the proposed engineering and construction approaches for VTA's twin-bore concept. The workshop concluded that there are no new practical mining techniques that could be used to construct the Downtown San Jose Station and crossover box in a manner that would reduce

impacts to surface activities and utility relocations, which had been thoroughly analyzed in the Draft SEIS/SEIR.

Cost

The independent risk assessment of the two tunneling options included an evaluation of the estimates and risks associated with implementation of both options. This assessment indicated that the two tunneling options would have similar rough order of magnitude costs with different contingency levels based on the level of designs and implementation challenges.

The single-bore option is designed to a conceptual level. Due to the level of design, the estimate includes a higher level of contingency to address uncertainties in material quantities and other details normally resolved in later stages of design development. The cost estimate will be refined as design progresses resulting in a reduction of contingency. As a result, for decision making purposes, both options can be considered comparable in regards to cost.

Moreover, as Phase II progresses into the Engineering Phase, design refinements are inherent. VTA will continue to work with BART in the Engineering Phase to explore further design refinements that may enhance BART's operations. If any of these design refinements are later proposed for approval by the Board, VTA would undergo CEQA review prior to their approval, to the extent required by law.

Staff recommendation

Throughout the process of determining a preferred tunneling methodology to select, VTA has emphatically stressed a commitment to designing a safe project while recognizing BART's operational requirements and preferences as the future system operator. At the same time, VTA has stressed a commitment to the downtown San Jose community and the need to minimize construction impacts to street level activities during project construction.

In summary:

- Preliminary analysis indicated that the single-bore tunnel would be feasible to construct and operate.
- *VTA's BART Silicon Valley Phase II Single-Bore Tunnel Technical Studies*, verified preliminary findings, further developed conceptual design, and determined applicable industry standards are satisfied.
- The opinion of the Peer Review Panel indicated that a single-bore tunnel could be operated safely as an extension of the BART system with some adjustments to address BART's operational safety comments.
- That for decision-making purposes, the cost estimates for both tunneling options are comparable within a rough order of magnitude.

VTA staff's recommendation is based on evaluation of recent tunneling industry advancements, review of feasible alternative tunneling methodologies to reduce cut-and-cover construction and minimize impacts to street level activities in downtown San Jose, a peer agency review, and the following key benefits listed below.

The single-bore tunneling methodology would:

- Provide for greater operational flexibility as compared to the Twin-Bore Option, allowing for the ability to provide multiple crossover tracks and areas to store train cars within the tunnel for emergencies, special events, or regular maintenance activities;

- Provide for reduced tunnel maintenance resulting from minimal groundwater intrusion, because egress passageways would be built inside the tunnel, and the only key interfaces connecting to the tunnel structure would be the station entrances and ventilation structures.

- Reduce impacts to vehicular traffic, bicyclists, and pedestrians as compared to the Twin-Bore Option because it would not require the closure of Santa Clara Street and adjacent roadways during construction;

- Eliminate impacts to VTA's light rail service as compared to the Twin-Bore Option because the north/south light rail trackways that cross Santa Clara Street at 1st and 2nd Streets would not have to be temporarily closed for months with service maintained by bus bridges.

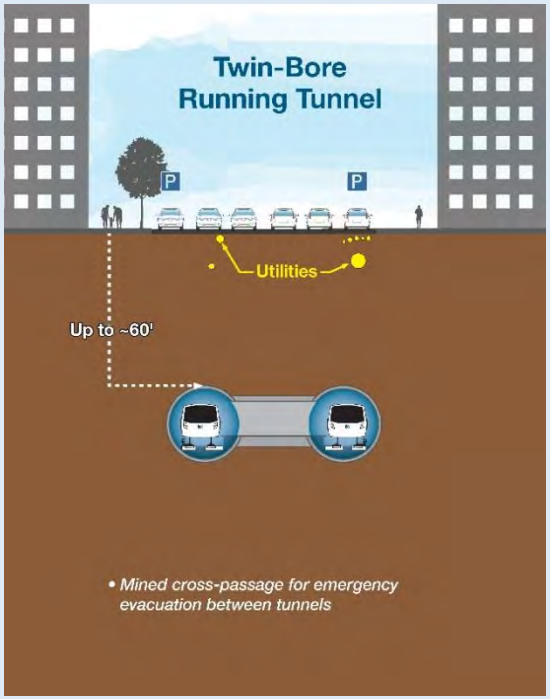
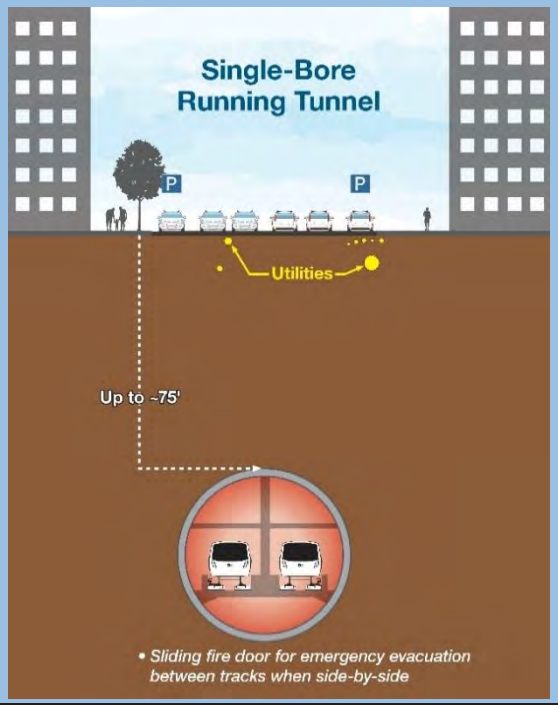
- Reduce impacts to bus service as compared to the Twin-Bore Option because key bus transfer stations on Santa Clara Street would not have to be relocated;

- Result in limited excavation within the street right-of-way, with most construction activities limited to off-street station entrance areas, which would result in less construction impacts to businesses and the community during construction as compared to the Twin-Bore Option; and

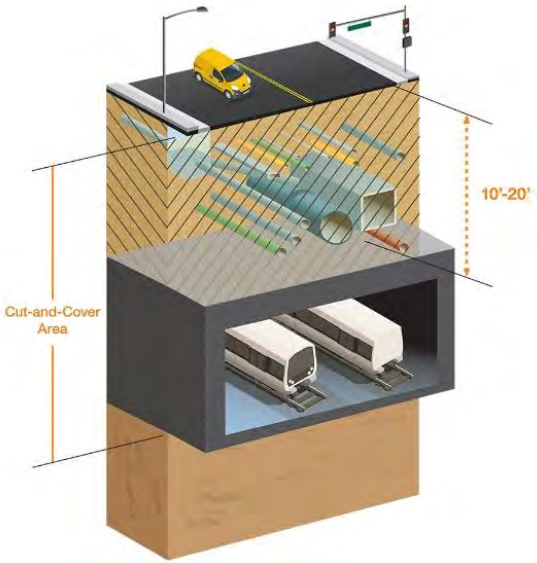
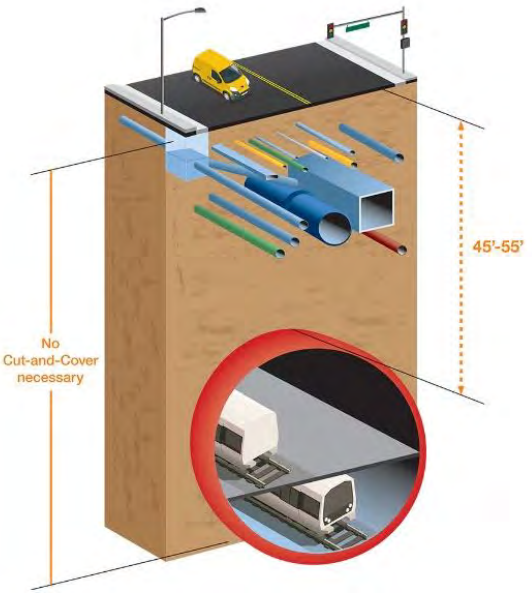
- Result in a greatly reduced area of cut-and-cover construction near historic buildings fronting Santa Clara Street as compared to the Twin-Bore Option and therefore would require a much lower level of effort for the mitigation measures to protect historic buildings.

Based on the foregoing, VTA staff recommends the single-bore tunneling methodology option.

Attachment B Tunneling Methodology Background - Exhibit 1

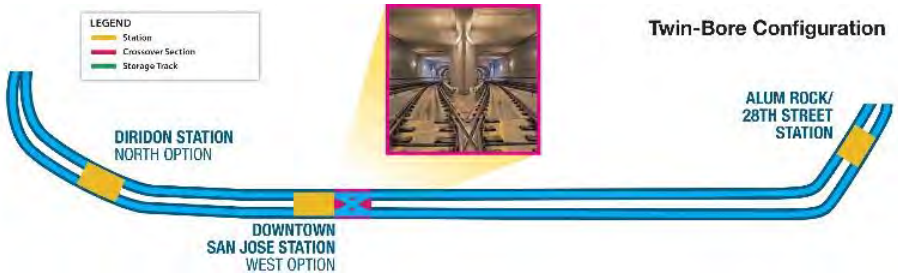
	Twin-Bore Configuration	Single-Bore Configuration
Description		
	Two approximately 20-foot diameter tunnels, would each contain tracks for a single direction of travel. The two tunnels would be constructed with tunnel boring machine(s) side-by-side approximately 20 feet apart. Thirty-three cross passages (nominally 600 feet apart) connecting the two tunnels would be constructed throughout the 5-mile tunnel alignment for emergency passenger egress between the tunnels. Three underground stations, a downtown underground crossover structure, and two mid-tunnel ventilation structures would all be constructed with cut-and-cover construction and integrated with the bored tunnels. Stations facilities including station agent booths, ticket vending machines, fare gates and vertical circulation elements to the boarding platforms would be located on a concourse level. The concourse level is above the boarding platform and below the surface level. Access to the concourse would be through passenger stairs, escalators and elevators from the surface level.	One approximately 45-foot diameter tunnel would contain tracks for both directions of travel Tracks would be constructed inside the single-bore separated by a concrete slab or wall. The design developed during the technical studies has a total of 76 cross passageways (nominally 300 feet apart) within the tunnel. Passenger boarding platforms for the three underground stations, crossover and pocket tracks, cross passageways for emergency passenger egress, and other ancillary facilities would be constructed within the single-bore tunnel without cut-and-cover excavation. Mid-tunnel ventilation shafts would be constructed at off-street locations and connect to the single-bore tunnel via below-ground passageways. Station facilities, including station agent booths, ticket vending machines, fare gates and vertical circulation to platforms would be constructed and located on off- street parcels and connect to station platforms inside the single-bore tunnel via below-ground passageways.

Constructability		
	Twin-Bore Configuration	**Single-Bore Configuration**
Method	The two tunnels would be constructed with tunnel boring machines (TBM), excavating ground material, creating the tunnel structures and removing the excavated material.	The tunnel would be constructed with a tunnel boring machine (TBM), which excavates ground material, creates the tunnel structure and removes the excavated material. Based on technical studies, a 47-ft diameter tunnel boring machine would be used for tunnel construction.
Cut-and-Cover Requirements	The underground stations, downtown crossover, portals and mid-tunnel ventilation structures would be constructed with cut-and-cover construction in both on- street and off-street locations. The cut-and-cover box in Downtown San Jose would be approximately 1,500 feet long along Santa Clara Street. At the Alum Rock/28th Street station and Diridon station, the cut-and-cover box would be approximately 900 feet long. The depth of the cut/ excavation would be about 80 feet and the width is approximately 65 feet. Cut-and-cover construction excavates ground material from street level down to the depth of the station facilities or tunnel structure. Support of excavation for the cut-and-cover structures include slurry walls with embedded steel reinforcing or steel beams that will extend below the bottom of the cut-and-cover excavation. For excavation in Santa Clara Street or other public right-of-ways, the excavated area is covered (or decked) in sections to allow for surface activities to resume as station construction continues below the decking. After construction of the structure is completed, the area above the station is backfilled for surface level activities to return to existing conditions. In downtown San Jose, excavation in sidewalk areas along Santa Clara Street is expected in the construction of passageways/station entrances. Means and methods for these techniques will be determined by the construction contractor, but will be coordinated with local residents and businesses to minimize the impacts. A majority of construction for the Downtown San Jose station would take place on-street. This involves street and sidewalk closures to install and remove the decking.	The portals and mid-tunnel ventilation structures would be constructed primarily within off-street parcels with cut-and-cover construction. The underground station entrances would be constructed similar to high- rise buildings with underground parking with excavation to required depths. Based on a concept developed during the technical studies, the downtown San Jose station would have a main entrance at the VTA block and an east entrance on the north side of Santa Clara Street. Cut-and-cover construction excavates ground material to the depth of the station platforms or tunnel structure. Much of the excavation is out of public right-of-way areas. Depending on the need, the excavated area could be covered (or decked) during construction to allow for surface activities to take place as construction continues below ground. After construction of the structure is completed, the area above is backfilled to return to existing conditions. A majority of construction would take place off-street, with minimal impacts to automobile traffic and bicycle and pedestrian routes. Soil improvement techniques are expected in the construction of the connections between the station facilities to the platform areas of the single-bore tunnel. Means and methods for these techniques will be determined by the construction contractor, but will be coordinated with local residents and businesses to minimize the impacts.

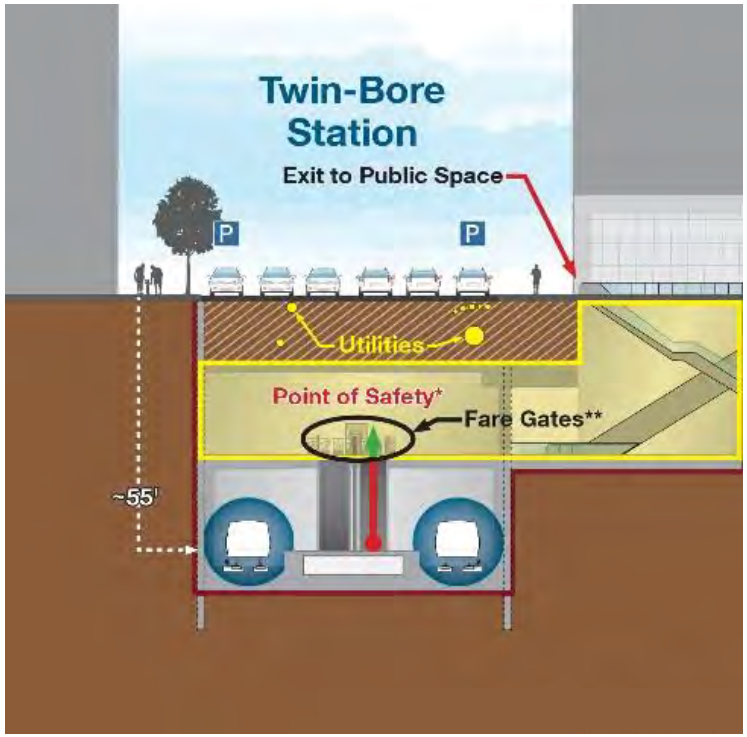
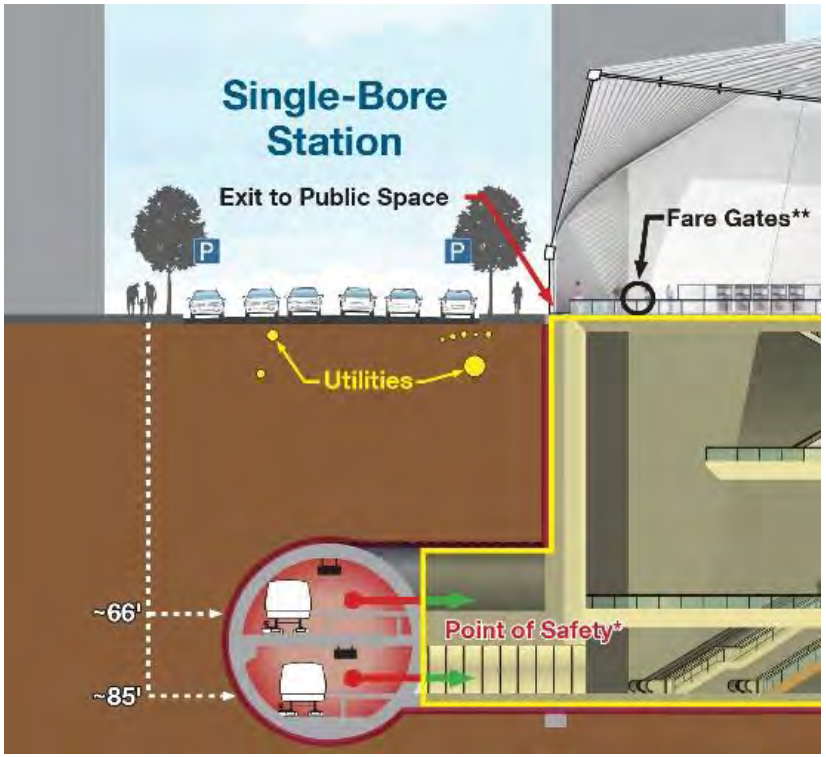
Constructability (Cont.)		
	Twin-Bore Configuration	**Single-Bore Configuration**
Emergency Egress Passages	Emergency egress from the incident tunnel into the non- incident is made via cross passages between tunnels. These cross passages would be constructed using mining techniques between the bored tunnels. The current twin-bore design includes 33 cross-passages located along the subway alignment. Several of the areas identified as locations for cross passages would require treatment to improve the ground for mining either from within the tunnel or surface level. Means and methods for improving the ground conditions would depend on location. Ground treatment, when performed from the surface, involves lane and sidewalk closures and detours impacting automobile traffic and bicycle and pedestrian routes.	The single-bore tunnel has concrete walls and floor slabs creating two independent sections for tracks. Emergency egress from the incident section into the non-incident section of the tunnel is made via fire- rated doors between trackways. The design developed during the technical studies has a total of 76 cross-passages. Emergency passageways between trackways would be constructed within the divided tunnel. Because the construction is within the tunnel, no external ground improvement is necessary and an increased number of cross passages can be built.
Utility Relocation Impacts	Cut-and-cover construction would require relocation of or strengthening of all public and private utilities that pass through the planned cut-and-cover structure. An advance utility relocation contract, of up to 24 months, is expected before cut- and- cover construction activates for Downtown San Jose station would commence. During station construction, major utilities can be supported from below the decking structure and above the station box. Utility relocation in an older downtown active street is a high risk item for the project as it can have severe impacts to the community and there is uncertainty in the number of utilities known and unknown as well as the condition of the utilities.  	Limited cut-and-cover construction may take place in the street right of way at mid-tunnel ventilation structures, portals and station access locations which may involve some utility relocation or strengthening. 

Constructability (Cont.)		
	Twin-Bore Configuration	**Single-Bore Configuration**
Transportation Impacts	On-street cut-and-cover construction would extensively impact street level activities, including circulation of auto traffic, bicycle and pedestrian movements, and operations and access for businesses, residences, and other entities within the vicinity of cut-and-cover construction. In downtown San Jose, the VTA light rail system (for Downtown San Jose Station West Option) and bus routes would be extensively impacted and operations would be altered, including potential temporary closures of light rail stations and sections of track, potential single tracking of service, and use of buses to bridge service gaps. Bus stops in the vicinity of the station and crossover box would potentially be relocated and bus routes rerouted during the construction period. Means and methods for improving the ground for cross passage mining could also impact street level activities, including circulation of auto traffic, bicycle and pedestrian movements, and operations and access for businesses, residences and other entities. Significant construction-related traffic due to hauling of excavated material from the cut-and-cover station boxes would occur over 2 to 3 years.	Impacts to auto traffic and bicycle and pedestrian routes would be less than twin bore for tunnel or station construction. The single-bore option has minimal impacts to VTA light rail and bus infrastructure and services. With emergency egress passageways built into the single-bore tunnel, there would not be a need for mined construction or ground treatment activities for these passageways. Construction-related traffic due to hauling of muck from the cut-and-cover off street station entrances would occur for a period of time significantly shorter than twin-bore. Truck traffic estimated to be 50% less due to smaller excavation footprint at station areas.
Business Impacts	Construction of station, crossover, tunnel portals, and mid-tunnel ventilation structures involves a significant amount of cut-and-cover construction that would take place on-street in the public right-of-way. On-street cut- and-cover construction would extensively impact street level activities, including operations and access for businesses, residences, and other entities within the vicinity of cut-and-cover construction. VTA will work closely with businesses and residences during the construction to allow for access and coordinate operational needs.	Station construction involves mainly off-street construction activities. Construction of mid-tunnel ventilation structures, portals, and station access locations involves partial on-street cut-and-cover construction that would impact some street level activities. Impacts to businesses, residences, and other entities within the vicinity of cut-and-cover construction would be less than twin-bore for tunnel or station construction.
Diridon Station	The location of the Diridon Station North Option extends below the Caltrain tracks south of Santa Clara Street. The station would require cut-and-cover construction while construction of the station box beneath the Caltrain tracks would require Caltrain tracks to be supported.	The station entrance for the Diridon station would be south of Santa Clara Street in the areas of the existing Caltrain parking lot with cut-and-construction methods. The station platforms would be constructed within the tunnel, under Santa Clara Street.

Constructability (Cont.)		
	Twin-Bore Configuration	**Single-Bore Configuration**
Seismic Design	Based on information released by the United States Geological Survey in 2010 about the North Silver Creek Fault, the twin-bore tunnel configuration does not allow for periodic realigning of the tracks after a seismic event involving the North Silver Creek fault, including fault creep. The redesign may result in potential changes to the tunnel configuration at this location.	Based on the concept design of the single-bore tunnel, the configuration provides space planning to accommodate BART seismic clearance envelope and allows for periodic re-aligning of tracks after seismic event involving the North Silver Creek fault, including fault creep.
Cultural Resources	The Twin-Bore Option would result in a much greater area of cut-and-cover construction potentially near historic resources as compared to the Single-Bore Option, especially along Santa Clara Street adjacent to and within the historic district. Therefore, it is anticipated that the Twin-Bore Option would require a much greater level of effort for the implementation of mitigation measures to protect historic resources as compared to the Single-Bore Option.	The Single-Bore Option would result in a reduced area of cut-and-cover construction near historic resources as compared to the Twin-Bore Option. Therefore, it is anticipated that the Single-Bore Option would require a much lower level of effort for the mitigation measures to protect historic resources as compared to the Twin- Bore Option.

System Operations		
	Twin-Bore Configuration	**Single-Bore Configuration**
Train Operations	The Twin-Bore Option is configured similar to most existing BART subway tunnels and stations. This design would allow for a crossover adjacent to the Downtown San Jose Station for trains to change tracks in the event of emergencies, special events, or regular maintenance activities. The crossover requires a reduced speed from BART's preferred crossover speed, as the crossover length is limited due to the desire to limit the extent of the cut-and-cover construction in downtown. 	The Single-Bore Option would be a new configuration in the BART system, primarily in which the platforms at the stations would be in a stacked configuration. However, in BART's existing system, both 12th Street/ Oakland City Center and 19th Street Oakland underground stations are configured with a center platform above another lower side platform. This configuration would require additional training for operations, maintenance and safety and security personnel. A crossover is provided east of Downtown San Jose station. Due to greater available space in the single-bore, the crossover would not impact train speed as much as the crossover in the twin-bore configuration. This design also allows for the ability for multiple crossover tracks and areas to store train cars within the tunnel for emergencies, special events, or regular maintenance activities. 
Station Operations	The current station design is similar to the subway stations BART operates today. Most existing BART stations typically operate with one station agent per shift on the station concourse. Many existing stations include entrances at street/ surface levels entering the free area of the concourse before purchasing fare and entering the paid area. The free concourse area has presented some recently identified safety and security concerns. To address these concerns, reconfiguration of this design at ticketing, fare gates, and security doors locations may be needed.	Based on the current concept design, there is no shared concourse between station entrances at Downtown San Jose station. Therefore, it is assumed that this underground station will need two station agents during peak hours or the times both entrances are open. The station configuration is designed to have limited free area that would reduce present safety and security concerns
Ventilation	The ventilation system developed for the Twin-Bore Option meets a medium fire growth rate per industry codes and standards with facilities sized accordingly.	The ventilation system developed for the Single-Bore meets a medium fire growth rate, consistent with the twin- bore. The cross sectional area within the tunnel requiring ventilation is similar to that of twin-bore.

System Operations (Cont.)		
	Twin-Bore Configuration	**Single-Bore Configuration**
Platform Width & Capacity	The Twin-Bore Option has a 28 ft. wide center platform with 9ft.-3in. unobstructed width in each direction of travel. This equates to approximately 18,000 square feet of unobstructed area on the platform. The remaining platform area provides for vertical circulation elements as well as passenger movement/queuing. The platform size meets BART passenger-per-square-foot standards. Post-event passenger surges at Diridon Station would need to be further evaluated and addressed. The center- platform configuration may enable additional queuing on the platform intended for the less-dominate direction of travel.	The design for the Single-Bore Option would have two 15'6" unobstructed platforms (one per direction of travel) equating to approximately 21,700 total square feet of unobstructed area and exceeding current BART passenger-per-square-foot standards. Post-event passenger surges at Diridon Station can be accommodated via patron staging in oversized entrance facilities and/ or concourse area. In addition, the ability to have more crossovers or areas to store trains with the single-bore design allows for flexibility of operations in the extension and potential to clear platforms faster.
Tunnel Emergency Egress	The current design, with BART's concurrence, includes 33 cross passages provided for emergency egress situations within the tunnel. The cross passages are at a nominal spacing of 600 feet. The non-incident tunnel is the Point of Safety.	The concept design includes 76 emergency egress passages for emergency situations within the tunnel. The spacing is 300 feet between passages along most of the alignment. The increase in the number of emergency egress passages decreases the evacuation time. The non-incident and fully independent section of the tunnel is the Point of Safety.
Tunnel Maintenance	The interfaces connecting the tunnel to the three underground stations, two mid-tunnel ventilation structures and 33 cross passageways are points of vulnerability for water intrusion. The twin-bore tunnel requires special seismic design to make sure the re- entrant joints between the tunnel and cross passage joints remain closed after a seismic event. In addition, water intrusion can occur between the slurry support of excavation walls wall and the permanent concrete wall. As water intrusion is a main contributing factor to building damage, maintenance efforts are significant to BART and require routine pumping and maintenance.	With emergency egress passageways built into the tunnel, there is no potential for groundwater intrusion associated with egress passageways. The interfaces connecting the single bore tunnel to the station entrances and two mid-tunnel ventilation structures are points of vulnerability for water intrusion. Groundwater intrusion would require routine pumping and maintenance.

System Operations (Cont.)		
	Twin-Bore Configuration	**Single-Bore Configuration**
Station Emergency Egress/Point of Safety	To meet National Fire Protection Association (NFPA) 130 requirements and applicable codes, standards, and ridership criteria, the underground stations in the twin-bore tunnel option requires an engineered solution as Point of Safety. The station exiting needs to be re-evaluated to reflect the changes in applicable codes, standards, and ridership criteria. Changes from this review may impact the station design, including the design of station ventilation and footprint. 	To meet National Fire Protection Association (NFPA) 130 requirements and applicable codes, standards, and BART passenger crush load criteria, the underground stations in the single-bore tunnel option requires an engineered solution as Point of Safety. Based on the technical studies of the downtown San Jose station concept, station exiting calculations meet current applicable codes, standards and BART passenger crush load with the adit/ passageway adjacent to the station platform as the Point of Safety. 
Vertical Circulation	Vertical circulation elements such as stairs, elevators, and escalators in the stations would be in a similar configuration as other BART underground stations.	The station configuration involves longer or additional vertical circulation elements than those incurred with a twin- bore option due to the depth of the station. Additional personnel may be required to maintain the elevators and escalators due to a higher number of these vertical circulation elements.

Economic Development		
	Twin-Bore Configuration	**Single-Bore Configuration**
Community Impacts	In the downtown San Jose area, construction impacts due to the utility relocations and cut and cover operations will be extensive from Market Street to 4th Street along and near Santa Clara Street. VTA will work with the community and affected businesses to develop a program of solutions for large and small businesses and other types of entities. Outreach and communications must be at a robust level in staffing.	Due to limited excavation within the street right-of-way, in the vicinity of the underground stations, there would be less construction impact to businesses and other entities during construction. Most construction impacts will be limited to station entrance areas. VTA will work with the community and affected businesses to develop a program of solutions for large and small businesses and other types of entities.
Development	The off-street location of station entrances presents limited opportunities to integrate development and land uses at the street level. Development requires coordination with VTA, BART, and other stakeholders to avoid any impacts above the station box which can potentially limit development in the station area.	The off-street location of station access and vertical circulation elements presents opportunities to integrate development and land uses at the street level. Development requires coordination with VTA, BART, and other stakeholders to avoid impacts to the tunnel. Since station platforms are within the single-bore tunnel and does not require a station box, this option could have a larger developable area.
Diridon Station	For the north option for the Diridon station, the twin- bore station box would be located south of Santa Clara Street. Development above the station box could potentially be limited.	For the north option for the Diridon station, the single- bore tunnel would house the platforms located below Santa Clara Street. The station entrance would be south of Santa Clara Street and have a smaller surface footprint allowing for easier incorporation into the future San Jose Diridon Intermodal Facility.

Passenger Experience		
	Twin-Bore Configuration	**Single-Bore Configuration**
Accessibility	The twin-bore methodology allows for several station entrance options, including sidewalk entrances. Station entrance locations would be more typical of the existing underground BART stations where passengers could access a station from both sides of the street. A minimum of one elevator is provided for ADA access. Two separate elevator trips would be required for ADA passengers, one from surface to concourse level followed by another trip from concourse to platform.	Due to the tunneling methodology and location of station platforms stacked one above another within the tunnel, station entrances would be limited to being located on one side of the bored tunnel. The current design concept includes two entrances to support passenger access to stations and platforms at both levels. A minimum of one elevator per entrance is provided for ADA access. Only one elevator trip would be required for ADA passengers as fare gates are at surface level allowing for passengers to pay fare and proceed taking the elevator to the boarding platforms.
Station	The Twin-Bore Option is configured similar to existing BART underground stations with multiple entrances leading to and concourse level below ground including a free area and a paid area. Patrons access the boarding platform that is below the concourse through escalators, elevators, and/or stairs.	The Single- Bore Option contains platforms located within bored tunnel. The station depths in the design concept are relatively deeper than any current underground BART station, but are not uncommon to other subway stations nationally and internationally. The design concept includes additional vertical circulation elements (e.g. high-speed, high-capacity elevators) to accommodate passenger volumes to the platform levels.

VTA's BART Silicon Valley—Phase II Extension Project

Findings, Facts in Support of Findings, and Statement of Overriding Considerations

Prepared by:

Santa Clara Valley Transportation Authority

March 2018

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Chapter 1
Introduction

A lead agency must prepare written findings of fact (Findings) for each significant effect on the environment identified in the Environmental Impact Report (EIR) (Section 21081 of the Public Resources Code) to support a decision on a project for which the EIR is certified.

The Santa Clara Valley Transportation Authority (VTA), as the California Environmental Quality Act (CEQA) lead agency, prepared these Findings for VTA's BART Silicon Valley Phase II Extension Project (Phase II Project). VTA prepared a Draft Supplemental Environmental Impact Statement /Subsequent Environmental Impact Report (SEIS/SEIR) in 2016 in accordance with CEQA, Public Resources Code 21000 et seq.; and the State CEQA Guidelines, California Code of Regulations, 15000 et seq. for the Phase II Project. The 2016 Draft SEIS/SEIR updated information presented in the previous environmental documents prepared for the Phase II Project, including the 2004 Environmental Impact Report, the 2007 Supplemental Environmental Impact Report, and the 2011 2nd Supplemental Environmental Impact Report. The 2018 Final SEIS/SEIR considered project changes proposed since certification of these previous CEQA documents. The Phase II Project was addressed in the 2016 Draft and 2018 Final SEIS/SEIR as the BART Extension with Transit-Oriented Joint Development (TOJD) Alternative.

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Chapter 2
Project Background and Overview

2.1 Project Background

The extension of BART into Santa Clara County is the outcome of prior decisions that have evaluated transportation needs in the BART Silicon Valley corridor and major capital improvements intended to expand transit service. Prior studies hereby incorporated by reference include, but are not limited to, the following:

- *Fremont-South Bay Corridor Final Report* (VTA 1994)
- *Commuter Rail Study, Fremont-South Bay Corridor, Final Report* (VTA 1999)
- *Major Investment Study (MIS) Final Report* (VTA 2001)
- *Silicon Valley Rapid Transit Corridor – BART Extension to Milpitas, San Jose and Santa Clara, Draft Environmental Impact Statement/Environmental Impact Report and Draft 4(f) Evaluation (including supporting appendices and technical reports)* (VTA 2004)
- *Silicon Valley Rapid Transit Corridor – BART Extension to Milpitas, San Jose and Santa Clara, Final Environmental Impact Report (including supporting appendices and technical reports)* (VTA 2004)
- *Silicon Valley Rapid Transit Corridor – BART Extension to Milpitas, San Jose and Santa Clara, Draft Supplemental Environmental Impact Report (including supporting appendices and technical reports)* (VTA 2007)
- *Silicon Valley Rapid Transit Corridor – BART Extension to Milpitas, San Jose and Santa Clara, Final Supplemental Environmental Impact Report (including supporting appendices and technical reports)* (VTA 2007)
- *Silicon Valley Rapid Transit Corridor – Draft Environmental Impact Statement and Draft Section 4(f) Evaluation (including supporting appendices and technical reports)* (VTA 2009)
- *Silicon Valley Rapid Transit Corridor –Final Environmental Impact Statement and Final Section 4(f) Evaluation (including supporting appendices and technical reports)* (VTA 2010)
- *BART Silicon Valley Phase I – Berryessa Extension Draft 2nd Supplemental Environmental Impact Report* (VTA 2010)
- *BART Silicon Valley Phase I – Berryessa Extension Final 2nd Supplemental Environmental Impact Report* (VTA 2011)

These studies constitute a comprehensive, systematic study of transportation conditions in the BART Silicon Valley corridor, including existing and future needs. They also established transportation goals and objectives that guide the development of transportation solutions that address identified needs.

The 2001 MIS served as a federal alternatives analysis of the various transportation investment options for the Silicon Valley Rapid Transit Corridor (now called BART Silicon Valley). Eleven alternatives were identified in the 2001 MIS that addressed project goals and corridor needs. The alternatives were analyzed for consistency in meeting goals and needs, capital and operating costs, possible environmental effects, and eight performance measures. Results of the MIS were reviewed by VTA's Board of Directors, which on November 9, 2001, approved a locally preferred alternative that would extend BART service from Fremont through Milpitas, San Jose, and into Santa Clara. The alternative came to be designated the Silicon Valley Rapid Transit Corridor Project (SVRTC Project), now called VTA's BART Silicon Valley Program.

A combined Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) and Draft 4(f) Evaluation for the 16-mile SVRTC Project was prepared in accordance with the requirements of NEPA and CEQA and released for public comment in March 2004. Subsequent to the start of the public review period for the Draft EIS/EIR, the NEPA Notice of Intent to prepare an EIS was published for the BART Warm Springs Extension, a 5.4-mile project extending from the existing end-of-the-line Fremont BART Station to south Fremont, terminating at the then-proposed Warm Springs Station. The Warm Springs Extension was a required precursor project to the SVRTC Project.

Once BART decided to pursue federal funding for in the Warm Springs Extension, the SVRTC Project was determined not ripe for NEPA review because it was in the early stages of planning, and the BART Warm Springs Project was now a critical link between the existing BART system and the SVRTC Project. Funding for the operation and construction of the SVRTC Project was still being explored at that time. Consequently, VTA withdrew the SVRTC Project from FTA's New Starts project qualification and funding program. This included formal withdrawal from the FTA preliminary engineering phase of project development. VTA continued with the environmental process under CEQA in order to advance planning.

A Final EIR was prepared and certified by the VTA's Board of Directors in December 2004. A Final Supplemental EIR updating the 2004 EIR to address project design refinements was certified by the VTA's Board of Directors in June 2007.

In mid-2007, VTA requested FTA approval to begin the NEPA process again, and FTA concurred. On September 21, 2007, FTA published in the Federal Register a Notice of Intent to Prepare an EIS on the SVRTC Project. VTA and FTA held 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.

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

A Draft 2nd Supplemental EIR was prepared and issued for public review in November 2010 to make the CEQA analysis consistent with the NEPA analysis for the 10-mile Phase I Project. The Final 2nd Supplemental EIR was certified and the Phase I Project approved by VTA's Board of Directors in March 2011.

The remaining approximately 6 miles of the SVRTC Project is referred to as the Phase II Project. The 2016 Draft and 2018 Final SEIS/SEIR analyzed alternatives described in Chapter 2. Because it has been over 6 years since preparation and publication of the 2010 Final EIS on the SVRTC Project, now called VTA's BART Silicon Valley Program, and because VTA is now focused on the remaining approximately 6 miles for completion, a Supplemental Environmental Impact Statement to the 2010 FEIS was prepared pursuant to NEPA.

The CEQA EIR and NEPA EIS processes have been brought up to date since the Phase II Project was last addressed under CEQA in the 2007 Supplemental EIR and under NEPA in the 2010 EIS. Since the prior documents were adopted, background conditions had changed, regulatory settings had changed, and there was a new alternative to be evaluated. Therefore, VTA, with FTA concurrence, elected to prepare a combined Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report (SEIS/SEIR) on the remaining approximately 6-mile Phase II Project. A Subsequent EIR was prepared instead of a Supplemental EIR because substantial changes were required, such as the addition of the CEQA BART Extension with TOJD (Transit-Oriented Joint Development) Alternative. This new alternative required major revisions to the previous EIRs due to new significant environmental impacts. VTA decided to add a land use development component, the CEQA BART Extension with TOJD Alternative, in order to maximize transit-oriented development potential, to increase ridership, to fulfill the local and regional goals to integrate transit-oriented development at transit stations, and to integrate the planning, design, and construction of both the land use development and the BART Extension.

2.2 Project Overview

The Phase II Project that VTA staff is recommending for approval, the BART Extension with TOJD Alternative, consists of the 6-mile BART Extension, including four BART stations

(Alum Rock/28th Street, Downtown San Jose, Diridon, and Santa Clara) along with transit-oriented joint development (TOJD) at the four BART stations and at the two mid-tunnel ventilation structure sites. VTA staff is recommending the selection of the Downtown San Jose Station West, Diridon Station North, and Single-Bore Options. While analyzed in the 2016 draft and 2018 final joint documents, no decision is being made on the location of the Stockton Avenue ventilation structure and tunnel-boring machine options as this time. The TOJD consists of retail, office, and residential uses. The Alum Rock/28th Street and Santa Clara Stations would include retail, office, and residential uses; the Downtown San Jose and Diridon Stations would incorporate retail and office uses; and the two ventilation structures would have retail uses on the street frontage.

2.3 CEQA Process

On January 30, 2015, VTA issued the Notice of Preparation for the Draft SEIS/SEIR. VTA conducted three formal environmental scoping meetings to gather input and comments prior to the development of the SEIS/SEIR. Meetings were held on February 12, 17, and 19, 2015, in downtown San Jose, east San Jose, and Santa Clara.

The Draft SEIS/SEIR was circulated for public comment from December 28, 2016 through March 6, 2017. Public hearings were held January 25, 26, and 30, 2017 in downtown San Jose, east San Jose, and Santa Clara 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, on VTA's website, in display advertisements in local newspapers of general circulation in the area, and in the *Federal Register*. Responses were provided in the 2018 Final SEIS/SEIR for all substantive comments received in writing prior to the close of the public comment period or entered into the public record at the public hearings.

2.4 Permits and Approvals

Table 1 identifies the required permits and approvals for the Phase II Project as evaluated in the SEIS/SEIR.

Table 1: Required Permits and Approvals

Agency	Permits and Approvals
Federal Railroad Administration	Coordination regarding common corridor and crossing under Caltrain/UPRR ROW.
Federal Aviation Administration	FAR Part 77 construction height limitations for cranes operating in the Diridon Station area.
Federal Highway Administration	Approval of plans for crossings under U.S. 101 and I-880.
California Department of Transportation	Approval of plans for crossings under U.S. 101, SR 82, SR 87, and I-880. Encroachment permit for any work or traffic control within the state right-of-way.
State Office of Historic Preservation	Approval and execution of Programmatic Agreement and Treatment Plan describing procedures for protection and mitigation of impacts on historic and cultural resources pursuant to Section 106 of the National Historic Preservation Act and Code of Federal Regulations, Title 36, Part 800.
California Public Utilities Commission	Coordination regarding common corridor and responsibility for all safety and security certification of the system.
San Francisco Bay Area Rapid Transit District	Approval of Phase II Project pursuant to VTA/BART Comprehensive Agreement.
Peninsula Corridor Joint Powers Board (Caltrain)	Encroachment permit for crossing under railroad tracks at Diridon.
State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board	Approval of Section 402 General Construction Activity National Pollutant Discharge Elimination System Permit for construction phase impacts and project-specific construction compliance measures. Incorporation of Section 402 Phase II Small Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System General Permit project-specific control measures to reduce the discharge of stormwater pollutants to the Maximum Extent Practicable. Waste discharge requirements for discharges of stormwater associated with industrial activities, excluding construction activities (Industrial General Permit) for Newhall Maintenance Facilities.
Bay Area Air Quality Management District	Various permits for operating the Newhall Maintenance Facility.
Santa Clara Valley Water District	Issuance of encroachment permit if construction comes within specified limits of any Santa Clara County stream. Well permits for geotechnical and chemical investigations or groundwater monitoring. Permits for monitoring and dewatering well installations and destructions per District Ordinance 90-1.
City of San Jose	Encroachment permit for construction in the City ROW. Master Cooperative Agreement and Mutual Aid Agreements. Responsible Agency in accordance with CEQA. General Plan conformance, Historic Preservation Permits, Public Improvement Permits, and Subdivision Map as applicable Approval of rezoning. Site and Architectural Review Issuance of site development, grading, and building permits.
City of Santa Clara	Encroachment permit for construction in the City ROW. Master Cooperative Agreement and Mutual Aid Agreements. Responsible Agency in accordance with CEQA. Approval of rezoning. Site and Architectural Review. Issuance of grading, building, and occupancy permits.

2.5 Alternatives Rejected

2.5.1 No Build Alternative

The No Build Alternative would avoid the significant unavoidable impacts associated with construction and operation of the BART Extension with TOJD Alternative. This includes the significant and unavoidable impacts discussed in Section 3.4.1. However, the No Build Alternative would not achieve the overall project goal to improve transit services and increase intermodal connectivity, thereby improving mobility and accessibility. The No Build Alternative, by not providing a BART extension and not ensuring TOJD development, would not achieve VTA's primary objective of encouraging transit ridership and supporting land use development patterns that make the most efficient and feasible use of the existing infrastructure and public services while promoting a sense of community as envisioned by the San Jose and Santa Clara General Plans and relevant adopted specific plans. More specifically, the No Build Alternative would not improve public transit service in the corridor, enhance regional connectivity, support transportation solutions, improve mobility options, or support local and regional land use plans. Therefore, the No Build Alternative was rejected.

2.5.2 BART Extension Alternative

The BART Extension Alternative would involve VTA proceeding with construction and operation of the BART Extension to Santa Clara, but VTA would not proceed with TOJD on the identified sites.

The BART Extension Alternative would result in the following significant unavoidable impacts: construction-related transportation impacts to vehicular traffic, bicyclists, and pedestrians at all stations, the West Tunnel Portal, and Newhall Maintenance Facility; construction-related transportation impacts to transit bus operations at the Downtown San Jose and Diridon Stations; construction-related air quality impacts (nitrogen oxides emissions) at all facilities; and construction-related noise impacts at Downtown San Jose and Diridon Stations. However, these impacts would be less than those that would occur under the BART Extension with TOJD Alternative, which includes land use developments. Compared to the BART Extension Alternative, the BART Extension with TOJD Alternative would have the following additional significant and unavoidable operational impacts: vehicular traffic impacts (at the De La Cruz Boulevard and Central Expressway intersection under 2035 Forecast Year), air quality impacts (reactive organic gases emissions), and greenhouse gas emissions (generate indirect and direct emissions during operations). In addition, out of an abundance of caution, the BART Extension with TOJD Alternative is conservatively assumed to have emissions that would be inconsistent with the goals in Executive Orders S-3-05 and B-30-15, whereas the BART Extension Alternative would not be inconsistent with the goals in these Executive Orders.

While the BART Extension Alternative would have fewer/lesser significant unavoidable environmental impacts than the BART Extension with TOJD Alternative, the BART Extension Alternative would not support local and regional land use plans and facilitate efforts of the Cities of San Jose and Santa Clara to direct business and residential investments in the Alum Rock neighborhood of east-central San Jose, downtown San Jose, Diridon Station, in the vicinity of the existing Santa Clara Caltrain Station, and elsewhere in the BART Extension alignment to the extent of the BART Extension with TOJD Alternative. For example, unless TOJD is integrated into the planning for the Diridon Station, future development may be constrained and/or not promote ridership to the extent possible. As a result, the BART Extension Alternative would not achieve VTA's primary objective of encouraging transit ridership and supporting land use development patterns that make the most efficient and feasible use of the existing infrastructure and public services while promoting a sense of community as envisioned by the San Jose and Santa Clara General Plans and relevant adopted specific plans.

By approving the BART Extension with TOJD Alternative, VTA will be able to prioritize the objective of encouraging transit ridership in the development of the TOJD more efficiently than if developed by a private party that would not be as involved in the success of existing and future transit infrastructure as VTA. VTA is committed to developing the TOJD with the types of land uses, densities, and layouts of the developments to facilitate connections to existing and future transit infrastructure. This will maximize transit ridership and supporting land use patterns that promote the most efficient use of existing infrastructure. VTA's approval of the BART Extension with TOJD Alternative will ensure that the TOJD is designed to facilitate multi-modal access to encourage the use of transit to a much greater extent than the BART Extension Alternative. Therefore, the BART Extension Alternative has been rejected.

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Chapter 3
Findings

3.1 CEQA Requirements

CEQA, Public Resources Code section 21002 provides that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." The same statute states that the procedures required by CEQA "are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects." Section 21002 goes on to state that "in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects."

Regarding these Findings, section 15091 of the CEQA Guidelines (14 California Code of Regulations) states:

(a) No public agency shall approve or carry out a project for which an [environmental impact report] EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

(1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

(2) Such changes or alternations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

(b) The findings required by subsection (a) shall be supported by substantial evidence in the record.

The concept of "feasibility" also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project. (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417 [183 Cal.Rptr. 898].)

'[F]easibility' under CEQA encompasses 'desirability' to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors." (Id.; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715 [29 Cal.Rptr.2d 182].)

The CEQA Guidelines do not define the difference between "avoiding" a significant environmental effect and merely "substantially lessening" such an effect. VTA must therefore glean the meaning of these terms from the other contexts in which the terms are used. Public Resources Code section 21081, on which CEQA Guidelines section 15091 is based, uses the term "mitigate" rather than "substantially lessen." The CEQA Guidelines therefore equate "mitigating" with "substantially lessening." Such an understanding of the statutory term is consistent with the policies underlying CEQA, which include the policy that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." (Public Resources Code section 21002, emphasis added.)

For purposes of these Findings, the term "avoid" refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less-than-significant level. In contrast, the term "substantially lessen" refers to the effectiveness of such measure or measures to substantially reduce the severity of a significant effect, but not to reduce that impact to a less-than-significant level. These interpretations appear to be mandated by the holding in *Laurel Hills Homeowners Association v. City Council* (1978) 83 Cal.App.3d 515, 519–527 [147 Cal.Rptr. 842], in which the Court of Appeal held that an agency had satisfied its obligation to substantially lessen or avoid significant impacts by adopting numerous mitigation measures, not all of which rendered the significant impacts in question (e.g., the "regional traffic problem") to less than significant.

3.2 Legal Effects of Findings

To the extent that these Findings conclude that various proposed mitigation measures outlined in the Final SEIS/SEIR are feasible and have not been modified, superseded, or withdrawn, VTA's Board of Directors hereby binds itself to implement these measures with the adoption of the Mitigation Monitoring and Reporting Program (MMRP). The MMRP will ensure that the mitigation measures identified in the Final SEIS/SEIR are implemented. These Findings, in other words, are not merely informational, but rather constitute a binding set of obligations.

The documents and other materials that constitute the record upon which VTA's Board of Directors' decision and these Findings are based can be reviewed at the following location:

VTA Environmental Programs
3331 North First Street, Building B2
San Jose, CA 95134-1927

3.3 Findings Regarding Independent Review and Judgment

Each member of VTA's Board of Directors was provided a complete copy of the Final SEIS/SEIR. VTA's Board of Directors hereby finds that the Phase II Project Final SEIS/SEIR meets the requirements of CEQA, reflects its independent judgment on the potential environmental impacts of the Phase II Project, and that it reviewed and considered the Final SEIS/SEIR prior to taking final action with respect to the Phase II Project.

3.4 Findings Regarding the Project

The Findings presented in this document for the Phase II Project are based on the substantial evidence contained in the Final SEIS/SEIR for the Phase II Project and in relevant technical studies included as part of the administrative record. The Findings do not attempt to describe the full analysis of each significant environmental impact contained in the Final SEIS/SEIR. Instead, each Finding provides a summary description of each impact, describes the applicable mitigation measures identified in the Final SEIS/SEIR and adopted by VTA's Board of Directors, and states the Findings on the significance of each impact after imposition of the adopted mitigation measures. A full explanation of these environmental Findings and conclusions can be found in the Final SEIS/SEIR and the administrative record.

In making these Findings, VTA's Board of Directors ratifies, adopts, and incorporates into these Findings the analysis and explanation in the Final SEIS/SEIR and supporting documents in the administrative record, and ratifies, adopts, and incorporates in these Findings, the determinations and conclusions of the Final SEIS/SEIR relating to environmental impacts and mitigation measures, except to the extent any such determinations and conclusions are specifically and expressly modified by these Findings.

With regard to the mitigation measures referenced in the Findings, the full text of the mitigation measures are contained in the MMRP adopted in conjunction with approval of these Findings and incorporated herein by reference.

3.4.1 Findings Regarding Significant and Unavoidable Impacts

VTA's Board of Directors determines that, for the following impacts, mitigation measures included in the Final SEIS/SEIR and required as part of the Phase II Project's approval will reduce the impacts, but not to a less-than-significant level.

Significant and Unavoidable Impacts Identified in the Final SEIS/SEIR

Transportation: Vehicular Traffic, Bicyclists, and Pedestrians

Significant Impact (Project and Cumulative): Construction Traffic (vehicular, bicyclists, and pedestrians)

Construction has the potential to affect vehicular traffic, bicyclists, and pedestrians due to lane and street closures, and detours at Alum Rock/28th Street Station, Downtown San Jose Station, Diridon Station, West Tunnel Portal, Newhall Maintenance Facility, and Santa Clara Station. In addition to lane and street closures, there would also be the presence of construction vehicles and haul truck traffic on the local roads. The construction activities would last for up to 8 years along the 6-mile corridor resulting in lane and road closures lasting several years.

Findings: VTA's Board of Directors hereby makes Finding (a)(3) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan, Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan, and Mitigation Measure TRA-CNST-C: Prepare and Implement an Emergency Services Coordination Plan) would lessen the impacts by managing transportation in the vicinity of construction activities to reduce conflicts between such activities, vehicular traffic, bicyclists, and pedestrians, and by providing the traveling public advance notice of construction activities and planned roadway and lane closures to adjust travel patterns, but not reduce them to a less-than-significant level. No other feasible mitigation measures are available which would substantially lessen this impact.

Given that the construction disruptions would last for up to 8 years along the approximately 6-mile corridor, the impact would remain significant and unavoidable.

Transportation: Transit – Bus

Significant Impact (Project and Cumulative): Construction-period Bus Transit Disruption

For the Downtown San Jose Station and Diridon Station only**,** closure and relocation of bus stops in the vicinity of these stations would be required. This would lead to route detours during construction which would decrease performance and affect local bus service. BRT service and schedules would also be affected.

Findings: VTA's Board of Directors hereby makes Finding (a)(3) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan, and Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan) would lessen the impacts by managing bus and BRT transit in the vicinity of construction activities to reduce conflict between such activities and bus and BRT service, but would not reduce them to a less-than-significant level. No other feasible mitigation measures are available which would substantially lessen this impact. Given that the Downtown San Jose and Diridon Station areas have high levels of transit-dependent populations and that the construction-related bus detours (and related service impingements) could last for several years, the impact would remain significant and unavoidable.

Transportation: Intersection Impact and Conflict with Congestion Management Program

Significant Impact: City of Santa Clara Intersection Impact (De La Cruz Boulevard and Central Expressway intersection) during operation

Traffic impacts would occur at the De La Cruz Boulevard and Central Expressway intersection (City of Santa Clara and Congestion Management Plan [CMP] intersection) near the Santa Clara Station in 2035 due to the TOJD element of the Phase II Project.

Findings: VTA's Board of Directors hereby makes Finding (a)(2) and (a)(3) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The Santa Clara County Department of Roads and Airports plans to convert the existing Central Expressway eastbound High Occupancy Vehicle (HOV) lane to a mixed-use lane at this intersection. This modification was included as a change to the roadway network under both the 2025 Background Plus Project Conditions and 2035 Cumulative Plus Project Conditions. In addition, Caltrans and the City of San Jose are also planning improvements to the nearby U.S. 101 and De La Cruz Boulevard-Trimble Road interchange that are scheduled to be completed in 2022, assuming funding is available. Other improvements at this intersection would require right-of way from both the City of San Jose's San Jose Mineta International Airport and private landowners. The City of Santa Clara's City Place EIR determined that a significant and unavoidable impact would occur at this intersection even with a mitigation measure at this intersection that included a second southbound right-turn lane from Central Expressway to De La Cruz Boulevard and a third northbound left-turn lane from Trimble Road to Central Expressway. The City of Santa Clara is in the process of preparing a Multimodal Improvement Plan that will address this intersection. No other feasible mitigation measures are available to substantially lessen the impact identified for this intersection. VTA is committed to preparing a Multimodal Improvement Plan for the identified impact and to coordinate with the City of Santa Clara and the County of Santa Clara in its preparation as described in Volume I, Section 3.5.3.4 of the Final SEIS/SEIR and hereby incorporated by reference. However, this plan is designed to implement innovative comprehensive strategies for improving systemwide multimodal

transportation as a tradeoff to increased congestion at this CMP facility. Therefore, the impact at this intersection would be significant and unavoidable.

Air Quality – Exceedance of Thresholds during Construction

Significant Impact (Project and Cumulative): Construction-period exceedance of thresholds for ROG and NOx and cumulative net increase in criteria pollutants

Combined construction emissions (assuming overlapping construction for TOJD sites and BART Extension for worst-case analysis) for nitrogen oxides (NO_X) and reactive organic gas (ROG) emissions (from use of architectural coating at TOJDs with a low volatile organic compound) would exceed Bay Area Air Quality Management District (BAAQMD) thresholds.

Findings: VTA's Board of Directors hereby makes Finding (a)(3) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure AQ-CNST-A: Implement Dust Control Measures, Mitigation Measure AQ-CNST-B: Use U.S. Environmental Protection Agency (EPA) Tier 4 or Cleaner Engines, Mitigation Measure AQ-CNST-C: Maintain Construction Equipment, Mitigation Measure AQ-CNST-D: Minimize Idling Times, Mitigation Measure AQ-CNST-E: Use Equipment Meeting ARB Certification Standards, Mitigation Measure AQ-CNST-F: Ensure Heavy-Duty Diesel Trucks Will Comply with EPA Emissions Standards, Mitigation Measure AQ-CNST-G: Use Low-Sulfur Fuel, Mitigation Measure AQ-CNST-H: Locate Construction Areas Away from Sensitive Receptors, and Mitigation Measure AQ-CNST-I: Use Low-Volatile Organic Compound (VOC) Coatings) are consistent with BAAQMD recommendations for reduction of NOx and ROGs. Despite application of these measures, the size of the Phase II Project, concurrent construction activities on multiple construction sites and the array of machinery necessary for its implementation would still result in ROG and NOx emissions that exceed the BAAQMD's 54 pounds per day threshold. No other feasible mitigation measures are available which would substantially lessen this impact. Therefore, the impact would remain significant and unavoidable for ROG and NOx.

Air Quality – Exceedance of Thresholds during Operations

Significant Impact (Project and Cumulative): Operations exceedance of threshold for ROG and cumulative net increase in criteria pollutant

Combined operational BART and TOJD emissions for reactive organic gas (ROG) emissions would exceed Bay Area Air Quality Management District (BAAQMD) thresholds.

Findings: VTA's Board of Directors hereby makes Finding (a)(3) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: Significant emissions would be related to residential consumer product use (i.e. aerosol sprays) at the Alum Rock/28th Street, Downtown San Jose, and Santa Clara Stations. There is no feasible mitigation measure to reduce or control the use of consumer products within private residences. Therefore, the impact would remain significant and unavoidable for ROG during operations.

Greenhouse Gas Emissions – Net Increase in Emissions and Conflict with Plan, Policy, or Regulation to Reduce Greenhouse Gas Emissions

Significant Impact: Exceed threshold for GHG emissions during 2035 long-term conditions

Increased BART electricity consumption and the operation of TOJDs would result in a net increase in long-term (2035) GHG emissions, and TOJD emissions would exceed the conservative net zero threshold adopted for the Phase II Project. Emissions would also exceed the "Substantial Progress Indicator," which was developed to analyze the efficiency (emissions per service population) of the TOJDs, consistent with long-term statewide climate change reduction targets. The indicator is based on the long-term goals of State Executive Order (EO) S-03-05 and Senate Bill (SB) 32. EO S-03-05 established the state GHG emission target of 80 percent below 1990 levels by 2050. SB 32 supports EO S-3-05 and legislatively established a medium-term goal for 2030 of reducing GHG emissions by 40 percent below 1990 levels. A 2035 Substantial Progress Indicator was calculated for the Phase II Project based on the statewide 1990 emissions inventory and the projected 2035 statewide population and employment levels, and a linear interpolation of the 2030 and 2050 statewide GHG reduction targets.

While the mode shift benefit achieved by the BART Extension would reduce GHG emissions, the emissions benefit would not be sufficient to offset GHG emissions from increased BART electricity consumption and the TOJDs. Accordingly, the BART Extension with TOJD Alternative would result in a net increase in long-term (2035) GHG emissions. Therefore, the BART Extension with TOJDs would not meet the substantial progress indicator, based on the goals of EO S-03-05 and SB 32 and the net zero threshold adopted for the Phase II Project.

Findings: VTA's Board of Directors hereby makes Findings (a)(2) and (a)(3) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure GHG-A: Implement Energy Efficiency Measures, Mitigation Measure GHG-B: Participate in Food Waste Programs, Mitigation Measure GHG-C: Utilize Electrical Landscaping Equipment, Mitigation Measure GHG-D: Provide Preferential Parking for Electric Vehicles, and Mitigation Measure AQ-CNST-I: Use Low-VOC Coatings), Mitigation Measure AQ-CNST-E: Use Equipment Meeting ARB Certification Standards, Mitigation Measure AQ-CNST-F: Ensure Heavy-Duty Diesel Trucks Will Comply with EPA Emissions Standards, and Mitigation Measure AQ-CNST-G: Use Low-Sulfur Fuel would lessen the impact but not

reduce it to a less-than-significant level. Large reductions will need to be made through state (and, most likely, federal) action to achieve the deep cuts in GHG emissions outlined in EO S-03-05 and SB 32. Such actions include, but are not limited to electrification of the transportation sector, net zero buildings, increased penetration of renewable energy in the electric power sector, and implementation of a long-term cap and trade program. The specific project-level benefits of future state (or federal) action cannot be presumed at this time, although it is likely that the Phase II Project's actual emissions in 2035 would be lower than the levels presented in the Final SEIS/SEIR. No other feasible mitigation measures are available which would substantially lessen this impact. Although it is possible that future state and federal actions will reduce BART Extension emissions to net negative and TOJD emissions to a level below the substantial progress indicator, this cannot be presumed at this time. Therefore, even with the implementation of the above mitigation measures, the impact would remain significant and unavoidable.

Noise

Significant Impact (Project and Cumulative): Exceed noise criterion for residences during construction

Construction activities at Downtown San Jose Station and Diridon Station would exceed noise criterion for residences.

For the Downtown San Jose Station, buildings on Santa Clara Street are approximately 40 feet from the centerline of the closest construction activity. For the residences in the area, nighttime construction could exceed the 8-hour L_{eq} limit of 70 dBA.

The area surrounding the Diridon Station is primarily characterized by a mix of commercial buildings (the closest would be 140 feet from the staging area), a church (255 feet away), and residences (the closest multi-family residence would be 200 feet away). For the residences in the area, nighttime construction could exceed the 8-hour L_{eq} limit of 70 dBA.

Findings: VTA's Board of Directors hereby makes Finding (a)(3) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure NV-CNST-A: Incorporate FTA Criteria Compliant Construction Noise and Vibration Specifications, Mitigation Measure NV-CNST-B: Locate Equipment as Far as Feasible from Sensitive Sites, Mitigation Measure NV-CNST-C: Construct Temporary Noise Barriers, Mitigation Measure NV-CNST-D: Operate Equipment to Minimize Annoying Noise and Vibration, Mitigation Measure NV-CNST-E: Route Construction Trucks along Truck Routes Least Disturbing to Residents, Mitigation Measure NV-CNST-F: Secure Steel and Concrete Plates over Excavated Holes and Trenches, Mitigation Measure NV-CNST-G: Use Best Available Practices to Reduce Excess Noise and Vibration, Mitigation Measure NV-CNST-H: Adhere to Local Jurisdiction Construction Time Periods, to the Extent Feasible,

Mitigation Measure NV-CNST-I: Perform Preconstruction Ambient Noise Measurements at All CSAs, Mitigation Measure NV-CNST-J: Implement a Construction Noise Control and Monitoring Plan, Mitigation Measure NV-CNST-K: Require Minimum Qualifications for the Acoustical Engineer, Mitigation Measure NV-CNST-L: Prohibit Operation of Noise-Generating Equipment Prior to Acceptance of Noise Control and Monitoring Plan, Mitigation Measure NV-CNST-M: Install Long-Term Noise Monitors at CSAs during all Construction Phases, Mitigation Measure NV-CNST-N: Ensure Equipment is Pre-certified to Meet Noise Limits, and Mitigation Measure NV-CNST-O: Implement a Complaint Resolution Procedure) would lessen the noise impacts, but not reduce them to a less-than-significant level. No other feasible mitigation measures are available which would substantially lessen nighttime impacts. Nighttime construction activities cannot be restricted because certain construction activities, such as utility relocations to minimize service disruptions, materials and heavy equipment transport on local roadways to minimize traffic impacts, and concentrating various construction activities over shorter time periods to minimize morning and afternoon peak hour traffic delays would result in other environmental impacts if not permitted at night. Therefore, the impact would remain *significant and unavoidable*.

3.4.2 Findings Regarding Significant Impacts Mitigated to Less-than-Significant Levels

VTA's Board of Directors has determined that, for the following impacts, mitigation measures included in the Final SEIS/SEIR and adopted as part of the Phase II Project's approval will mitigate the impacts of the Phase II Project to a less-than-significant level.

Significant Impacts Mitigated to Less-than-Significant Levels Identified in the Final SEIS/SEIR

Transportation: Vehicular Traffic, Bicyclists, and Pedestrians

Significant Impact: Construction Traffic (vehicular, bicyclists, and pedestrians)

Construction has the potential to affect vehicular traffic, bicyclists, and pedestrians due to lane and street closures and detours at the 13th Street and Stockton Avenue Ventilation Structures. For construction of the 13th Street Ventilation Structure on Santa Clara and 13th Street, one lane in each direction on Santa Clara would be maintained as open during construction. Similarly for Stockton Avenue Ventilation Structure, one lane in each direction on Stockton Avenue would be maintained as open during construction. The 13th Street and Stockton Avenue Ventilation Structures involve construction of aboveground structures outside the road ROW; therefore, disruptions to adjoining streets would not last more than a few days at a time.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure TRA-CNST-A: Develop and Implement a Construction Education and Outreach Plan, Mitigation Measure TRA-CNST-B: Develop and Implement a Construction Transportation Management Plan, and Mitigation Measure TRA-CNST-C: Prepare and Implement an Emergency Services Coordination Plan) would reduce impacts to a less-than-significant level by managing traffic conflicts such that through traffic will be able to continue to travel on Santa Clara Street and Stockton Avenue.

Transportation: Emergency Access

Significant Impact: Inadequate emergency access during construction

Construction activities have the potential to impede movement of emergency service providers during construction along the corridor.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure TRA-CNST-C: Prepare and Implement an Emergency Services Coordination Plan) would ensure that VTA works with local emergency providers regarding closures and detours to implement a plan to ensure adequate emergency access is maintained during construction.

Transportation: Intersection Operations and Conflict with Congestion Management Program

Significant Impact: Cities of Santa Clara and San Jose intersection impacts during operation

Traffic impacts would occur during project operations at three intersections near the Santa Clara Station in 2035: Coleman Avenue and Brokaw Road (City of Santa Clara intersection), Lafayette Street and Lewis Street (City of Santa Clara intersection), Coleman Avenue and I-880 Southbound Ramps (City of San Jose and CMP intersection).

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure TRA-A: Implement Intersection Improvements at Coleman Avenue and Brokaw Road, Mitigation Measure TRA-B: Implement Intersection Improvements at Lafayette Street and Lewis Street, and Mitigation Measure TRA-C: Implement Intersection Improvements to Coleman Avenue and I-880 Southbound Ramps) would ensure that the intersections operate at an acceptable level of service. Therefore, the impacts are reduced to a less-than-significant level.

Air Quality – Exceedance of Thresholds – Expose Sensitive Receptors to Pollutants

Significant Impact: Construction-period exceedance of thresholds for particulate matter and cancer risk for sensitive receptors

During construction of BART stations and TOJD, the annual increase in concentrations of particulate matter less than or equal to 2.5 microns in diameter (PM2.5) and cancer risk would exceed the BAAQMD significance thresholds for nearby sensitive receptors.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided and based on BAAQMD recommendations (Mitigation Measure AQ-CNST-B: Use U.S. Environmental Protection Agency (EPA) Tier 4 or Cleaner Engines) would ensure that emissions do not exceed BAAQMD thresholds. Therefore, this mitigation measure will reduce the impact to a less-than-significant level

Greenhouse Gas Emissions – Increase in Emissions and Conflict with Plan, Policy, or Regulation to Reduce Greenhouse Gas Emissions

Significant Impact: Construction activities would result in substantial greenhouse gas emissions

Construction activities would generate direct emissions of carbon dioxide, methane, and nitrous oxide from mobile and stationary construction equipment exhaust as well as employee and haul truck vehicle exhaust. Indirect emissions would be generated from water use for fugitive dust control. BAAQMD's CEQA Guidelines do not identify a quantitative GHG emission threshold for construction emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and that a determination regarding the significance of the GHG emissions be made.

Findings: VTA's Board of Directors hereby makes Findings (a)(1) and (a)(3) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided Mitigation Measure GHG-B: Participate in Food Waste Programs, Mitigation Measure GHG-C: Utilize Electrical Landscaping Equipment, Mitigation Measure GHG-D: Provide Preferential Parking for Electric Vehicles,), Mitigation Measure AQ-CNST-E: Use Equipment Meeting ARB Certification Standards, Mitigation Measure AQ-CNST-F: Ensure Heavy-Duty Diesel Trucks Will Comply with EPA Emissions Standards, and Mitigation Measure AQ-CNST-G: Use Low-Sulfur Fuel would reduce the impact to a less-than-significant level.

Biological Resources and Wetlands – Nesting Birds

Significant Impact: Construction-period impacts to nesting birds during tree removal and pruning

If tree removal and pruning occurs during nesting season, they have the potential to affect nesting birds. The Phase II Project would result in the removal of on-street or urban trees throughout the project alignment and at the stations.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure BIO-CNST-A: Avoid Nesting Bird Season and Mitigation Measure BIO-CNST-B: Conduct Preconstruction/Predisturbance Surveys for Nesting Birds) would lessen the impact to a less-than-significant level by timing construction to avoid the nesting season or conducting surveys for nesting birds prior to disturbance activities and implementing protective measures accordingly.

Biological Resources and Wetlands – Roosting Bats

Significant Impact: Construction-period impacts to roosting bats during tree removal and demolition activities

Tree removal and demolition of existing structures to clear construction staging areas have the potential to affect roosting bats.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure BIO-CNST-C: Conduct Preconstruction Surveys for Roosting Bat and Implement Protective Measures) would lessen the impact to a less-than-significant level by identifying roosting bat colonies prior to construction and protecting those colonies during construction.

Biological Resources and Wetlands – Tricolored Blackbirds

Significant Impact: Construction-period impacts to tricolored blackbirds, a special-status species, during vegetation removal

There is a potential for tricolored blackbirds to occur along the Guadalupe River and Los Gatos Creek. Along the Guadalupe River and Los Gatos Creek, tricolored blackbird surveys are required under the Santa Clara Valley Habitat Plan.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure BIO-CNST-E: Conduct Preconstruction Tricolored Blackbird Nesting Surveys and Determine Appropriate Action) would lessen the impact to a less-than-significant level by identifying tricolored blackbird nesting habitat prior to construction, monitoring for active colonies during the breeding season, and protecting this habitat during construction.

Biological Resources and Wetlands – Burrowing Owls

Significant Impact: Construction-period impacts to burrowing owls, a special statues species, during vegetation removal

The Santa Clara Valley Habitat Plan has designated the area surrounding the Newhall Maintenance Facility as a western burrowing owl survey area, and vegetation removal in that area has the potential to affect burrowing owls.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure BIO-CNST-F: Conduct Preconstruction/Predisturbance Western Burrowing Owl Surveys and Determine Appropriate Action) would lessen the impact to a less-than-significant level by identifying burrowing owl nests prior to construction and protecting owls through the avoidance, minimization of impacts, monitoring and mitigation of impacts (if required) during construction.

Biological Resources and Wetlands – Riparian Habitat

Significant Impact: Construction-period impacts to riparian habitat

Construction activities at the construction staging area near Lower Silver Creek, the State Route (SR) 87 CSA near the Guadalupe River, and construction of the systems facilities at Diridon Station near Los Gatos Creek may result in a significant impact on riparian habitat adjacent to these facilities.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure BIO-CNST-D: Protect Riparian Habitat) would lessen the impact to a less-than-significant level by marking environmentally sensitive areas on plans including all riparian areas identified along the Guadalupe River and Los Gatos Creek ensuring such habitat is marked with

protective orange fencing or flagging during construction to avoid disturbance or accidental intrusion by workers or equipment. In addition, contractors will not use night lighting for construction activities and staging near the riparian area.

Biological Resources and Wetlands – Wildlife Movement and Nurseries

Significant Impact: Construction-period impacts may interfere with wildlife movement or impede use of wildlife nursery sites

If tree removal and pruning occurs during nesting season, they have the potential to impede the use of nursery sites. The Phase II Project would result in the removal of on-street or urban trees throughout the project alignment and stations.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure BIO-CNST-A: Avoid Nesting Bird Season and Mitigation Measure BIO-CNST-B: Conduct Preconstruction/Predisturbance Surveys for Nesting Birds) would lessen the impact to a less-than-significant level by timing construction to avoid the nesting season or conducting surveys for nesting birds prior to disturbance activities and implementing protective measures accordingly.

Biological Resources and Wetlands – Tree Removal

Significant Impact: Conflict with local tree ordinance or policy

The Phase II Project would require removal of street and urban trees which are predominantly landscaping trees. Removal of these trees would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure AES-CNST-A: Replace Trees) would replace trees that would need to be removed along the alignment and/or pay in lieu fees to be used for tree replacement; thereby, lessening the impact to a less-than-significant level.

Biological Resources and Wetlands – Protection of Biological Resources

Significant Impact: Construction-period impacts may conflict with plans, policies, or ordinances related to tricolored blackbirds and burrowing owls

There is a potential for tricolored blackbirds to occur along the Guadalupe River and Los Gatos Creek. Along the Guadalupe River and Los Gatos Creek, tricolored blackbird surveys are required under the Santa Clara Valley Habitat Plan. The Santa Clara Valley Habitat Plan has designated the area surrounding the Newhall Maintenance Facility as a western burrowing owl survey area, and vegetation removal in that area has the potential to affect burrowing owls.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure BIO-CNST-E: Conduct Preconstruction Tricolored Blackbird Nesting Surveys and Determine Appropriate Action) would lessen the impact to a less-than-significant level by identifying tricolored blackbird nesting habitat prior to construction, monitoring for active colonies during the breeding season, and protecting this habitat during construction. The mitigation measure provided (Mitigation Measure BIO-CNST-F: Conduct Preconstruction/ Predisturbance Western Burrowing Owl Surveys and Determine Appropriate Action) would lessen the impact to a less-than-significant level by identifying burrowing owl nests prior to construction and protecting owls through the avoidance, minimization of impacts, monitoring and mitigation of impacts (if required) during construction.

Cultural Resources – Archaeological Resources

Significant Impact: Construction activities could cause a substantial adverse change in the significance of unknown archaeological resources or disturb undiscovered human remains, including those interred outside of formal cemeteries

The Archaeological Resources Technical Report (2016 and 2017 Addenda) identified numerous locations where unknown or previously undiscovered archaeological resources (including human remains) may be discovered. Many of the sensitive areas are located under existing buildings or infrastructure. Therefore, it is not feasible to test all sensitive areas at this time. Consequently, a Programmatic Agreement and Archaeological Resources Treatment Plan has been prepared for the identification and evaluation of archaeological resources in phases, prior to construction, and treatment of archaeological resources and burials in the event that such resources are discovered during construction activities. No impacts to any known archaeological resources (1 identified within the APE) would occur.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure CUL-CNST-A: Implement Programmatic Agreement and Archaeological Resources Treatment Plan) would lessen the potential impact to a less-than-significant level by implementing the

procedures to be used to comply with Section 106 in the field and determining standards of evaluation for cultural properties. Methods included are 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. Areas within the Area of Potential Effects (APE) where potential resources have been identified, or that are designated as highly sensitive for buried resources, will be field investigated, concentrating on, but not confined to, the area of direct effect.

Cultural Resources – Increase in Noise for Historic Properties that have an Inherent Quiet Quality

Significant Impact: Construction-related noise has the potential to result in an indirect impact on Five Wounds Portuguese National Church located near Alum Rock/28th Street Station

Construction noise has the potential to cause indirect noise impact on historic properties that have an inherent quiet quality that is part of a property's historic character and significance (i.e., churches, parks, and National Historic landmarks with significant outdoor use). Only one of the 32 historic properties within the Area, Five Wounds Portuguese National Church near Alum Rock/28th Street Station, is considered to have an inherent quiet quality. Impacts from construction of the underground station box would exceed noise levels above the FTA threshold of 85 dBA.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure NV-CNST-C: Construct Temporary Noise Barriers) and restriction on noise-generating construction activity hours in coordination with the owners and operators of the Five Wounds Portuguese National Church would lessen the potential impact to a less-than-significant level by reducing noise levels at the church site by 5 to 15 dBA.

Cultural Resources – Increase in Vibration for Historic Buildings

Significant Impact: Construction-related vibration in the vicinity of historic buildings has the potential to result in an indirect impact on historic buildings

Historic buildings in the vicinity of cut-and-cover station excavation activities may be exposed to excessive vibration at Alum Rock/28th Street Station, Downtown San Jose Station, and Diridon Station. Depending on the condition and construction of the historic buildings, excessive vibration has the potential to result in impacts ranging from minor architectural cosmetic damage to structural damage. The appropriate vibration threshold for each historic building near the construction sites depends on the individual structure, its material and condition, and the type of soils under the building. The thresholds will be

determined based on preconstruction building surveys, geotechnical investigations, and recommendations of a qualified structural engineer and architectural historian or historic architect.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure NV-CNST-P: Implement Construction Vibration Control and Monitoring Plan, Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring, and Mitigation Measure NV-CNST-R: Implement Preconstruction and Post-Construction Building Condition Surveys for Vibration) would lessen the potential impact to a less-than-significant level by ensuring that vibration levels are kept below the threshold for structural damage. In the event of inadvertent, construction-related damage to historic buildings, repairs will be conducted in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and consistent with 36 CFR 800.13(b).

Cultural Resources – Surface Settlement for Historic Buildings

Significant Impact: Construction-related surface settlement in the vicinity of historic buildings has the potential to result in an impact on historic buildings

Construction activities for the BART Extension have the potential to result in surface settlement and lateral ground movements during tunneling and cut-and-cover construction activities. Surface settlement and ground movements have the potential to damage structures including historic buildings. For historic buildings, a Conditions Assessment Report will be prepared in accordance with Section 106 of the NRHP. The appropriate vibration threshold for each historic building near the construction sites depends on the individual structure, its material and condition, and the type of soils under the building. The thresholds will be determined based on preconstruction building surveys, geotechnical investigations, and recommendations of a qualified structural engineer and architectural historian or historic architect.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure GEO-CNST-B: Implement Preconstruction Condition Surveys along the Tunnel Alignment, Mitigation Measure GEO-CNST-C: Monitor Ground Surface during Tunneling Activities, and Mitigation Measure GEO-CNST-D: Monitor Settlement Effects around Cut-and-Cover Excavations) would thereby lessen the potential impact to a less-than-significant level. These measures would reduce the impact by conducting preconstruction building condition surveys, identifying settlement thresholds for each historic structure, ensuring thresholds are not

exceeded, and implementing ground treatment technologies if anticipated maximum settlement would cause more than cosmetic damage. Ground surface monitoring during tunneling and cut-and-cover excavations will also lessen impacts. In the event of inadvertent, construction-related damage to historic buildings, repairs will be conducted in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and consistent with 36 CFR 800.13(b)

Geology, Soils, and Seismicity – Liquefaction

Significant Impact (Construction and Operation): During construction and operation, the alignment and stations would be located in areas of moderate to high potential for liquefaction which could damage project facilities

Liquefaction potential along the alignment is moderate to high and may damage project facilities. All of the stations and the Newhall Maintenance Facility would be in areas with moderate liquefaction potential. Approximately 700 feet northeast of Diridon Station, the alignment would cross two approximately 100-foot-wide stream channels (Los Gatos Creek and Guadalupe River, respectively), where the liquefaction potential is characterized as being very high. The approximately 500-foot-long segment of the alignment near Diridon Station between the two stream channels is rated as having moderate liquefaction potential.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure GEO-CNST-A: Incorporate Design Specifications to Minimize Effects from Liquefaction Hazards) would lessen the potential impact to a less-than-significant level by ensuring that the Phase II Project's engineering design incorporates features to reduce the impact from liquefaction, such as using pile foundations, parking garages on piles, additional reinforcement, subgrade improvements, or anchors.

Geology, Soils, and Seismicity – Surface Settlement

Significant Impact: During construction, tunnel boring and cut-and-cover construction could result in potential settlement or ground movement

Construction activities for the BART Extension have the potential to result in surface settlement of 0.5 inch to 1 inch as well as lateral ground movements during tunneling and cut-and-cover construction activities. The surface settlement and ground movements have the potential to damage structures. Along the tunnel alignment, the maximum surface settlement damage induced during tunnel boring is predicted to be in a range categorized as between negligible and slight. For cut-and-cover construction, surface settlement varies with distance from the excavation, with a maximum being at the face of the excavation wall to zero at the *limit of influence*, a horizontal distance around the excavation equal to twice the depth of excavation.

Depending on the predicted settlement and structural sensitivity to movement, the BART Extension would include ground treatment measures, strengthening of structures, and underpinning of structures on a case-by-case basis prior to tunnel boring or cut-and-cover construction. The BART Extension also would utilize Tunnel Boring Machines to minimize the risk of surface settlements and lateral ground movements.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure GEO-CNST-B: Implement Preconstruction Condition Surveys along the Tunnel Alignment, Mitigation Measure GEO-CNST-C: Monitor Ground Surface during Tunneling Activities, Mitigation Measure GEO-CNST-D: Monitor Settlement Effects around Cut-and-Cover Excavations, Mitigation Measure GEO- CNST-E: Implement Preconstruction Condition Surveys for Utilities, and Mitigation Measure GEO-CNST-F: Minimize Excavation Bottom Failure Impact) would be implemented in addition to engineering design measures to reduce impacts. Monitoring will enable VTA to undertake corrective actions to avoid significant surface settlement or ground movements and address settlement before building damage occurs. These provisions would lessen the potential impact to a less-than-significant level.

Geology, Soils, and Seismicity – Excavation Bottom Stability or Disturbance

Significant Impact: During construction, excavation for stations in soft clays could result in disturbance of sensitive deposits at excavation subgrade

Soft and loose, saturated native soil deposits could be encountered at the excavation bottom. If clay and saturated sand deposits are sufficiently disturbed during construction activities at the bottom of an excavation, the deposits could become soft and loose. Consequently, working conditions at the bottom of the excavation may become difficult and cause the loss of equipment mobility. Adequate measures will be taken to minimize the disturbance of the sensitive deposits at the excavation subgrade.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure GEO-CNST-F: Minimize Excavation Bottom Failure Impacts and Mitigation Measure GEO-CNST-G: Minimize Disturbance of Sensitive Deposits at the Excavation Subgrade), in addition to standard geotechnical engineering design, would lessen the potential impact to a less-than-significant level.

Geology, Soils, and Seismicity – Expansive Soils

Significant Impact: Portions of the alignment would be in areas with soils having moderate to high expansion potential, creating risks to life or property

Expansive soils are a concern for the proposed structures for system facilities, parking, and vehicular and pedestrian access at the stations. Some of the soils at station locations and the Newhall Maintenance Facility have high plasticity indices of between 21 and 40, meaning that the soils have moderate to high expansion potential.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure GEO-CNST-H: Incorporate Design Specifications to Minimize Effects from Expansive Soils), in conjunction with standard geotechnical engineering design, would lessen the potential impact to a less-than-significant level.

Geology, Soils, and Seismicity – Paleontological Resources

Significant Impact: Construction activities involving deep excavation have the potential to destroy a unique paleontological resource or unique geologic feature

The BART Extension would be constructed in areas of San Jose and Santa Clara that have been previously developed. Consequently, any paleontological resource or site or unique geologic feature in these areas would likely have been discovered during previous development. Excavation depths involved during construction throughout the alignment may result in the discovery of previously unknown paleontological resources.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure GEO-CNST-I: Stop Construction if Paleontological Resources are Discovered and Determine Appropriate Action) would lessen the potential impact to a less-than-significant level by providing the opportunity to assess the significance of any potential resource and, if necessary, incorporate measures to protect any significant paleontological resources that may be encountered during construction.

Hazards and Hazardous Materials – Hazardous Materials Release

Significant Impact: Construction activities such as demolition activities could accidently release hazardous materials such as asbestos and lead-paint

Construction activities for the BART Extension would include demolition of buildings that may contain hazardous materials, such as asbestos-containing materials (ACM) and

lead-based paint (LBP). Improper removal and/or disposal of hazardous building materials during demolition activities could potentially result in an accidental release of hazardous materials into the environment.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans) would lessen the potential impact to a less-than-significant level by ensuring that plans are in place and remedial measures implemented to handle any hazardous materials that may be encountered during construction in accordance with regulatory requirements.

Hazards and Hazardous Materials – Hazardous Materials Sites

Significant Impact (Construction and Maintenance): Construction and maintenance activities could be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment

Hazardous materials may be present in soil, ballast, and groundwater beneath the alignment. Petroleum hydrocarbons, chlorinated solvents, and metals are the primary contaminants of concern in soil and groundwater from the 43 known hazardous materials release sites. Arsenic and lead are the primary contaminants of concern in shallow soil and ballast along existing railroad corridors. The disturbance of contaminated materials during construction activities, such as excavation and dewatering, could pose a potential threat to human health and the environment. The disturbance of contaminated soil and/or ballast during maintenance activities (e.g., trenching for utilities) could pose a direct exposure hazard to maintenance workers. Vapor intrusion of groundwater contaminants (e.g., chlorinated solvents) into future BART Extension buildings, such as the stations, system facilities, and maintenance facilities, could pose an inhalation hazard to indoor workers and residents. BART passengers at the above-grade Santa Clara Station could be exposed to hazardous materials in soil and/or ballast (if any) by direct contact and/or inhalation of dust.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans), in conjunction with standard safety procedures, would lessen the potential impact to a less-than-significant level by ensuring that plans are in place and remedial measures implemented to handle any hazardous materials that may be encountered during construction and maintenance activities in accordance with regulatory requirements.

Land Use – Habitat Conservation Plan or Natural Community Conservation Plan

Significant Impact: Construction and operation would conflict with an applicable habitat conservation plan or natural community conservation plan, the *Santa Clara Valley Habitat Plan* (SCVHP)

The majority of the alignment would be within the boundaries of the SCVHP. However, except for the Newhall Maintenance Facility, all of the BART Extension area has already been disturbed by urban development and not subject to the SCVHP. The portion of the Newhall Maintenance Facility within the City of San Jose would be within the western burrowing owl (*Athene cunicularia hypogea*) survey area, and Diridon Station and the State Route 87 Construction Staging Areas are near the tricolored blackbird (*Agelaius tricolor*) survey area along Guadalupe River and Los Gatos Creek, both covered by the SCVHP.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure BIO-CNST-E: Conduct Preconstruction Tricolored Blackbird Nesting Surveys and Determine Appropriate Action and Mitigation Measure BIO-CNST-F: Conduct Preconstruction Burrowing Owl Surveys and Determine Appropriate Action) would lessen the potential impact to a less-than-significant level by identifying tricolored blackbird nesting habitat and all suitable habitat for burrowing owl prior to construction, monitoring for active nest sites during the breeding season, protecting this habitat during construction, and providing mitigation for any impacts.

Noise and Vibration – Construction Noise

Significant Impact: Construction activities would expose persons to or generate noise in excess of local or FTA standards

Construction noise would exceed noise criteria for residences at Alum Rock/28th Street Station, 13th Street Ventilation Structure, Downtown San Jose Station, Diridon Station, Stockton Avenue Ventilation Structure, West Portal Tunnel Structure, and Newhall Maintenance Facility. Noise from the slurry batch plant at the West Portal is projected to result in a minor noise impact on residences located on the west side of the alignment.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure NV-CNST-A: Incorporate FTA Criteria Compliant Construction Noise and Vibration Specifications, Mitigation Measure NV-CNST-B: Locate Equipment as Far as Feasible from Sensitive Sites, Mitigation Measure NV-CNST-C: Construct Temporary Noise Barriers,

Mitigation Measure NV-CNST-D: Operate Equipment to Minimize Annoying Noise and Vibration, Mitigation Measure NV-CNST-E: Route Construction Trucks along Truck Routes Least Disturbing to Residents, Mitigation Measure NV-CNST-F: Secure Steel and Concrete Plates over Excavated Holes and Trenches, Mitigation Measure NV-CNST-G: Use Best Available Practices to Reduce Excess Noise and Vibration, Mitigation Measure NV-CNST-H: Adhere to Local Jurisdiction Construction Time Periods, to the Extent Feasible, Mitigation Measure NV-CNST-I: Perform Preconstruction Ambient Noise Measurements at All CSAs, Mitigation Measure NV-CNST-J: Implement a Construction Noise Control and Monitoring Plan, Mitigation Measure NV-CNST-K: Require Minimum Qualifications for the Acoustical Engineer, Mitigation Measure NV-CNST-L: Prohibit Operation of Noise-Generating Equipment Prior to Acceptance of Noise Control and Monitoring Plan and Noise Control Plan, Mitigation Measure NV-CNST-M: Install Long-Term Noise Monitors at CSAs during all Construction Phases, Mitigation Measure NV-CNST-N: Ensure Equipment is Pre-certified to Meet Noise Limits, and Mitigation Measure NV-CNST-O: Implement a Complaint Resolution Procedure) would lessen the potential impact to a less-than-significant level by reducing noise at the source, reducing noise between the source and receiver and restricting the hours of operation. Noise levels would be monitored and public complaints addressed in a timely fashion.

Noise and Vibration – Construction Groundborne Noise and Vibration from Tunnel Boring Machines

Significant Impact: Construction activities would expose persons to or generate excessive groundborne noise and vibration

Soils excavated by the tunnel boring machines would be removed by a muck train or conveyor system that may cause groundborne noise impacts during tunnel construction. Vibration from station and ventilation shaft excavation would be caused by excavation of shoring and installation of tiebacks where necessary; structures close to station excavation could be exposed to excessive vibration and noise.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure NV-CNST-P: Implement a Construction Vibration Control and Monitoring Plan, Mitigation Measure NV-CNST-Q: Perform Vertical Direction Vibration Monitoring, Mitigation Measure NV-CNST-R: Implement Preconstruction and Post-Construction Building Condition Surveys for Vibration, and Mitigation Measure NV-CNST-S: Implement Measures to Reduce Vibration from Muck Extraction and Supply Trains would reduce groundborne noise and vibration. Monitoring during construction will enable VTA to undertake corrective actions when groundborne noise and vibration levels approach or exceed standards. These measures would lessen the potential impact to a less-than-significant level.

Noise and Vibration – Operational Noise from Ancillary Facility

Significant Impact: BART ancillary facilities operations would expose persons to or generate noise in excess of local or FTA criteria

Untreated ventilation facilities, traction power substations, and at the systems facilities may exceed the applicable Cities of San Jose's or Santa Clara's residential noise limits.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure NV-A: Implement Noise Reduction Treatments at Ancillary Facilities) would lessen the potential impact to a less-than-significant level by including sound attenuating features and reducing noise between the source and receiver. The mitigation measure would reduce noise levels below the applicable City of San Jose's or Santa Clara's residential noise limits.

Noise and Vibration – Operational Groundborne Noise from Trains

Significant Impact: BART operations would expose persons to or generate excessive groundborne noise

During operations, groundborne noise levels are projected to exceed the FTA criteria for receptors at several locations.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure NV-B: Reduce Groundborne Noise Levels) would require VTA to undertake corrective actions before groundborne noise levels can approach or exceed the FTA criteria. Where groundborne noise levels during operations are predicted to exceed the FTA criteria, mitigation includes installation of isolated slab track or comparable mitigation strategies that achieve similar reductions. These measures would lessen the potential impact to a less-than-significant level.

Utilities and Service Systems – Water and Wastewater Supply – Operations

Significant Impact: Operation of the Phase II Project could require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which may cause significant environmental effects

SJWC would be responsible for providing onsite water infrastructure and sewer infrastructure to connect BART facilities and TOJD to the existing water supply system and existing sewer system. In Santa Clara, it would be the TOJD applicant's responsibility to

provide onsite infrastructure to connect to SCWSU mains in the public right-of-way. Water suppliers would also evaluate the need for offsite water infrastructure improvements prior to the issuance of a building permit. New sewer infrastructure would be designed in accordance with applicable Level of Service guidelines and installed during construction. Water supply and wastewater generated at the BART stations and facilities may contribute to capacity deficiencies within offsite supply networks and sewer systems, which represents a potential impact to utility systems.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure UTIL-E: Prepare a San Jose Water Supply Infrastructure Capacity Assessment and Participate in the Improvements, Mitigation Measure UTIL-F: Prepare a Santa Clara Water Supply Infrastructure Capacity Assessment and Participate in the Improvements, Mitigation Measure UTIL-G: Prepare a San Jose Sewer Capacity Assessment and Participate in the Improvements, and Mitigation Measure UTIL-H: Prepare a Santa Clara Sewer Capacity Assessment and Participate in the Improvements) would lessen the potential impact to a less-than-significant level by sizing improvements for water and sewer appropriately and financing the Phase II Project's share of needed improvements.

Visual Quality and Aesthetics – Tree Removal

Significant Impact: Construction activities would result in tree removal

Construction activities would require removal of trees along the entire alignment. Trees may be removed or trimmed at construction staging sites to allow for construction laydown and activities. Trees would be removed as needed to accommodate station boxes, entrance portals, ventilation facilities, and system facilities.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure AES-CNST-A: Replace Trees) would lessen the potential impact to a less-than-significant level by replacing trees that need to be removed along the alignment and/or pay in lieu fees to be used for tree replacement.

Visual Quality and Aesthetics – Light or Glare

Significant Impact: Operation of the TOJDs would create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area

Several of the TOJD buildings would be taller than the surrounding built environment, particularly at the Alum Rock/28th Street, Diridon, and Santa Clara Station areas where

TOJD would range between 4 and 11 stories high and include reflective surfaces, such as windows, that may create glare. The introduction of light and glare from the TOJDs, in combination with the station areas and parking structures, would be greater than existing conditions.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measure provided (Mitigation Measure AES-A: Minimize Light and Glare) would lessen the potential impact to a less-than-significant level by requiring that the building design include provisions that minimize off-site light spillage and glare.

Water Resources, Water Quality, and Floodplains – Surface Water/Water Quality Standards

Significant Impact: Construction and operation would degrade water quality or violate water quality standards

Construction activities may result in temporary increases in sediment loads and potential stormwater contamination, accidental spills of hazardous materials, and surface and groundwater impacts. Operation of new facilities may increase existing pollutants in storm drains and introduce new pollutants.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The mitigation measures provided (Mitigation Measure BIO-CNST-D: Protect Riparian Habitat (for construction) and WQ-A: Design and Implement Stormwater Control Measures (for construction and operation)), in conjunction with best management practices required by the Regional Water Quality Control Board for construction projects, would lessen the potential impact to a less-than-significant level.

Water Resources, Water Quality, and Floodplains – Groundwater Depletion

Significant Impact: Construction activities could deplete groundwater supplies or interfere with groundwater recharge

Groundwater is anticipated to be encountered during excavation for the underground stations and tunnel structures. At the stations, temporary shoring walls would be installed to support the sides of deep cut-and-cover excavations and prevent groundwater intrusion. Several methods can be used for the temporary shoring of excavation walls, including soil-cement mix wall, secant pile wall, and slurry diaphragm wall. Still, some dewatering of the shallow groundwater zone would be required. The methods for dewatering could include installing a

well-based dewatering system and/or pumping water from low spots at the excavation site. The tunnel would be constructed below the water table, at an average depth of 70 feet below ground at the crown (i.e., top of the tunnel). The tunnel would be constructed using a pressurized closed-faced tunnel boring machine. This would keep out groundwater, stabilize the tunnel face, and minimize settlement. Precast concrete segmental lining units would be installed as the tunnel progresses forward to reduce groundwater intrusion. As a result, a low potential exists for reducing the volume of water in the local aquifer table.

Findings: VTA's Board of Directors hereby makes Finding (a)(1) (as described in Section 3.1 above), as required by Public Resources Code Section 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified impact.

Facts in Support of Findings: The proposed construction techniques would reduce the potential for groundwater depletion. In addition, Mitigation Measure HAZ-CNST-A: Prepare and Implement Remedial Action Plans would ensure that site-specific Remedial Action Plans are prepared and implemented to reduce impacts on the environment, including groundwater contamination that could result from the disturbance of hazardous materials in soil and ballast materials during construction, thus avoiding the potential for reducing the volume of water in the local aquifer table. This will lessen the potential impact to a less-than-significant level.

3.4.3 Findings Regarding Recirculation

CEQA Guidelines Section 15088.5 requires a lead agency to recirculate an EIR for further review and comment when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR but before certification of the Final EIR. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the Phase II Project or a feasible way to mitigate or avoid such an effect that the project proponent declines to implement. The CEQA Guidelines provide the following examples of significant new information under this standard:

- A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- A substantial increase in the severity of an environmental impact would result unless mitigation is adopted that reduces the impact to a level of insignificance.
- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
- The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (Mountain Lion Coalition v. Fish and Game Com. (1989) 214 Cal.App.3d 1043).

Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR. The above standard is "not intend[ed] to promote endless rounds of revision and recirculation of EIRs." (*Laurel Heights Improvement Assn. v. Regents of the University of California* (1993) 6 Cal. 4th 1112, 1132). "Recirculation was intended to be an exception, rather than the general rule." (*Ibid.*)

The Final SEIS/SEIR incorporates information since the Draft SEIS/SEIR was completed and contains additions, clarifications, modifications, and other changes to the Phase II Project. Where changes or additions have been made to information in the Draft SEIS/SEIR, these revisions do not change any conclusions on the significance of impacts presented in the Draft SEIS/SEIR and do not meet any of the standards for recirculation under CEQA Guidelines section 15088.5.

CEQA case law emphasizes that "[t]he CEQA reporting process is not designed to freeze the ultimate proposal in the precise mold of the initial project; indeed, new and unforeseen insights may emerge during investigation, evoking revision of the original proposal." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 736-737; see also *River Valley Preservation Project v. Metropolitan Transit Development Bd.* (1995) 37 Cal.App.4th 154, 168, fn. 11.) "'CEQA compels an interactive process of assessment of environmental impacts and responsive project modification which must be genuine. It must be open to the public, premised upon a full and meaningful disclosure of the scope, purposes, and effect of a consistently described project, with flexibility to respond to unforeseen insights that emerge from the process.' [Citation.] In short, a project must be open for public discussion and subject to agency modification during the CEQA process." (*Concerned Citizens of Costa Mesa, Inc. v. 33rd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 936).

The Final SEIS/SEIR also includes minor edits made in response to various comments on the Draft SEIS/SEIR. These revisions were made for accuracy or providing additional supplemental information to that contained in the Draft SEIS/SEIR and did not change any conclusions of the Draft SEIS/SEIR regarding the Phase II Project's impacts. The revisions only constituted minor revisions or augmentations to information in the Draft SEIS/SEIR that did not change any of the determinations regarding the significance of the Phase II Project's impacts.

The VTA Board of Directors finds that none of the changes in the Final SEIS/SEIR involves "significant new information" triggering recirculation because neither the additional information nor changes to any mitigation measure resulted in any new significant environmental effects, any substantial increase in the severity of any previously identified significant effects, or otherwise trigger recirculation under CEQA standards. Note that some of the modifications were either environmentally beneficial or environmentally neutral and represent the kind of changes that commonly occur as the environmental review process works towards its conclusion.

3.5 Incorporation by Reference

The 2018 Final SEIS/SEIR is hereby incorporated into these Findings in its entirety. Without limitation, this incorporation is intended to elaborate on the regulatory requirements applicable to the Phase II Project, comparative analysis of alternatives, the basis for determining the significance of impacts, the scope and nature of mitigation measures, and the reasons for approving the Phase II Project.

3.6 Record of Proceedings

Various documents and other materials constitute the record of proceedings upon which the VTA's Board of Directors bases its Findings and decisions contained herein, including, without limitation, the Final SEIS/SEIR (text, appendices and supporting technical reports), the Findings, and the MMRP. All documents related to VTA's BART Silicon Valley Phase II Extension Project are available upon request at the VTA offices at 3331 North First Street, Building B in San Jose. In accordance with Public Resources Code Section 21167.6, subdivision (e), the record of proceedings for VTA's Board of Directors' decision on the Phase II Project held by VTA's Board Secretary include but is not limited to the following documents along with the associated VTA's Board of Directors' actions:

- 2018 Final SEIS/SEIR
- 2016 Draft SEIS/SEIR
- 2011 Final 2nd SEIR
- 2010 Draft 2nd SEIR
- 2010 Final EIS
- 2009 Draft EIS
- 2007 Final SEIR
- 2007 Draft SEIR
- 2004 Final EIR
- 2004 Draft EIS/EIR

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Chapter 4
Overriding Considerations

The Final SEIS/SEIR indicated that if the Phase II Project is implemented, certain significant and unavoidable impacts would result. These impacts would also be cumulatively significant.

- **Transportation:** Disruption to vehicular traffic, bicyclists, and pedestrians during construction near Alum Rock/28th Street Station, Downtown San Jose Station, Diridon Station, Newhall Maintenance Facility, West Portal, Santa Clara Station, and TOJDs
- ***Transportation:*** Intersection of De La Cruz Boulevard and Central Expressway—under 2035 Forecast Year Plus BART Extension with TOJD Conditions.
- ***Transit*** – Bus: Construction of Downtown San Jose Station and Diridon Station would temporarily affect local bus service.
- ***Air Quality***: Exceed the ROG and NOx emissions thresholds during construction
- ***Air Quality***: Exceed the ROG emissions threshold during operation.
- ***Greenhouse Gas Emissions***: Generate GHG emissions, either directly or indirectly; conflict with a plan, policy, or regulation intended to reduce GHG emissions in 2035.
- ***Noise***: Exceed noise thresholds during construction near Downtown San Jose and Diridon Stations

As required by CEQA Guidelines section 15093, VTA's Board of Directors finds that the unavoidable significant effects described in **Chapter 3, Findings**, of this document are acceptable because of the overriding considerations described below. These benefits of implementing the Phase II Project outweigh its unavoidable environmental effects.

4.1 Statements of Fact in Support of Overriding Considerations

The Phase II Project addresses the need for improved transportation choices and capacity in Silicon Valley and the region. The Phase II Project would lead to an increased number of transit trips from origins and destinations in Alameda and Santa Clara Counties, as well as Contra Costa County and portions of the Central Valley (San Joaquin and Sacramento valleys) that are linked to the Santa Clara Valley by rail. Benefits of the Phase II Project include: (1) improving public transit service and modal options, (2) enhancing regional transit connectivity, (3) providing transit options to traveling on congested highways and supporting road networks, (4) improving transportation options that will maintain continuing economic vitality of the Silicon Valley, (5) improving mobility options for transit-dependent populations, (6) maximizing transit usage and ridership which reduces automobile traffic and

related air quality emissions, and (7) supporting local and regional economic and land use plans and transit investments.

Specifically, the Phase II Project would:

Improve public transit service and modal options

- The Phase II Project would improve public transit service in this 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 populations throughout the Bay Area and from communities that can access the BART regional rail network. Santa Clara County residents would be provided improved access to employment and activity centers in Alameda, Contra Costa, and San Francisco Counties, including the Bay Area's major employment concentration in downtown San Francisco.

Enhance regional transit connectivity

- The Phase II Project would 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 and improve intermodal transit hubs where rail, bus, auto, bicycle, and pedestrian links meet. The Phase II Project would also provide travel time savings between Alameda County and San Jose. For example, the Phase II Project would reduce the morning peak hour transit travel from Oakland to Santa Clara by 21 minutes and from Newark to downtown San Jose by 16 minutes. The Phase II Project would close transit connection gaps by connecting to Caltrain at the Diridon Station in downtown San Jose and at the Santa Clara Station in Santa Clara and to VTA's main north-south light rail spine along North First Street in central San Jose at the Downtown San Jose Station.

Transit options to traveling on congested freeways and supporting road networks

- The Phase II Project would have a beneficial effect by removing some freeway and supporting road network traffic from the ever-increasing traffic congestion in and between Alameda and Santa Clara Counties. The Phase II Project would generate a considerable number of new linked transit trips which are primarily diverted from automobile trips. In 2035, approximately 14,600 average weekday new linked trips would result from the Phase II Project.

Improve transportation options in the Silicon Valley

- The Phase II Project would support transportation solutions that would maintain the economic vitality and continuing development of Silicon Valley by expanding multimodal options and reducing reliance on single auto commute trips. Increasing the use of transit is critical to moving workers through highly-congested travel corridors that serve major employment centers. Substantial job growth is projected with almost 200,000 new jobs in Santa Clara County by 2035. The San Jose Business District has the most concentrated, as well as the highest number of, employment opportunities of the

communities along the alignment of the Phase II Project: 44,579 jobs currently and projected to reach 70,310 jobs by 2035. The San Jose Business District has a projected 58 percent increase in jobs from 2015 to 2035. And, over 50 percent of these jobs would be within ½ mile of the Phase II Project stations.

Improve mobility options for transit-dependent populations

- The Phase II Project would improve mobility options to employment, education, medical, and retail centers for corridor residents, in particular for low-income, youth, elderly, disabled, and ethnic minority populations. The Phase II Project would improve accessibility to community facilities in San Jose and Santa Clara. These are areas with concentrated low-income, low-mobility populations, and have more affordable housing. The Phase II Project would be accessible from central and east San Jose. Central San Jose, including downtown, has the highest proportion of legally binding affordable housing, relative to total housing stock, in the county.

Maximize transit usage and ridership which reduces automobile traffic and related air quality emissions

- The Phase II Project would greatly improve the transit service between downtown San Jose and Santa Clara and the primarily residential communities in the East Bay. Commuters would no longer have to transfer to a bus at the Berryessa BART Station once this station is opened, to get to downtown San Jose. Instead, the Phase II Project would provide a one-seat ride for many commuters between Alameda County and job-rich destinations along the BART corridor in Santa Clara County, thereby maximizing transit usage and ridership. Specifically, the Phase II Project would serve over 52,011 average weekday trips in 2035. This represents about 15,000 new linked transit trips compared to No Build conditions.

Support local economic and land use plans and goals and transit investments

- The Phase II Project would be consistent with local and regional plans and policies to extend the BART system, would create a unified transit system that potentially would encircle the bay, and would encourage higher-density, mixed-use development adjacent to proposed transit nodes. Santa Clara County residents have continually expressed their support for transportation improvements by passing local funding measures, such as the Measure A Transit Improvement Program, which was approved by 70.3 percent of voters in 2000. In 2008, county voters approved by 66.8 percent a 1/8-cent sales tax referred to as Measure B to fund the operating costs of BART extensions in Santa Clara County. In 2016, voters passed an additional ½-cent 30-year sales tax measure for previously approved Measure B projects including the Phase II Project.

Provide other benefits

- As discussed in the Final SEIS/SEIR, the Phase II Project is estimated to result in substantial reductions in transportation system vehicle energy requirements compared to

No Build conditions. The Phase II Project would also reduce the total vehicle miles traveled and result in lower related air quality emissions.

MITIGATION MONITORING AND REPORTING PROGRAM
for
VTA'S BART SILICON VALLEY - PHASE II EXTENSION PROJECT

1.0 INTRODUCTION

The Santa Clara Valley Transportation Authority, as lead agency for the BART Silicon Valley Phase II Extension Project, is responsible for compliance with Section 21081.6 of the California Environmental Quality Act (CEQA), which requires a lead agency to adopt a Mitigation Monitoring and Reporting Program (MMRP) "for the changes made to the project or conditions of project approval adopted in order to mitigate or avoid significant effects on the environment." *VTA's BART Silicon Valley - Phase II Extension Project Final Subsequent Environmental Impact Report/Supplemental Environmental Impact Statement* (February 2018) identifies the environmental impacts of the project and discusses mitigation measures to reduce the effects.

2.0 PROGRAM MANAGEMENT

The MMRP includes the following elements:

- Identification of mitigation measures as they appear in the Final Subsequent Environmental Impact Report;
- Identification of the time frame during which each measure is to be implemented and monitored;
- Identification of the party(ies) responsible for implementing and monitoring each mitigation measure;
- Documentation of compliance activities in quarterly MMRP Status Summary Reports.

Actions to be performed under the MMRP typically include:

- Actions to be taken prior to construction;
- Actions to be taken during construction; and
- Actions that require monitoring following construction (operations phase).

2.1 Designated Monitor

VTA's Environmental Programs Manager is the Designated Monitor responsible for implementation and enforcement of the mitigation measures for the BART Silicon Valley Phase II Extension Project. The Designated Monitor will assign monitoring tasks to field monitors, who are responsible for verifying compliance with specific mitigation measures.

2.2 Monitoring Procedures

Mitigation measures will be monitored, as specified in the attached table, *BART Silicon Valley Phase II Extension Project, Mitigation Monitoring and Reporting Program Summary*. Mitigation measures applicable prior to construction will be discussed with the design engineer(s), architect(s), and other responsible parties and/or interested stakeholders. Mitigation measures applicable during construction will be discussed with appropriate VTA personnel, construction contractors, and other responsible parties. Mitigation measures applicable following construction

will be discussed with appropriate VTA personnel and other responsible parties. These measures will be monitored weekly, or as conditions dictate, and all parties will be kept informed, as necessary, of compliance status and any corrective action. Mitigation measures applicable following construction will be monitored with compliance and non-compliance activities communicated to the appropriate parties.

2.3 Reporting Requirements

The Designated Monitor will submit quarterly MMRP Status Summary Reports to VTA management and appropriate staff, and to any individuals and agencies that request monitoring reports, during the prior-to-construction and construction phases. Similarly, the Designated Monitor will submit annual status reports, as required, for the post-construction/operations mitigation measures. Copies of reports may be obtained by contacting the VTA Environmental Programs Department, 3331 North First Street, San Jose, CA 95134.

Each MMRP Status Summary Report will summarize actions taken during the previous quarterly reporting period so as to meet the requirement(s) of each mitigation measure. The status report will include a checklist that indicates which mitigation measures are in compliance to date but require additional monitoring and which are in compliance to date with no further action needed (closed items).

2.4 Non-compliance

If the MMRP Status Summary Report indicates noncompliance with any mitigation measure, the Designated Monitor will recommend appropriate corrective action to the party(ies) responsible for implementation. Noncompliance and corrective action information will be included in the quarterly and annual reports.

2.5 Refinement or Addition of Mitigation Measures

During the Final Design phase, circumstances may arise that require the revision or addition of a mitigation measure. The Designated Monitor will make appropriate recommendations and ensure the implementation and enforcement of any revised MMRP requirements.

VTA'S BART SILICON VALLEY - PHASE II EXTENSION PROJECT

MITIGATION MONITORING AND REPORTING PROGRAM SUMMARY

Transportation

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
Alum Rock/28th Street Station; Downtown San Jose Station, Diridon Station. Santa Clara Station, Newhall Maintenance Facility, and West Tunnel Portal 13th Street and Stockton Avenue Ventilation Structures TOJDs	TRA-CNST-A	**Develop and Implement a Construction Education and Outreach Plan** VTA will develop a Construction Education and Outreach Plan (CEOP) in coordination with the Cities of San Jose and Santa Clara to foster communication between VTA, various municipalities, and the public during construction. VTA will develop the CEOP after the environmental process is complete and implement it prior to construction. The CEOP will ensure that VTA coordinates construction activities with existing business operations and other development projects to minimize disruption and delays. The CEOP will also establish a process that will address the concerns of businesses and their customers, property owners, residents, and commuters. The CEOP will be incorporated into the plans and specifications of all contracts through which the BART Extension will be implemented. Critical components of the CEOP will include, but	X	X			VTA Community Outreach and Public Engagement	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		are not limited to, the following requirements. • Establish field office(s) accessible to the public with dedicated community outreach staff and defined hours. • Provide and maintain a 24-hour/7-day a week project hotline for emergencies. • Conduct preconstruction operational surveys of businesses located adjacent to construction areas to ascertain hours of operation, access, deliveries, customer base, special circumstances, and key contacts. • Coordinate with cities to obtain information about upcoming adjacent construction projects to minimize disruptions and delays. • Inform and engage partner agencies, stakeholders, including VTA's BART Silicon Valley Phase II Community Working Groups, business organizations, business owners, tenants, the media, and the public on a regular and frequent basis. • Conduct public workshops, meetings, or webinars for community members. Hold regular meetings with the surrounding businesses and residents throughout the course of construction. • Distribute and post project information and advanced construction notification via the project website, social and traditional media, signage, face-to-face visits, flyers, mailers, emails, and						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		other communication methods as appropriate. • Develop a project signage program identifying project corridor, station areas, construction timeline, and funding. • Display maps and construction schedule information in project field office(s) and around the construction area. • Increase visibility of alternative parking and access via signage, website postings, and other communication methods. • Maintain media relations (i.e., news releases, news articles, and interviews). • Designate community outreach personnel available on site for the duration of the construction project. • Work with property owners and business owners in the station areas to promote access to businesses during construction, including enhanced signage. • Provide marketing assistance, technical business support, and cross-promotional efforts to businesses within the area impacted by construction to encourage customers to shop at businesses during construction. • Establish outreach to stakeholders to provide advanced notice of scheduled utility outages. Throughout development and implementation, the						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		education and outreach activities will be comprehensive, seeking widespread involvement; proactive, with efforts geared toward obtaining input, as well as disseminating information; responsive to various needs, including multiple languages and alternative formats; and timely, accurate, and results-oriented.						
	TRA-CNST-B	**Develop and Implement a Construction Transportation Management Plan** After the environmental process is complete and prior to beginning any construction activity, VTA will work with the Cities of San Jose and Santa Clara to develop Master Cooperative Agreements that will direct all coordination and partnering efforts between VTA and the cities prior to and during construction of the BART Extension. One element of the Master Cooperative Agreements with the cities will be the Construction Outreach Management Program (COMP). One of the three parts of the COMP is Construction Transportation Management Plan (CTMP). VTA and its General Engineering Contractor will develop and implement the CTMP in partnership with the Cities of San Jose and Santa Clara to coordinate location-specific circulation and access within and around the construction areas for all modes, including automobiles, trucks and construction vehicles, bicyclists, pedestrians, and public transportation such as buses and light rail. The CTMP will be organized according to each of the ten major project elements listed from east to	X	X			VTA Program Planning	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		west along the alignment: East Tunnel Portal, Alum Rock/28th Street Station, 13th Street Ventilation Structure, Downtown San Jose Station, Diridon Station, Stockton Avenue Ventilation Structure, West Tunnel Portal, Newhall Maintenance Facility, and Santa Clara Station, and any offsite improvement locations. The CTMP will be tailored to address the site-specific circumstances and sequencing of construction at each of the ten areas. The CTMP will be developed in partnership with the applicable city and incorporated into all plans and specifications of all contracts through which the BART Extension will be implemented. Critical components of the CTMP are as follows. • Sequencing schedule depicting the proposed location and timing of construction activities on a routine basis for the duration of the project. • Proposed phasing of construction, anticipated lane and street closures, detours, temporary signals, and street reconfigurations, including durations of all of the above and signage requirements that the contractor must follow. • Truck haul routes. • Location-specific requirements as applicable. • In addition, VTA will work with the cities to minimize access and circulation construction impacts during special events, including Christmas in the Park, parades, and marathons.						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		After the CTMP has been approved, individual Traffic Control Plans (TCPs) will be developed for specific design elements at each of the ten major project elements and throughout the 8-year duration of construction. The TCPs will address all modes including automobiles, trucks, and construction vehicles, bicyclists, pedestrians, and public transportation such as buses and light rail. The TCPs will be prepared by the contractor and approved by VTA and the applicable city prior to construction of the specific design element. The TCPs will include site-specific requirements such as the following. • Alternative access routes where practicable and wayfinding signage for all detours affecting roadway users, including vehicular traffic, trucks and construction vehicles, bicyclists, and pedestrians. • Early signage of potential construction delays for all roadway users to choose alternate routes. • Minimum requirements for pedestrians and bicyclists to provide safe travel corridors within and through construction areas or provide detour routes. • Coordination between VTA and transit providers as necessary prior to construction to ensure that any necessary re-routing of bus routes and temporary relocation of bus stops during construction is done to minimize impacts on bus						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		riders. • Early signage of potential transit delays for transit riders to plan trips accordingly. • Notification of the Cities of San Jose and Santa Clara, business owners, residents, and key stakeholders regarding lane and road closures that would affect parking, including both off-street and on-street parking. • Maps of all publicly available off-street and on-street parking that will be removed during construction. • Schedule of removal of each parking area. • Requirement that construction workers must park in construction staging areas or other designated areas. • In addition, in coordination with city partners, VTA will work with its contractors and the cities to restore parking as construction nears completion to the extent feasible.						
All project features for BART Extension and TOJDs	TRA-CNST-C	**Prepare and Implement an Emergency Services Coordination Plan** After the environmental process is complete and prior to beginning any construction activity, VTA will work with the Cities of San Jose and Santa Clara to develop Master Cooperative Agreements that will direct all coordination and partnering efforts between VTA and the cities prior to and during construction of the BART Extension. One	X	X			VTA Program Management	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		element of the Master Cooperative Agreements with the cities will be the COMP. One of the three parts of the COMP is the Emergency Services Coordination (ESCP). As local emergency service routes and response times could be affected by construction activities, VTA will coordinate with local fire and police services to develop the ESCP to minimize this impact. The ESCP will be incorporated into the plans and specifications of all contracts through which the BART Extension will be implemented. Critical components of coordination are as follows. • VTA will inform the local fire and police departments of the construction schedule, and potential lane and road closures. • VTA will work with emergency providers to ensure emergency access to residents and businesses and to maintain the cities' emergency service response times. • VTA will work with the local fire and police departments on the detour routes. • VTA will provide road signage for detours and provide manual traffic control on detour routes as necessary.						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Operation								
Santa Clara Station and TOJD in 2035	TRA-A	**Implement Intersection Improvements at Coleman Avenue and Brokaw Road** Change the signal control for Brokaw Road (the east and west legs of this intersection) from Protected Left-Turn phasing to Split Phase. Add a shared through/left-turn lane to the east and west approaches within the existing right-of-way. Change the existing shared through/right-turn lanes to right-turn only lanes on the east and west approaches, and change the eastbound right-turn coding from Include to Overlap, indicating that many eastbound right turns would be able to turn right on red.		X			VTA Program Planning and City of Santa Clara	VTA Environmental Programs
	TRA-B	**Implement Intersection Improvements at Lafayette Street and Lewis Street** Shift the westbound approach lanes on Lewis Street to the south to allow for the current through/right-turn lane to operate as a separate right-turn lane and a separate through lane. A shift of approximately 2 feet would increase the current through/right-turn lane width to 20 feet, which would allow adequate room for right-turning vehicles to proceed past vehicles traveling straight through the intersection and make the right turn onto northbound Lafayette Street. The westbound approach and receiving lanes would be slightly offset as a result, which can be addressed with dashed pavement markings across the intersection.		X			VTA Program Planning and City of Santa Clara	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
	TRA-C	**Implement Intersection Improvements at the Intersection of Coleman Avenue and I-880 Southbound Ramps** Convert the second (center) left-turn lane on the I-880 off-ramp (the intersection's westbound approach) to a shared left/right-turn lane. Replace the lane control signs and the pavement markings on the off-ramp to reflect the new lane usage.		X			VTA Program Planning and City of Santa Clara	VTA Environmental Programs

Air Quality

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
All project features for BART Extension and TOJDs	AQ-CNST-A	**Implement Dust Control Measures** VTA will require construction contractors to implement basic construction mitigation measures and additional construction mitigation measures recommended by Bay Area Air Quality Management District (BAAQMD) to reduce fugitive dust emissions. Emission reduction measures will include the following applicable measures or similar performing measures (additional measures may be identified by BAAQMD or the contractor, as		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		appropriate). • The contractor will water all exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, unpaved access roads) two times per day or as needed to control dust. In times of drought, an effective combination of dust controls may be used in lieu of watering, such as soil binders/stabilizers, or watering may be used to form a crust on undisturbed areas. • The contractor will water all exposed surfaces at a frequency that will maintain a minimum soil moisture content of 12 percent. Moisture content can be verified by lab samples or a moisture probe, although such verification is typically visual. No visible dust emissions are permitted to leave the construction area. • The contractor will coveror moisten all haul trucks that transport soil, sand, or other loose material offsite such that there are no dust emissions. • The contractor will remove all visible mud or dirt track-out onto adjacent public roads using wet power vacuum street sweepers at least once per day, or more frequently if needed to control track-out during active soil hauling operations. The use of dry power sweeping is prohibited. • The contractor will limit all vehicle speeds on unpaved roads to 15 mph. • The contractor will complete all paving						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		operations on roadways, driveways, and sidewalks as soon as possible. The contractor will also lay building pads as soon as possible after grading, unless seeding or a soil binder is used. • The contractor will post a publicly visible sign that includes the telephone number and name of the person to contact at VTA regarding dust complaints. This person will respond and take corrective action within 48 hours. The BAAQMD phone number will also be visible to ensure compliance with applicable regulations. • The contractor will suspend all excavation, grading, and/or demolition activities when average wind speeds exceed 20 mph. • The contractor will install windbreaks (e.g., fences with screening) on the windward side(s) of disturbed construction areas where feasible. Windbreaks should have 50 percent (maximum) air porosity. • The contractor will plant vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and water appropriately until vegetation is established. • The contractor will limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities in the same area. The contractor will phase activities to reduce the amount of disturbed surfaces at any one time. • All trucks and equipment, including their tires,						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		will use designated construction entrances/exits that have been constructed with rock, rumble strips, or other features to remove dirt from tires. • The contractor will install sediment and erosion control devices on sites with a slope greater than 1 percent to prevent silt runoff from entering public roadways. • The contractor will include the following control measures as consistent with BAAQMD permitting requirements during the operation of concrete batch plants: o The construction contractor will ensure that the outlet PM10 grain loading for the baghouse will not exceed 0.01 grains per dry standard cubic foot. o The construction contractor will properly maintain the baghouse and keep the baghouse in good operating condition at all times. The construction contractor will equip the baghouse with a device for measuring the pressure drop across the baghouse. o The construction contractor will not discharge an air contaminant into the atmosphere for a period or periods aggregating more than 3 minutes in any hour, which is as darkor darker than a Ringelmann 1.0. o The construction contractor will abate stockpiles, conveyors and unpaved roads as necessary with water sprays to maintain compliance with BAAQMD rules and						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		regulations.						
	AQ-CNST-B	**Use U.S. Environmental Protection Agency (EPA) Tier 4 or Cleaner Engines** VTA will ensure that all construction contracts stipulate that all off-road, diesel-powered equipment used during construction will be equipped with EPA Tier 4 or cleaner engines, except for specialized construction equipment for which an EPA Tier 4 engine is not available. This mitigation measure assumes emission reductions compared with emissions from an average fleet-wide Tier 2 engine.		X			Contractor	VTA Environmental Programs
	AQ-CNST-C	**Maintain Construction Equipment** The contractor will maintain and properly tune all construction equipment in accordance with the manufacturer's specifications. A certified mechanic will check all equipment to determine proper running condition prior to operation.		X			Contractor	VTA Environmental Programs
	AQ-CNST-D	**Minimize Idling Times** The contractor will ensure that all idling times are minimized, either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by California Airborne Toxic Control Measures, Title 13, Section 2485 of the California Code of Regulations). The contractor will provide clear signage for construction workers at all access points.		X			Contractor	VTA Environmental Programs
	AQ-CNST-E	**Use Equipment Meeting ARB Certification Standards**		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		All contractors will use equipment that meets ARB's most recent certification standard for off-road heavy-duty diesel engines.						
	AQ-CNST-F	**Ensure Heavy-Duty Diesel Trucks Comply with EPA Emissions Standards** VTA and contractors will ensure that construction contracts stipulate that all on-road, heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater will comply with EPA 2007 on-road emission standards for PM10 and NO_X (0.01 and 0.20 gram per brake horsepower hour, respectively). These PM10 and NO_X standards were phased in through the 2007 and 2010 model years on a percentage-of-sales basis (50 percent of sales from 2007 to 2009 and 100 percent of sales in 2010). This mitigation measure assumes that all on-road, heavy-duty diesel trucks will be model year 2010 and newer and compliant with EPA 2007 on-road emission standards.		X			Contractor	VTA Environmental Programs
	AQ-CNST-G	**Use Low-Sulfur Fuel** The contractor will use low-sulfur fuel (diesel with 15 parts per million or less) in all construction equipment.		X			Contractor	VTA Environmental Programs
	AQ-CNST-H	**Locate Construction Areas Away from Sensitive Receptors** The contractor will locate all construction equipment and staging areas away from sensitive receptors and fresh-air intake vents to buildings and air conditioners, where feasible.		X			Contractor	VTA Environmental Programs
	AQ-CNST-I	**Use Low-Volatile Organic Compound (VOC)**		X			Contractor	VTA

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		Coatings All contractors will use low-VOC (i.e., ROG) coatings that are beyond BAAQMD requirements (i.e., Regulation 8, Rule 3: Architectural Coatings [VOC content is limited to 100 grams per liter for flat coating and 150 grams per liter for non-flat coating]).						Environmental Programs
Operation								
		No mitigation is required						

Biological Resources and Wetlands

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
All project features for BART Extension and TOJD	BIO-CNST-A	**Avoid Nesting Bird Season** To the extent feasible, the contractor will schedule all construction (particularly tree removal and pruning) activities to avoid the bird nesting season (January 1–August 31). If such activities are scheduled to take place outside the nesting season, the contractor will avoid all effects on nesting birds, including raptors, protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The nesting season for most birds in Santa Clara County typically extends from February 1 through August 31, although some birds (e.g., raptors and hummingbirds) may nest as early as January 1 if a period of favorable weather persists.		X			Contractor	VTA Environmental Programs
	BIO-CNST-B	**Conduct Preconstruction/Predisturbance Surveys for Nesting Birds** If it is not possible to schedule construction activities that involve tree removal or pruning between September 1 and January 1, then a qualified biologist will conduct preconstruction/predisturbance surveys for nesting birds to ensure that no nests will be disturbed during construction activities. These surveys will be conducted no more than 48 hours prior to the initiation of construction. During each survey, a qualified biologist will inspect all potential nesting	X	X			Qualified Biological Consultant	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		habitats (e.g., trees, shrubs, grasslands, and buildings) in accessible areas within 300 feet of impact areas for raptor nests and within 100 feet of impact areas for nests of non-raptors. If an active nest (i.e., a nest with eggs or young, or any completed raptor nest) is found sufficiently close to work areas to be disturbed by these activities, the biologist, in consultation with the California Department of Fish and Wildlife (CDFW), will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 300 feet for raptors and 50 to 100 feet for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed as a result of construction activities.						
	BIO-CNST-C	**Conduct Preconstruction Surveys for Roosting Bats and Implement Protective Measures** ***Trees*** If tree removal or trimming cannot be conducted between September 15 and October 30, qualified biologists will examine trees for suitable bat-roosting habitat before tree removal or trimming. The biologists will identify high-quality habitat features (e.g., large tree cavities, basal hollows, loose or peeling bark, larger snags, palm trees with intact thatch) and search the area around these features for bats and bat signs (e.g., guano, culled insect parts, staining). Riparian woodland, orchards, and stands of mature broadleaf trees are considered potential habitat for solitary foliage-roosting bat	X	X			Qualified Biological Consultant	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		species. Because signs of bat use are not easily found, and trees cannot be completely surveyed for bat roosts, VTA will implement the protective measures listed below for trees containing high-quality habitat features. • The contractor will not remove or disturb trees providing bat roosting habitat between April 1 and September 15 (the maternity period) to avoid effects on pregnant females and active maternity roosts (whether colonial or solitary). • The contractor will limit the removal of trees that provide bat roosting habitat to between September 15 and October 30, which corresponds to when bats have not yet entered torpor or would be caring for nonvolant young (i.e., young that are unable to fly). • The contractor will remove trees in pieces rather than felling an entire tree. • If a maternity roost is found, whether solitary or colonial, the contractor will ensure that roost remains undisturbed until September 15 or until a qualified biologist has determined the roost is no longer active. • If avoidance of non-maternity roost trees is not possible, and tree removal or trimming must occur between October 30 and August 31, qualified biologists will monitor tree trimming/removal of the habitat. If possible, tree						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		trimming or removal should occur in the late afternoon or evening when it is closer to the time that bats would normally arouse. Prior to trimming or removal of trees providing suitable roosting habitat, the contractor will shake each tree gently and allow several minutes to pass before felling trees or removing limbs to allow bats time to arouse and leave the tree. Biologists should search downed vegetation for dead and injured bats. The contractor will report the presence of dead or injured bats that are species of special concern to CDFW. The biologist will prepare a biological monitoring report, which will be provided to VTA and CDFW. ***Buildings*** Prior to the building removal or demolition, qualified biologists will conduct daytime surveys to assess the building(s) for potential bat roosting habitat, and to look for bats and bat sign. Qualified biologists will have knowledge of the natural history of the species that could occur and sufficient experience determining bat occupancy in buildings and bat survey techniques. The biologists will examine both the inside and outside of the buildings for potential roosting habitat, as well as routes of entry to the buildings. The biologists will note and map on drawings of the buildings the locations of any roosting bats, signs of bat use, and entry and exit points. The biologists will also photograph roost sites as feasible. The habitat assessment						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		surveys should be conducted as far in advance of demolition as possible to allow time for planning and coordinating with CDFW, should bats be found. Depending on the results of the habitat assessment, VTA and its representatives will take the following steps. • If the building(s) can be adequately assessed (i.e., all areas of the building can be examined) and no habitat or limited habitat for roosting bats is present and no signs of bat use are present, qualified biologists will conduct a preconstruction survey of the interior and exterior of the building(s) within 24 hours of demolition. If bats are found roosting during the preconstruction survey, biologists will contact CDFW for direction on how to proceed. • If moderate or high potential habitat is present but there are no signs of bat use, VTA will implement measures under the guidance of a qualified bat biologist to exclude bats from using the building(s) as a roost site, such as sealing off entry points. Prior to installing exclusion measures, qualified biologists will re-survey the building(s) to ensure that no bats are present. Additionally, biologists will conduct a preconstruction survey of the interior and exterior of the building(s) within 24 hours of demolition to confirm that no bats are present. If bats are found roosting during the preconstruction survey, biologists will contact CDFW for direction on						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		how to proceed. • If moderate or high potential habitat is present and bats or bat sign are observed, or if exclusion measures are not installed as described above, or the building(s) provides suitable habitat but could not be adequately assessed, VTA will implement the following protective measures. o Biologists will conduct follow-up surveys to determine if bats are still present. If species identification is required by CDFW, biologists will use night vision goggles and active acoustic monitoring using full spectrum bat detectors during the surveys. VTA will determine a survey plan (number, timing, and type of surveys) in coordination with CDFW. o Based on the timing of demolition, the extent of bat sign or occupied habitat, and the species present (if determined), the qualified biologists will work with VTA and CDFW to develop a plan to discourage or exclude bat use prior to demolition. The plan may include installing exclusion measures or using light or other means to deter bats from using the building to roost. o Biologists will conduct a preconstruction survey of the interior and exterior of the building within 24 hours of demolition. Depending on the species of bats present, size of the						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		bat roost, and timing of the demolition, additional protective measures may be necessary. VTA will determine appropriate measures in coordination with CDFW. These measures may include those listed below. • To avoid effects on maternity colonies or hibernating bats, the contractor will not demolish a building while bats are present, generally between April 1 and September 15 (maternity season) and from October 30 to March 1 (hibernation). • The contractor will remove only roosting habitat following the maternity season and prior to hibernation, generally between September 15 and October 30, unless the contractor first installs exclusionary devices (as described below). The contractor may use other measures, such as using lights to deter bat roosting, if developed in coordination with and approved by CDFW. • The contractor will install exclusion devices before the maternity season and prior to hibernation, generally from March 1–30 or September 15–October 30 to preclude bats from occupying a roost site during demolition. Exclusionary devices will only be installed by or under the supervision of an experienced bat biologist. CDFW may require compensatory mitigation for the loss of roosting habitat depending on the species						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		present and size of the bat roost. Compensation, if required, will be determined in consultation with CDFW, and may include construction and monitoring of suitable replacement habitat on or near the BART Extension site.						
All project features for BART Extension and TOJD	BIO-CNST-D	**Protect Riparian Habitat** VTA will design all BART Extension facilities to avoid temporary and permanent adverse effects on riparian habitat. VTA will signify as environmentally sensitive areas on plans all riparian forest areas identified along the Guadalupe River and Los Gatos Creek and will ensure such habitat is marked with protective orange fencing or flagging during construction to avoid disturbance or accidental intrusion by workers or equipment. Contractors will not use night lighting for construction activities and staging in the riparian area.		X			Contractor	VTA Environmental Programs
	BIO-CNST-E	**Conduct Preconstruction Tricolored Blackbird Nesting Surveys and Determine Appropriate Action** There are and have been no known tricolored blackbird nesting colonies in the BART Extension area within the last 5 years. However, to avoid direct effects of construction activities on potential nesting tricolored blackbird colonies, VTA will implement the following procedures. This mitigation measure incorporates survey, avoidance, and minimization guidelines taken directly from Condition 17 of the Santa Clara Valley Habitat Plan (SCVHP) (Santa Clara County 2012).	X				Qualified Biological Consultant	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		A qualified biologist will conduct a field investigation to identify and map potential nesting substrate. Nesting substrate generally includes flooded, thorny, or spiny vegetation (e.g., cattails, bulrushes, willows, blackberries, thistles, or nettles). If potential nesting substrate is found, VTA may revise the construction staging areas to avoid all areas within a 250-foot buffer around the potential nesting habitat, and biologists will conduct appropriate surveys. If VTA chooses not to avoid the potential nesting habitat and the 250-foot buffer, biologists will conduct additional nesting surveys. Prior to any ground disturbance related to BART Extension activities, a qualified biologist will perform the following: 1. Make his/her best effort to determine if there has been nesting at the site in the past 5 years. This includes checking the California Natural Diversity Database (CNDDB), contacting local experts, and looking for evidence of historical nesting (i.e., old nests). 2. If no nesting in the past 5 years is evident, conduct a preconstruction survey in areas identified in the habitat survey as supporting potential tricolored blackbird nesting habitat. Biologists will conduct surveys at the appropriate times of year when nesting use is expected to occur. The surveys will document the presence or absence of nesting colonfies of tricolored						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		blackbird. Surveys will conclude no more than two calendar days prior to construction. To avoid last minute changes in schedule or contracting that may occur if an active nest is found, VTA may also conduct a preliminary survey up to 14 days before construction commences. If a tricolored blackbird nesting colony is present (through step 1 or 2 above), VTA will apply a 250-foot buffer from the outer edge of all hydric vegetation associated with the site, and the contractor will avoid the site plus buffer (see below for additional avoidance and minimization details). VTA will notify CDFW, the U.S. Fish and Wildlife Service (USFWS), and the Santa Clara Valley Habitat Agency (SCVHA) immediately of nest locations. ***Avoidance and Minimization*** Construction activities must avoid tricolored blackbird nesting habitat that is currently occupied or that has been used in the past 5 years. If tricolored blackbird colonies are identified during the breeding season, the contractor will prohibit all construction activities within a 250-foot no-activity buffer zone around the outer edge of all hydric vegetation associated with the colony. A qualified biologist may reduce this buffer in areas with dense forest, buildings, or other habitat features between the construction activities and the active nest colony, or where there is sufficient topographic relief to protect the colony from excessive noise or						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		visual disturbance. Depending on site characteristics, the sensitivity of the colony, and surrounding land uses, a qualified biologist may increase the buffer zone. A qualified biologist will observe land uses potentially affecting a colony to verify that construction activity is not disrupting the colony. If it is, the biologist will increase the buffer. VTA staff will coordinate with CDFW, USFWS, and SCVHA and evaluate exceptions to the minimum no-activity buffer distance on a case-by-case basis. ***Construction Monitoring*** If construction takes place during the breeding season when an active colony is present, a qualified biologist will monitor construction to ensure that the 250-foot buffer zone is enforced. If monitoring indicates that construction outside of the buffer is affecting a breeding colony, the biologist will increase the buffer if space allows (e.g., move staging areas farther away). If space does not allow, the contractor will cease construction until the colony abandons the site or until the end of the breeding season, whichever occurs first. The biological monitor will also conduct training of construction personnel on the avoidance procedures, buffer zones, and protocols in the event that tricolored blackbirds fly into an active construction zone (i.e., outside the buffer zone).						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Newhall Maintenance Facility	BIO-CNST-F	**Conduct Preconstruction Burrowing Owl Surveys and Determine Appropriate Action** To avoid or minimize direct effects of construction activities on burrowing owls, VTA will implement the procedures described below. This mitigation measure incorporates survey, avoidance, and minimization guidelines taken directly from Condition 15 of the SCVHP (SCVHA 2012). Prior to any ground disturbance related to BART Extension Alternative activities, a qualified biologist will conduct preconstruction surveys in all suitable habitat areas as identified by SCVHA. The purpose of the preconstruction surveys is to document the presence or absence of burrowing owls on the construction site, particularly in areas within 250 feet of construction activity. To maximize the likelihood of detecting owls, the preconstruction survey will last a minimum of 3 hours. The survey will begin 1 hour before sunrise and continue until 2 hours after sunrise (3 hours total) or begin 2 hours before sunset and continue until 1 hour after sunset. Additional time may be required at large construction sites. The biologist will conduct a minimum of two surveys (if owls are detected on the first survey, a second survey is not needed). The biologist will count all owls observed and map their location. Surveys will conclude no more than 2 calendar days prior to construction. Therefore, the project	X	X			Qualified Biological Consultant	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		proponent must begin surveys no more than 4 days prior to construction (2 days of surveying plus up to 2 days between surveys and construction). To avoid last minute changes in schedule or contracting that may occur if burrowing owls are found, VTA may also conduct a preliminary survey up to 14 days before construction. This preliminary survey may count as the first of the two required surveys as long as the second survey concludes no more than 2 calendar days in advance of construction. In order to allow covered activities to go forward in burrowing owl habitat, VTA will employ avoidance measures described below to ensure that direct take does not occur. ***Avoidance Measures*** *Breeding Season* If evidence of burrowing owls is found during the breeding season (February 1–August 31), VTA will avoid all nest sites that could be disturbed by construction during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance will include establishment of a 250-foot non-disturbance buffer zone around nests. Construction may occur outside of the 250-foot non-disturbance buffer zone. Construction may take place inside of the 250-foot non-disturbance buffer during the breeding season if the following occurs:						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		• The nest is not disturbed, and • VTA develops an avoidance, minimization, and monitoring plan that will be reviewed by CDFW, USFWS, and SCVHA prior to construction based on the following criteria: o CDFW, USFWS, and the SCVHA approves the avoidance and minimization plan provided by VTA. o A qualified biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction). o The same qualified biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities. o If there is any change in owl nesting and foraging behavior as a result of construction activities, these activities will cease within the 250-foot buffer. Construction cannot resume within the 250-foot buffer until the adults and juveniles from the occupied burrows have moved out of the construction area. o If monitoring indicates that the nest is abandoned prior to the end of the nesting season and the burrow is no longer in use by owls, the non-disturbance buffer zone may be						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		removed. The biologist will excavate the burrow to prevent reoccupation after receiving approval from CDFW, USFWS, and SCVHA. CDFW, USFWS, and SCVHA will have 21 calendar days to respond to a request from VTA to review the proposed construction monitoring plan. If these parties do not respond within 21 calendar days, it will be presumed that they concur with the proposal and work can commence. *Non-Breeding Season* During the non-breeding season (September 1–January 31), VTA will establish a 250-foot non-disturbance buffer around occupied burrows as determined by a qualified biologist. Construction activities outside of this 250-foot buffer are allowed. Construction activities within the non-disturbance buffer are allowed if the following criteria are met in order to prevent owls from abandoning important overwintering sites. • A qualified biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction). • The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities. • If there is any change in owl nesting and foraging						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		behavior as a result of construction activities, these activities will cease within the 250-foot buffer. • If the owls are gone for at least 1 week, VTA may request approval from CDFW, USFWS, and SCVHA for a qualified biologist to excavate usable burrows to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed and construction may continue. Monitoring must continue as described above for the non-breeding season as long as the burrow remains active. ***Construction Monitoring*** Based on the avoidance, minimization, and monitoring plan developed (as required above), during construction, VTA will establish and maintain the non-disturbance buffer zones if applicable. A qualified biologist will monitor the site consistent with the requirements described above to ensure that buffers are enforced and owls are not disturbed. The biological monitor will also conduct training of construction personnel on the avoidance procedures, buffer zones, and protocols in the event that a burrowing owl flies into an active construction zone.						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Operation								
		No mitigation is required						

Cultural Resources

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
Area of potential effect of all project features for BART Extension and TOJD	CUL-CNST-A	**Implement Programmatic Agreement and Archaeological Resources Treatment Plan** A Programmatic Agreement (PA) and a supporting Archaeological Resources Treatment Plan (ARTP) have been developed and will be executed in consultation with interested Native Americans, the California State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, the California Department of Transportation (Caltrans) District 4, the Cities of San Jose and Santa Clara, the Peninsula Corridor Joint Powers Board, and the South Bay Historical Railroad Society. The PA and ARTP will be implemented prior to and during construction of the BART Extension.	X	X			VTA Environmental Programs	FTA and SHPO

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		The ARTP specifies the National Register of Historic Places criteria applicable for evaluation, procedures to implement the Section 106 process in the field, and standards of evaluation that will be appropriate given the locations and kinds of cultural properties predicted. The ARTP 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. Areas within the Area of Potential Effects (APE) where potential resources have been identified, or that are designated as highly sensitive for buried resources, will be field investigated, concentrating on, but not confined to, the area of direct effect. The ARTP meets The Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* (U.S. Department of the Interior, National Park Service, 1983, as amended and annotated).						

Geology, Soils, and Seismicity

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
All project features for BART Extension and TOJD	GEO-CNST-A	**Incorporate Design Specifications to Minimize Effects from Liquefaction Hazards** If BART Extension stations, system facilities, or portions of the alignment are determined to be in areas exceeding pertinent codes and standards including the California Building Code and BART Facilities Standards Design Criteria for liquefaction, VTA will implement the following methods during construction to minimize the potential impacts. VTA will determine the exact methods to reduce impacts from liquefaction during final engineering. • VTA will use pile foundations as a means of ground densification as a cost-effective mitigation measure for the seismic liquefaction hazard. • VTA will support parking garages at the stations on piles. • For shallow foundations for other peripheral facilities around the stations and pavement and parking lot, VTA will implement the following if necessary. o Use additional reinforcement, construction joints, and grade beams. o Integrate subgrade improvements (using geotextile fabric and structural fill), and other methods to accommodate potential ground settlements.	X	X	X		Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		• To mitigate potential liquefaction-related uplift of the BART Extension's underground tunnels and stations situated below the water table in liquefiable soils, VTA will ensure that the construction contractor either applies anchors or designs the structures' concrete foundations and walls thick enough to make the total weight of the structures large enough to completely counteract the liquefaction-related uplift force. • Other liquefaction hazard mitigation measures used in previous BART projects that may be considered for the BART Extension are as follows. o In-situ treatment/densification with vibro-replacement stone columns. o Load transfer to underlying bearing layers, which are non-liquefiable with soil/cement columns. o Over-excavation and replacement of liquefaction prone soils with compacted engineered fill.						
	GEO-CNST-B	**Implement Preconstruction and Post-Construction Building Condition Surveys for Settlement** VTA will conduct preconstruction building condition surveys of the interiors and exteriors of select structures, both historic and non-historic buildings, within the settlement trough along the tunnel alignment and within the limit of influence around the cut-and-cover excavations to assess the baseline	X	X	X		Contractor	VTA Environmental Programs, FTA, SHPO, ACHP

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		condition of each property that could be affected by project-induced settlement. These surveys will include written and photographic (video and still) records, including written descriptions and photos of any cracks. VTA will also conduct post-construction building condition surveys of the same structures. VTA will compare the results of these surveys with the preconstruction condition surveys so that any construction-related effects of tunneling and cut-and-cover construction on structures can be assessed. For historic structures, the Condition Assessment Report, in accordance with Section 106, will be prepared along with the preconstruction building condition surveys. Results will be used by a structural engineer in coordination with the historic Qualified Professional (QP) to identify structural settlement thresholds for each historic structure prior to construction. If anticipated maximum settlement due to tunneling or cut-and-cover activities would cause more than cosmetic damage, then ground treatment technologies outlined in Section 5.3.1.4, *Ground Treatment,* will be employed to further reduce settlement to within building-specific structural settlement thresholds. In the event of inadvertent, construction-related damage to historic buildings, repairs will be conducted in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and consistent with 36 CFR 800.13(b). VTA and the historic QP will implement these repairs in consultation with FTA and SHPO.						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		For the cut-and-cover activities, surveys will be performed prior to any construction in the cut-and-cover work area to establish the baseline building condition. For construction of the tunnel via Tunnel Boring Machine (TBM), surveys will be performed 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 TBMs, with some surveys conducted once tunneling has commenced. For historic structures, surveys prior to either cut-and-cover or tunneling will be performed enough in advance of the construction to allow adequate time for any necessary ground treatment that may be required to reduce settlement to be performed.						
	GEO-CNST-C	**Monitor Ground Surface during Tunneling Activities** The contractor will conduct ground surface monitoring prior to and after tunneling by licensed land surveyors. The contractor will mount survey monitoring points on potentially affected structures and representative historic buildings, including the most susceptible structures, select utilities susceptible to settlement, and in representative locations immediately adjacent to streams within the settlement trough along the tunnel alignment to monitor ground movements and effects of tunnel boring. The contractor must obtain approval from VTA and the historic QP to install any monitoring devices or crack gauges on or in historic buildings that require alteration of the building. The contractor	X	X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		will provide settlement monitoring data to VTA immediately upon completion of the field survey and use the data to assist in minimizing adverse effects along the tunnel alignment.						
	GEO-CNST-D	**Monitor Settlement Effects around Cut-and-Cover Excavations** For the cut and cover activities, the contractor will perform building and ground surface monitoring prior to, during, and after construction to survey the effects of cut-and-cover activities on structures, historic buildings, and utilities. The contractor will mount survey monitoring points on all potentially affected structures and historic buildings, including the most susceptible structures, select utilities susceptible to settlement, and in representative locations within the limit of influence around the cut-and-cover excavations to monitor any effects of settlement. The contractor must obtain approval from VTA and the historic QP to install any monitoring devices or crack gauges on or in historic buildings that require alteration of the building. Survey monitoring points will be field surveyed by licensed land surveyors at a frequency determined by the preconstruction building survey or Condition Assessment Report (for historic buildings). The contractor will provide settlement field survey monitoring data to VTA immediately upon completion of the field survey. The data will be used to direct real-time modifications to shoring and ground treatment practices and procedures as appropriate to minimize adverse effects within the limit of influence around the cut-and-cover	X	X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		excavations.						
	GEO-CNST-E	**Implement Preconstruction Condition Surveys for Utilities** The contractor will conduct preconstruction condition surveys of utilities deemed to be potentially at risk due to surface settlement or ground movement at BART Extension and TOJD sites. The contractor will monitor major utilities deemed to be at risk during construction and will coordinate with utility providers prior to installation of utility monitoring points.	X	X			Contractor	VTA Environmental Programs
	GEO-CNST-F	**Minimize Excavation Bottom Failure Impacts** If excavation bottom fails due to bottom heave, piping, or blow-out, the contractor will implement the following measures. • Remove water found in the pervious sand layer via dewatering. • Install deep sheeting. The sheet pile may also function as a cut-off to prevent sand boiling at the bottom of excavation due to excessive hydrostatic pressure within the loose soils. • Based on the boring data, encountering of the loose soils at the foundation subgrade may be anticipated at isolated locations for excavation of the stations. Deeper shoring may be required to penetrate through the aquifer to prevent the occurrence of the sand boiling condition. Deep soil mixing may have to be considered under this condition if drivability of the shoring sheet pile through the dense to very dense sand at depths is	X	X	X		Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		a geotechnical concern due to the vibration and/or noise impact on the surrounding environment.						
	GEO-CNST-G	**Minimize Disturbance of Sensitive Deposits at the Excavation Subgrade** In areas where clay and saturated sand deposits are sufficiently disturbed during construction activities at the bottom of an excavation and soft and loose saturated soil deposits are encountered, VTA will ensure that the contractor constructs a working platform as described below. • Over-excavate 18 inches below the native subgrade. • Place a stabilizing geotextile fabric or a geogrid at the bottom of the over-excavation. • Backfill the over-excavation with Class 2 Aggregate Base, Structural Backfill, or other bridging material. • Overlap the ends of the geotextile fabric on top of the bridging material for a minimum distance of 2 feet.		X			Contractor	VTA Environmental Programs
	GEO-CNST-H	**Incorporate Design Specifications to Minimize Effects from Expansive Soils** VTA will ensure that the following specifications are incorporated into the BART Extension's final design when encountering expansive soils. • Deepen foundations to below the zone of moisture fluctuation. • Use mat foundations that are designed to resist the	X	X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		deflections associated with expansive soil. • Design perimeter footings to a minimum depth of 24 inches below the lowest adjacent grade to reduce the impact from the uplift pressure in expansive soils. • For any expansive soil in the upper 18 inches of building pads, lime treat or replace with low to non-expansive soil with a Plasticity Index of 12 or less. • Use moisture barriers to minimize the variation of change in the moisture content within the expansive soil.						
	GEO-CNST-I	**Stop Construction if Paleontological Resources are Discovered and Determine Appropriate Action** If suspected paleontological resources are encountered during grading and site preparation activities, the contractor will halt all work in the immediate vicinity of the find until a qualified paleontologist can evaluate the find and make recommendations. Paleontological resource materials may include resources such as fossils, plant impressions, or animal tracks preserved in rock. If the qualified paleontologist determines that the discovery represents a potentially significant paleontological resource, additional investigations and fossil recovery may be required to mitigate adverse impacts from implementation of the BART Extension. Construction will not resume until the resource-appropriate measures are recommended or the materials are determined to be not significant.	X	X			Contractor	VTA Environmental Programs, FTA, SHPO, ACHP

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Operation								

Greenhouse Gas Emissions

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
All project features for BART Extension and TOJD	AQ-CNST-B	**Use U.S. Environmental Protection Agency (EPA) Tier 4 or Cleaner Engines** VTA will ensure that all construction contracts stipulate that all off-road, diesel-powered equipment used during construction will be equipped with EPA Tier 4 or cleaner engines, except for specialized construction equipment for which an EPA Tier 4 engine is not available. This mitigation measure assumes emission reductions compared with emissions from an average fleet-wide Tier 2 engine.		X			Contractor	VTA Environmental Programs
	AQ-CNST-C	**Maintain Construction Equipment** The contractor will maintain and properly tune all construction equipment in accordance with the manufacturer's specifications. A certified mechanic		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		will check all equipment to determine proper running condition prior to operation.						
	AQ-CNST-D	**Minimize Idling Times** The contractor will ensure that all idling times are minimized, either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by California Airborne Toxic Control Measures, Title 13, Section 2485 of the California Code of Regulations). The contractor will provide clear signage for construction workers at all access points.		X			Contractor	VTA Environmental Programs
	AQ-CNST-E	**Use Equipment Meeting ARB Certification Standards** All contractors will use equipment that meets ARB's most recent certification standard for off-road heavy-duty diesel engines.		X			Contractor	VTA Environmental Programs
	AQ-CNST-F	**Ensure Heavy-Duty Diesel Trucks Comply with EPA Emissions Standards** VTA and contractors will ensure that construction contracts stipulate that all on-road, heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater will comply with EPA 2007 on-road emission standards for PM10 and NO_X (0.01 and 0.20 gram per brake horsepower hour, respectively). These PM10 and NO_X standards were phased in through the 2007 and 2010 model years on a percentage-of-sales basis (50 percent of sales from 2007 to 2009 and 100 percent of sales in 2010). This mitigation measure assumes that all on-road, heavy-duty diesel trucks will be model year 2010 and newer and compliant with EPA 2007 on-road		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		emission standards.						
	AQ-CNST-G	**Use Low-Sulfur Fuel** The contractor will use low-sulfur fuel (diesel with 15 parts per million or less) in all construction equipment.		X			Contractor	VTA Environmental Programs
Operation								
For TOJDs	GHG-A	**Implement Energy Efficiency Measures** TOJD energy efficiency shall be 15 percent better than the 2013 Title 24, Part 11 requirements or shall meet the Title 24, Part 11 requirements that are applicable at the time of issuance of the building permits for individual phases, whichever is more stringent.		X		X	Contractor	VTA Environmental Programs
	GHG-B	**Participate in Food Waste Programs** Restaurants shall be required to participate 100 percent in any extant City food waste programs. This mitigation measure shall be included as a mandatory performance standard for all agreements with developers of the TOJDs.				X	Contractor	VTA Environmental Programs
	GHG-C	**Utilize Electrical Landscaping Equipment** TOJDs shall include installation of electrical outlets near all maintained landscaping areas to allow for the use of electrical landscaping equipment. This mitigation measure shall be included as a mandatory performance standard for all agreements with developers of the TOJDs.				X	Contractor	VTA Environmental Programs
	GHG-D	**Provide Preferential Parking for Electric Vehicles** TOJDs shall provide preferential parking in all		X		X	Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		parking lots for electric vehicles and shall also provide charging equipment, as follows. This mitigation measure shall be included as a mandatory performance standard for all agreements with developers of the TOJDs. a) Residential Use: A total of 10 percent of the required parking spaces shall be provided with a listed cabinet, box, or enclosure and connected to a conduit that links the parking spaces to the electrical service in a manner approved by the building and safety official. Of the listed cabinets, boxes, or enclosures provided, 50 percent shall have the necessary electric vehicle supply equipment installed to provide active charging stations that are ready for use by residents. The remainder shall be installed at such time as they are needed for use by residents. Electrical vehicle batteries and charging technology may change substantially over the next 15 years. As such, the local jurisdiction shall have the discretion to modify the specific requirements for this measure over time, provided that 10 percent of the spaces have electrical service and 5 percent have active charging, depending on what the technology at the time requires. b) Commercial Use: New commercial uses shall provide the electrical service capacity necessary as well as all conduits and related equipment necessary to serve 2 percent of the parking spaces with charging stations. Of these parking						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		spaces, 50 percent shall initially be provided with the equipment necessary to function as online charging stations upon completion of development. The remainder shall be installed at such time as they are needed for use by customers, employees, or other users. Electrical vehicle batteries and charging technology may change substantially over the next 15 years. As such, the local jurisdiction shall have the discretion to modify the specific requirements for this measure over time, provided that 2 percent of the spaces have electrical service and 1 percent have active charging, depending on what the technology at the time requires.						

Hazardous Materials

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
All project features for BART Extension and TOJD	HAZ-CNST-A	**Prepare Remedial Action Plans** Prior to construction, VTA will prepare new and/or amended remedial action plans (RAPs) for the BART Extension, which will be approved by the	X	X	X		Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		Regional Water Quality Control Board (RWQCB). The RAPs will satisfy the key objectives of the Containment Management Plan (CMP) (e.g., characterization of soil and ballast quality relative to the maximum acceptable contaminant levels for reuse) and incorporate measures for managing soil, ballast, and groundwater from the CMP (e.g., sampling and analysis, health and safety, stockpiling, offsite disposal, and treatment) to address all known and potential sources of environmental contamination identified in the October 2015 *VTA's BART Silicon Valley Phase II Extension Project Initial Site Assessment* (ISA). VTA will provide measures to satisfy regulatory notification requirements and approval measures (e.g., additional sampling and analysis), if necessary, for soil excavation and/or dewatering associated with land-use covenants near the Diridon and Santa Clara Stations and over the tunnel alignments between these stations. The RAPs will also include an assessment of potential vapor intrusion concerns for indoor residents and workers from groundwater contaminant plumes, such as chlorinated solvents. In coordination with the RWQCB, selected remedial measures to protect human health may include, but are not limited to, source removal of contaminated materials, in-situ treatment, and implementation of engineering controls (e.g., vapor barriers) and/or institutional controls prior to building occupancy.						

Noise and Vibration

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Alum Rock/28th Street Station, 13th Street Ventilation Structure, Downtown San Jose Station; Diridon Station; Stockton Avenue Ventilation Structure, West Portal Tunnel Structure, and Newhall Maintenance Facility, and Santa Clara Station TOJDs	NV-CNST-A	**Incorporate FTA Criteria Compliant Construction Noise and Vibration Specifications** VTA will incorporate a comprehensive construction noise and vibration specification into all construction bid documents requiring compliance with FTA criteria. VTA will emphasize the existence and importance of noise and vibration control specifications at pre-bid and preconstruction conferences.	X	X			Contractor	VTA Environmental Programs
	NV-CNST-B	**Locate Equipment as Far as Feasible from Sensitive Sites** The contractor will locate stationary equipment, such as generators and compressors as far as feasible from noise and vibration sensitive sites, and will acoustically treat such equipment. The contractor will also locate grout batch plants, grout silos, mixers, pumps, diesel pumping equipment, and similar noise and vibration generating equipment as far as feasible from noise sensitive sites, and acoustically treat the same if necessary.		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
	NV-CNST-C	**Construct Temporary Noise Barriers** The contractor will install temporary noise barriers or noise control blankets in areas between noisy activities and noise-sensitive receptors, where practical and effective. Temporary noise barriers can reduce construction noise by 5 to 15 dB, depending on the height of the barrier and the placement of the barrier. To be most effective, the contractor will place the barrier as close as possible to the noise source or the sensitive receptor. Temporary barriers tend to be particularly effective because they can be easily moved as work progresses to optimize performance. If temporary noise barriers and site layout do not result in compliance with the noise limit, the contractor may consider retrofitting existing windows and doors with new acoustically rated units for the residential structures.	X	X			Contractor	VTA Environmental Programs
	NV-CNST-D	**Operate Equipment to Minimize Annoying Noise and Vibration** Contractors will implement the following measures: • Use electric instead of diesel-powered equipment, hydraulic tools instead of pneumatic impact tools, and electric instead of air- or gasoline-driven saws, where feasible. • Use an augering drill-rig for setting piles in lieu of impact pile drivers, where feasible. • Operate equipment so as to minimize banging, clattering, buzzing, and other annoying types of noises, especially near residential areas during		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		nighttime hours. • Turn off idling equipment, whenever possible. • Line haul truck beds with rubber or sand to reduce noise, if needed and requested by VTA. Line or cover hoppers, conveyor transfer points, storage bins, and chutes with sound-deadening material. • During nighttime and weekends, use strobe warning lights and/or back-up observers during any back-up operations, where permitted by the local jurisdiction.						
	NV-CNST-E	**Route Construction Trucks along Truck Routes Least Disturbing to Residents** The contractor will route construction-related truck traffic along truck routes and roadways that would cause the least disturbance to residents. The contractor will lay out loading and unloading zones to minimize truck idling near sensitive receptors and to minimize truck reversing so back-up alarms are minimized near residences.		X			Contractor	VTA Environmental Programs
	NV-CNST-F	**Secure Steel and Concrete Plates over Excavated Holes and Trenches** The contractor will secure steel and/or concrete plates over excavated holes and trenches to reduce rattling when vehicles pass over. If complaints are received, the contractor will use thicker plates, stiffer beams beneath the plates, and/or rubber gaskets between the beams and plates to further reduce rattling noise and vibration.		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
	NV-CNST-G	**Use Best Available Practices to Reduce Excess Noise and Vibration** The contractor will use the best available practices to reduce the potential for exceedances of noise and vibration criteria due to construction activities. This may require the use of equipment with special exhaust silencers, construction of temporary enclosures or noise barriers around activities, and tracks for the tracked vehicles to be in good condition.		X			Contractor	VTA Environmental Programs
	NV-CNST-H	**Adhere to Local Jurisdiction Construction Time Periods, to the Extent Feasible** The contractor will adhere to local jurisdiction construction time periods, to the extent feasible, recognizing that nighttime and weekend construction may be necessary and/or preferred by VTA and local jurisdictions to reduce other related environmental effects such as traffic. VTA will coordinate with the cities of San Jose and Santa Clara on construction operations during nighttime and weekends, and where feasible adhere to local ordinances. San Jose Ordinance 26248, 26594 restricts construction to between 7 a.m. and 7 p.m. Santa Clara Ordinance 1549 § 1, 7-15-86; Ord. 1556 § 1, 9-16-86. Formerly § 18-32.3 restricts construction to between 7 a.m. and 6 p.m. on weekdays, and between 9 a.m. and 6 p.m. on Saturday.		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
	NV-CNST-I	**Perform Preconstruction Ambient Noise Measurements at All CSAs** The contractor will perform preconstruction ambient noise measurements at all construction staging areas, which include the tunnel portals, stations, and mid-tunnel ventilation sites. These measurements will document the noise environment just prior to start of construction at representative locations along the alignment. These measurements will be performed continuously over a minimum of 10 days (240 hours).	X				Contractor	VTA Environmental Programs
	NV-CNST-J	**Implement a Construction Noise Control and Monitoring Plan** The contractor will submit a Noise Control and Monitoring Plan to VTA for approval. The plan will be prepared by a qualified acoustical engineer whose qualifications and proposed noise control and monitoring activities will be subject to approval of VTA prior to construction activities. The contractor will update the Noise Control and Monitoring Plan every 3 months and will include all the pertinent information about construction equipment and site layout, the projected noise levels, and the noise mitigation measures that may be required to comply with the noise limits for each sensitive receptor. The Noise Control and Monitoring Plan will also outline the monitoring equipment and procedures the contractor will use to perform noise measurements and to identify noise-sensitive receptors in the immediate vicinity of construction operations,	X	X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		including details regarding the noise measurement locations, frequency, and duration of measurements. The contractor will document the results of noise monitoring and submit the documentation to VTA weekly. In the event that levels exceed allowable noise limits, VTA will ensure that contractually required corrective measures consistent with the Noise Control and Monitoring Plan are implemented.						
	NV-CNST-K	**Require Minimum Qualifications for the Acoustical Engineer** The minimum qualifications for the Acoustical Engineer will be a Bachelor of Science or Engineering degree, from a qualified program in engineering or physics offered by an accredited university or college, and 5 years in noise control engineering and construction noise analysis.	X	X			Contractor	VTA Environmental Programs
	NV-CNST-L	**Prohibit Operation of Noise-Generating Equipment Prior to Acceptance of Noise Control and Monitoring Plan** The contractor will not operate noise-generating equipment at the construction site prior to acceptance of the Noise Control and Monitoring Plan.		X			Contractor	VTA Environmental Programs
	NV-CNST-M	**Install Long-Term Noise Monitors at CSAs during all Construction Phases** The contractor will install stationary noise monitors at all construction staging areas, which include the tunnel portals, stations, and mid-tunnel ventilation sites, during all the construction phases. Noise	X	X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		sampling will be performed continuously at representative monitoring locations nearest the most sensitive receptor at each location. A minimum of two stationary monitors will be required at the Downtown San Jose Station and Diridon Station locations. The monitoring locations may be moved as the construction work progresses. If required, additional noise monitoring site(s) may be added by the VTA to address any specific situation or concern. At the Alum Rock/28th Street Station and the West Portal staging area, stationary noise monitors will also be initially installed and may be removed if the noise levels are in compliance with the noise limits when the full-production construction activities are closest to the sensitive receptors. All data gathered by the contractor will be continuously available to VTA and submitted weekly to VTA for approval. In addition to these stationary noise monitors, the contractor will conduct 30-minute noise sampling with hand-held monitors weekly at the station sites and at other construction sites, including the ventilation shafts and gap breaker stations, to ensure compliance with the noise criteria. If required, additional noise monitoring site(s) may be added by VTA to address any specific situation or concern. The contractor will submit noise data to VTA for approval on a weekly basis, and will include details on location and type of construction activity and details, photographs, and sketches of noise monitoring locations. A qualified acoustical						

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		engineer will determine whether work was within thresholds or not, and indicate any steps taken during monitoring to lower noise levels to within limits.						
	NV-CNST-N	**Ensure Equipment is Pre-certified to Meet Noise Limits** For major equipment to be used at the surface of the construction site for a total duration greater than 5 days, the contractor will ensure that the equipment is pre-certified by the acoustical engineer during field measurements at a test site or guaranteed by the equipment vendor to meet the noise limits developed for construction equipment as shown in Table 5-8. VTA will re-examine and develop the final limits to be applied during the engineering phase, and the contractor will verify these limits during initial and active performance of the work when the equipment arrives on site. The contractor will retest construction equipment at 6-month intervals while in use onsite. Any equipment used during construction may be subject to confirmatory noise level testing while performing the work at the request of VTA.	X	X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
	NV-CNST-O	**Implement a Complaint Resolution Procedure** The contractor will implement a complaint resolution procedure to rapidly address any noise and vibration problems that may develop during construction. After a complaint is received, the contractor will assign the complaint a case number and will contact the person making the complaint to receive further clarification on the concern. The contractor will then discuss the issue with the construction team to determine the appropriate action to resolve the issue. The contractor will then again contact the person making the complaint to describe how the issue has been resolved.	X	X			Contractor	VTA Environmental Programs
Tunnel construction	NV-CNST-P	**Implement a Construction Vibration Control and Monitoring Plan** The contractor will be required to submit a Construction Vibration Control and Monitoring Plan to VTA for approval. The plan will be prepared by a qualified Vibration specialist whose qualifications and proposed vibration control and monitoring activities will be subject to approval of VTA prior to construction activities. The Construction Vibration Control and Monitoring Plan will be updated every 3 months and include all the pertinent information about construction equipment and site layout, the projected vibration levels, and the vibration control measures that may be required to comply with the vibration limits as outlined in this measure for each building type. The Construction Vibration Control and Monitoring	X	X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		Plan will also outline the monitoring equipment and procedures the contractor will use to perform vibration measurements for vibration-sensitive receptors in the vicinity of construction operations, including details regarding the vibration measurement locations, frequency, and duration of measurements at each location. The plan will outline the protocol for monitoring existing cracks in buildings over time, to determine any construction-related impacts. At a minimum, crack gauges will be installed on existing cracks prior to construction, and monitoring of the gauges will be performed continuously over the course of construction to assess whether new construction-related damage has occurred. The contractor must obtain approval from VTA and the QP to install any crack gauges on or in historic buildings that require alteration of the building. The results of vibration monitoring will be documented and submitted to VTA weekly. In the event that levels exceed allowable vibration limits, the work will be halted immediately to ensure that no structural damage occurs, and additional required corrective measures consistent with the Construction Vibration Control and Monitoring Plan will be implemented. The contractor will initially conduct vibration monitoring daily at the nearest affected buildings during any construction activities that could induce vibration impacts, typically within 100 feet of any						

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		building. Vibration will also be monitored where vibration is expected to approach the applicable limit based on the building type and condition, as determined by VTA in coordination with the structural engineer for non-historic buildings, and VTA and the historic QP for historic buildings. Monitoring of utilities that are sensitive to vibration will be coordinated with the utility companies and performed for the nearest affected vibration-sensitive utilities during any construction activities that could induce vibration impacts. The contractor will perform monitoring continuously at the closest receptor during all demolition and construction activities to ensure vibration levels will not exceed the FTA construction vibration damage criteria for applicable building type, as follows: 0.12 peak particle velocity (PPV) (inches/second) for buildings that are extremely susceptible to vibration damage, 0.2 PPV (inches/second) for non-engineered timber and masonry buildings, 0.3 PPV (inches/second) for engineered concrete and masonry (no plaster) buildings and 0.5 PPV (inches/second) for reinforced-concrete, steel or timber (no plaster) buildings. For historic buildings, the vibration threshold will likely be between 0.12 to 0.2 PPV (inches/second) depending on the buildings' condition. The results of the preconstruction surveys and building Conditions Assessment Report as outlined in Mitigation Measure **NV-CNST-R** will be utilized to confirm the structure types and determine which vibration						

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		thresholds apply in consultation with a qualified structural engineer and the historic QP. For utilities, vibration thresholds will follow industry standards in coordination with utility companies, and typically adhere to a 0.5 PPV (inches/second) threshold. The contractor will measure vibration in buildings in the vertical direction on the ground surface or building floor and for utilities in accordance with meter instructions and industry best practices. Vibration levels will be measured continuously during daily construction operations to ensure that peak vibration-generating work is captured. Daily monitoring will be performed during a continuous work shift (typically 8 hours) that includes the closest and most vibration-inducing work. The contractor will compare vibration in buildings against both structural damage and nuisance thresholds in terms of velocity levels in dB or PPV. Vibration for utilities will be compared against structural damage thresholds in terms of PPV. If the measured vibration data are in compliance with the vibration limits after work has completed start-up and entered full-production mode (typically within 2 weeks to 30 days), vibration monitoring may be performed once a week instead of continuously each day if approved by VTA. For non-historic structures, if construction vibration exceeds the structural or nuisance threshold, the contractor must stop construction and adjust construction methods to meet appropriate vibration						

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		limits so that the threshold is not exceeded again. For historic structures, if construction vibration approaches the structural damage threshold, the historic QP will be notified immediately, in real time. If construction vibration exceeds the structural damage threshold, Contractor must notify the historic QP and VTA immediately, in real time, and stop all vibration-inducing construction work immediately to adjust methods. The contractor will adjust work methods and techniques to meet appropriate vibration limits so that the threshold is not exceeded again before work is restarted. In the event of inadvertent, construction-related damage to historic buildings, repairs will be conducted in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and consistent with 36 CFR 800.13(b). VTA and the historic QP will implement these repairs in consultation with FTA and SHPO.						
	NV-CNST-Q	**Perform Vertical Direction Vibration Monitoring** The contractor will perform continuous vertical direction vibration (root mean square) monitoring on the ground at the nearest representative residential structure during muck extraction and supply train operations in the tunnels. These measurements will be repeated for a minimum of 1 week at approximately 1-mile intervals along the tunnel construction until it is demonstrated that the levels are below the FTA thresholds.		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
	NV-CNST-R	**Implement Preconstruction and Post-Construction Building Condition Surveys for Vibration** Prior to construction or release of the TBM and cut-and-cover construction contract(s), the contractor will survey all structures that may be potentially impacted by construction vibration and submit the results to VTA for approval. Surveys will be conducted in all historic buildings or structures where vibration is expected to approach the applicable limit, and in non-historic buildings based on the building type and condition. VTA will determine the list of historic structures that may be affected by the project in consultation with a qualified structural engineer and the historic QP. Preconstruction building condition surveys of the interiors and exteriors of these structures will be conducted by independent surveyors to assess the baseline condition of each property that could be affected by construction vibration. The surveys will include written and photographic (video and still) records, including written descriptions and photos of any cracks. For historic structures, the Condition Assessment Report in accordance with Section 106 will be prepared along with the preconstruction building condition surveys. The surveys will be performed prior to any vibration-inducing construction to establish baseline building conditions. The results of the preconstruction surveys will be utilized to establish the structure types and determine which vibration thresholds	X	X	X		Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		apply in consultation with a qualified structural engineer and a qualified architectural historian or a historic architect, as outlined in Mitigation Measure **NV-CNST-P**. Vibration will be monitored as required in Mitigation Measure **NV-CNST-P** to avoid adverse effects on properties during construction activities. The post-construction survey results will be compared with preconstruction condition surveys so that any construction vibration effects on structures can be assessed. For historic structures, a Condition Assessment Report in accordance with Section 106, will be conducted after construction is complete. In the event of inadvertent, construction-related damage to historic buildings, repairs will be conducted in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties* and consistent with 36 CFR 800.13(b). VTA and the historic QP will implement these repairs in consultation with FTA and SHPO.						
	NV-CNST-S	**Implement Measures to Reduce Vibration from Muck Extraction and Supply Trains** The contractor will ensure that muck extraction and supply train operations do not result in groundborne vibration in excess of 72 VdB at nearby residences. Measures that can be implemented include, but are not limited to, placement of ballast mats underneath tracks on which the muck extraction train rides or the use of a conveyor in place of a train.		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Operation								
Ventilation Structures, Traction Power Substations, Emergency Backup Generators	NV-A	**Implement Noise Reduction Treatments at Ancillary Facilities** The contractor will implement noise reduction treatments at ancillary facilities such as tunnel ventilation shafts, pressure relief shafts, traction power substations, and emergency backup generators such that noise levels comply with applicable Cities of San Jose and Santa Clara noise criteria at nearby developed land uses. Treatments that will be implemented, if necessary, include but are not limited to: • Sound attenuators and acoustical absorptive treatments in ventilation shafts and facilities. • Sound attenuators for the tunnel emergency ventilation fans. • Perimeter noise walls (nominally an 8 -foot - high wall) placed around emergency generators.		X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Timeframe for Implementation				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
All project features for BART Extension and TOJDs	NV-B	**Reduce Groundborne Noise Levels** The contractor will implement an Isolated Slab Track (IST) as the mitigation strategy for groundborne noise. An IST is a form of floating slab track (FST). The IST system is constructed with a continuous elastomeric mat instead of discrete elastomeric pads that are typically used for an FST system. An IST can be designed to provide from 10 to 13 dBA of noise reduction. This strategy can also be used under a crossover. The locations for implementing this measure are shown in Tables 4.12-21 through 4.12-25. The project's final design will determine the specific mitigation strategy, which could include alternative strategies that similarly achieve the FTA groundborne noise criteria.		X			Contractor	VTA Environmental Programs

Utilities

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
		No mitigation is required						

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Operation								
All project features for BART Extension and TOJDs	UTIL-A	**Prepare a San Jose Water Supply Infrastructure Capacity Assessment and Participate in the Improvements** VTA will coordinate with San Jose Water Company (SJWC) and prepare a Cooperative Agreement to establish the BART Extension Alternative's participation in improvements to offsite water supply infrastructure. The SJWC may conduct a detailed engineering study and flow analysis to determine the extent of these impacts. The contractor will implement capacity-relief upgrades during the utility relocation phase of construction in accordance with SJWC requirements. The contractor will ensure that all construction activities follow the provisions outlined in this environmental document, including implementation of Mitigation Measure **TRA-CNST-A** to reduce potential impacts and increase participation.	X		X		VTA Program Planning	VTA Environmental Programs
	UTIL-B	**Prepare a Santa Clara Water Supply Infrastructure Capacity Assessment and Participate in the Improvements** VTA will coordinate with the City of Santa Clara Water and Sewer Utility (SCWSU) and prepare a Cooperative Agreement to establish the BART Extension Alternative's participation in improvements to offsite water supply infrastructure. The SCWSU may conduct a detailed engineering study and flow analysis to determine the extent of these impacts and participation. The contractor will implement capacity-relief upgrades during the utility relocation phase of construction in accordance with Chapter 17.15.210 of the Santa Clara City Code. The contractor will	X		X		VTA Program Planning	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		ensure that all construction activities follow the provisions outlined in this environmental document, including implementation of the construction education and outreach plan, to reduce potential impacts.						
	UTIL-C	**Prepare a San Jose Sewer Capacity Assessment and Participate in the Improvements** VTA will coordinate with the San Jose Department of Public Works (SJPW) to prepare a Cooperative Agreement to establish the BART Extension Alternative's participation in improvements to offsite sanitary sewer capacity deficiencies. SJPW may conduct a detailed engineering study and hydraulic analysis to determine the extent of these impacts. VTA will mitigate impacts on downstream sewer systems in San Jose through payment of the Sanitary Sewer Connection Fee, as required, which is used to rehabilitate and enhance sewer capacity through San Jose's Sanitary Sewer Capital Improvement Program. If payment to the Sanitary Sewer Connection Fee does not adequately mitigate potential offsite sewer capacity impacts related to the BART Extension, VTA will be responsible for direct upgrades to the sewer system. If sewer system overcapacity is a result of projected cumulative development, San Jose and VTA will develop a Cooperative Agreement to determine the BART Extension Alternative's participation in upgrades to the current system. The contractor will implement capacity-relief upgrades during the BART Extension's construction phase in accordance with applicable San Jose standards regarding sewer infrastructure	X		X		VTA Program Planning	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		improvements. Generally, the contractor will locate sewer infrastructure improvements within the existing public right-of-way, with minimal potential to impact sensitive environmental resources. The contractor will ensure that construction activities follow the provisions outlined in this environmental document, including implementation of the construction education and outreach plan, to reduce potential impacts.						
	UTIL-D	**Prepare a Santa Clara Sewer Capacity Assessment and Participate in the Improvements** VTA will coordinate with SCWSU to prepare a Cooperative Agreement to establish the BART Extension Alternative's participation in improvements to offsite sanitary sewer capacity deficiencies. SCWSU may conduct a detailed engineering study and hydraulic analysis to determine the extent of these impacts. VTA will mitigate impacts on downstream sewer systems in Santa Clara through payment of the Sanitary Sewer Connection Charge, as required, which is used to rehabilitate and enhance sewer capacity through Santa Clara's Capital Improvement Program. If payment to the Sanitary Sewer Connection Charge does not adequately mitigate potential offsite sewer capacity impacts related to the BART Extension, VTA will be responsible for direct upgrades to the sewer system. If sewer system overcapacity is a result of cumulative development, Santa Clara and VTA will develop a Cooperative Agreement to determine the BART Extension Alternative's proportional participation to the upgrades to current system capacity. The contractor will implement capacity-relief	X		X		VTA Program Planning	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		upgrades improvements during the BART Extension's construction phase in accordance with Chapter 17.15.210-280 of the Santa Clara City Code. Generally, the contractor will locate sewer infrastructure improvements within the existing public right-of-way, with minimal potential to impact sensitive environmental resources. The contractor will ensure that construction activities follow the provisions outlined in this environmental document, including implementation of the construction education and outreach plan, to reduce potential impacts.						

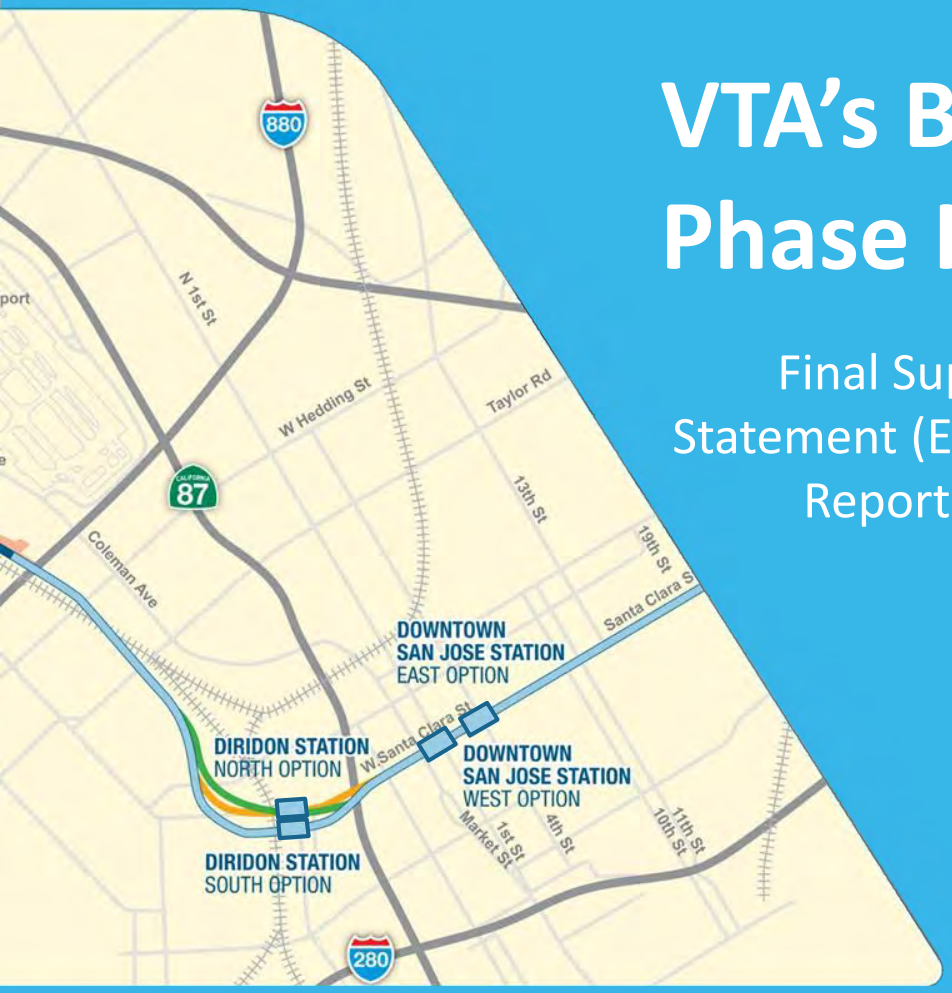
Visual Quality and Aesthetics

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
All project features for BART Extension and TOJDs	AES-CNST-A	**Replace Trees** The contractor will inventory trees that will be removed due to construction activities and will note each tree on construction plans before construction begins. VTA will compensate for any trees removed according to the following ratios. VTA will replace all urban trees that are to be	X	X			Contractor	VTA Environmental Programs

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
		removed or lost as a result of the BART Extension to the extent feasible. VTA will replace trees with a diameter of less than 12 inches at a 2:1 ratio, and trees with a diameter of 12 inches or more at a 3:1 ratio. If urban trees (nonnatives and ornamentals) are replaced with native trees, VTA will use a reduced mitigation ratio of 1:1 for all trees smaller than 12 inches in diameter, and 2:1 for all trees with a diameter of 12 inches or more. VTA will irrigate and maintain these trees for a period of no less than 3 years. If VTA cannot replace trees at the stated ratios along the alignment, VTA will pay in-lieu fees. For any landscaping adjacent to the creeks and on VTA right of-way (ROW), VTA will adhere to the SCVWD's Guidelines and Standards for Land Use Near Streams regarding the use of native species near the creeks.						
Operation								
For TOJDs	AES-A	**Minimize Light and Glare** For the TOJDs, the contractor will install low-profile, low-intensity outdoor lighting directed downward to minimize light and glare where feasible. The contractor will also install shielded fixtures for street and pedestrian lighting to minimize glare.		X		X	Contractor	VTA Environmental Programs

Water Resources, Water Quality, and Floodplains

Station/Option	Measure #	Mitigation Measure	Mitigation Timing				Responsibility for Implementation	Oversight for Implementation
			Pre-Construction	Construction	Post-Construction	Operations		
Construction								
		No mitigation is required						
Operation								
All project features for BART Extension and TOJDs	WQ-A	**Design and Implement Stormwater Control Measures** The BART Extension will be designed in accordance with the Phase II MS4 Permit, Section F.5.g, for post-construction stormwater management. Post-construction stormwater controls shall be implemented to reduce total runoff rates and associated pollutant discharges. VTA managed facilities will follow the VTA's *Stormwater and Landscaping Design Criteria Manual*. After designs are finalized, a Stormwater Management Report, including detailed hydrologic and hydraulic calculations, analysis, and conclusions, shall be prepared to document the final design for stormwater management and the storm drain system and for obtaining the requisite approvals, and will outline all required Operation and Maintenance needs recommended by the designer for the post-construction stormwater management facilities.	X	X	X	X	Contractor	VTA Environmental Programs



VTA's BART Silicon Valley Phase II Extension Project

Final Supplemental Environmental Impact Statement (EIS)/ Subsequent Environmental Impact Report (EIR) and Section 4(f) Evaluation

VTA Board of Directors Meeting

April 5, 2018

Santa Clara Valley Transportation Authority

Solutions that move you

Agenda

- Project Overview
- Recommended Project Description
- Environmental Impacts & Mitigation Measures
- Board Action

Santa Clara Valley Transportation Authority

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Project Overview

Santa Clara Valley Transportation Authority

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Current and Previous Environmental Documents

- 2018 Final Supplemental EIS/Subsequent EIR: 6-mile project
- 2016 Draft Supplemental EIS/Subsequent EIR: 6-mile project
- 2011 Final 2nd Supplemental EIR: 10-mile project
- 2010 Draft 2nd Supplemental EIR: 10-mile project
- 2010 EIS Record of Decision: 10-mile project
- 2010 Final EIS: 10- and 16-mile projects
- 2009 Draft EIS: 10- and 16-mile projects
- 2007 Final Supplemental EIR: 16-mile project
- 2007 Draft Supplemental EIR: 16-mile project
- 2004 Final EIR: 16-mile project
- 2004 Draft EIS/EIR: 16-mile project

Current Environmental Timeline

Scoping Meetings……February 12, 17, and 19, 2015

Draft SEIR Public Review…….December 28,2016 – March 6, 2017

Draft SEIR Public Hearings …….January 25, 26, and 30, 2017

Responded to Comments……..…February 2017 – February 2018

Final SEIR Published……February 21, 2018

VTA Board Certification of SEIR……..……April 5, 2018

FTA Record of Decision ……..June 4, 2018

Federal and State Environmental Alternatives

Federal (NEPA)

- No Build Alternative
- BART Extension Alternative

State (CEQA)

- No Build Alternative
- BART Extension Alternative
- BART Extension with Transit-Oriented Joint Development (TOJD) Alternative

CEQA: BART Extension With TOJD Alternative

- 4 Stations
  - Alum Rock/28th Street
  - Downtown San Jose
  - Diridon
  - Santa Clara
- Newhall Maintenance Facility
- Transit-Oriented Joint Development

2035 Average Weekday Ridership with the BART Extension

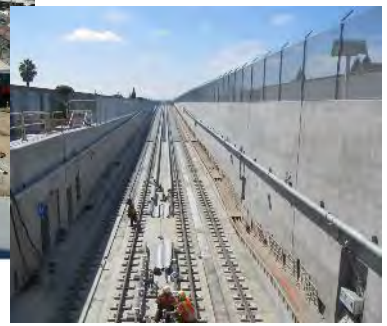
Station Name	Number of Riders
Alum Rock/28th Street	10,300
Downtown San Jose	24,287
Diridon	9,553
Santa Clara	7,871
Total	**52,011**

Source: Table 3-13 in Final SEIS/SEIR.

VTA/BART Partnership

- **Santa Clara Valley Transportation Authority (VTA) Responsibilities**
  - Pay all costs associated with the extension
  - Contracting/Procurement
  - Construct to applicable BART/industry standards, codes, and regulations
  - Retain ownership of infrastructure

- **Bay Area Rapid Transit (BART) Responsibilities**
  - Technical assistance
  - Operations
  - Maintenance
  - Service Planning



Santa Clara County is not part of the BART districts.

A Comprehensive Agreement provides a framework for the partnership.

Recommended Project Description

Santa Clara Valley Transportation Authority

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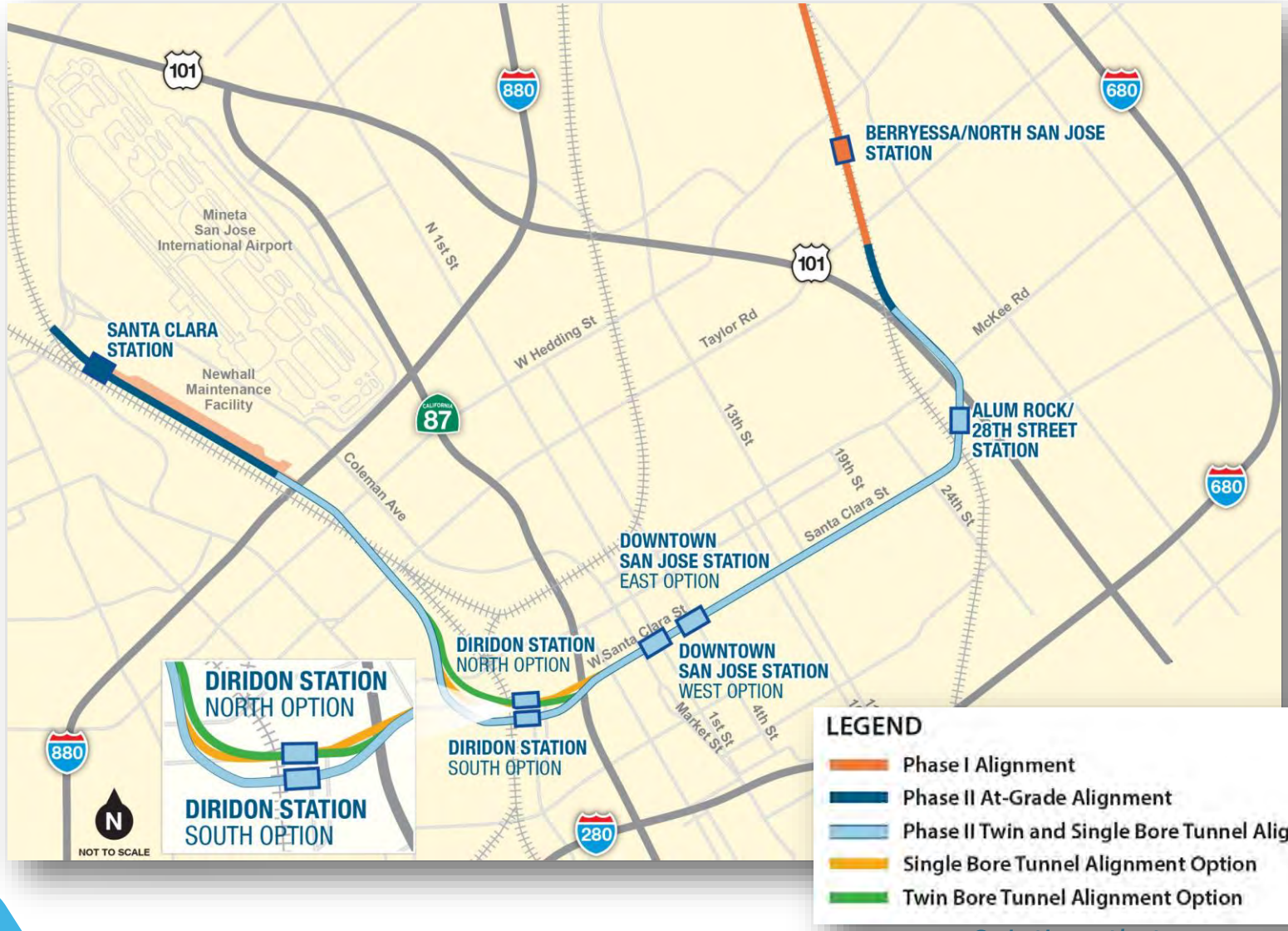
Phase II Extension Project Options



Recommended Alternative and Options

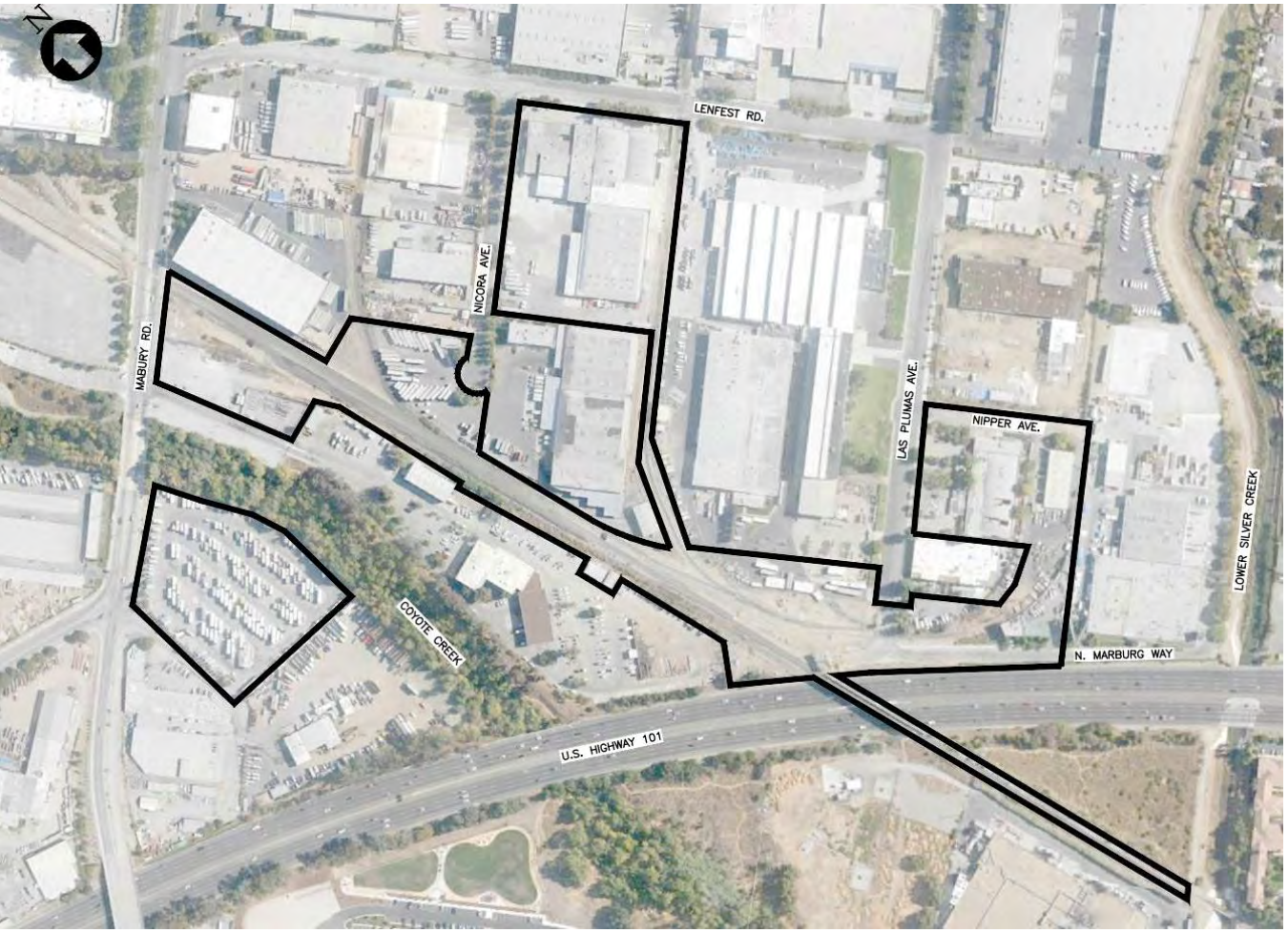
Recommended Alternative:

- BART Extension with TOJD Alternative

Recommended Options:

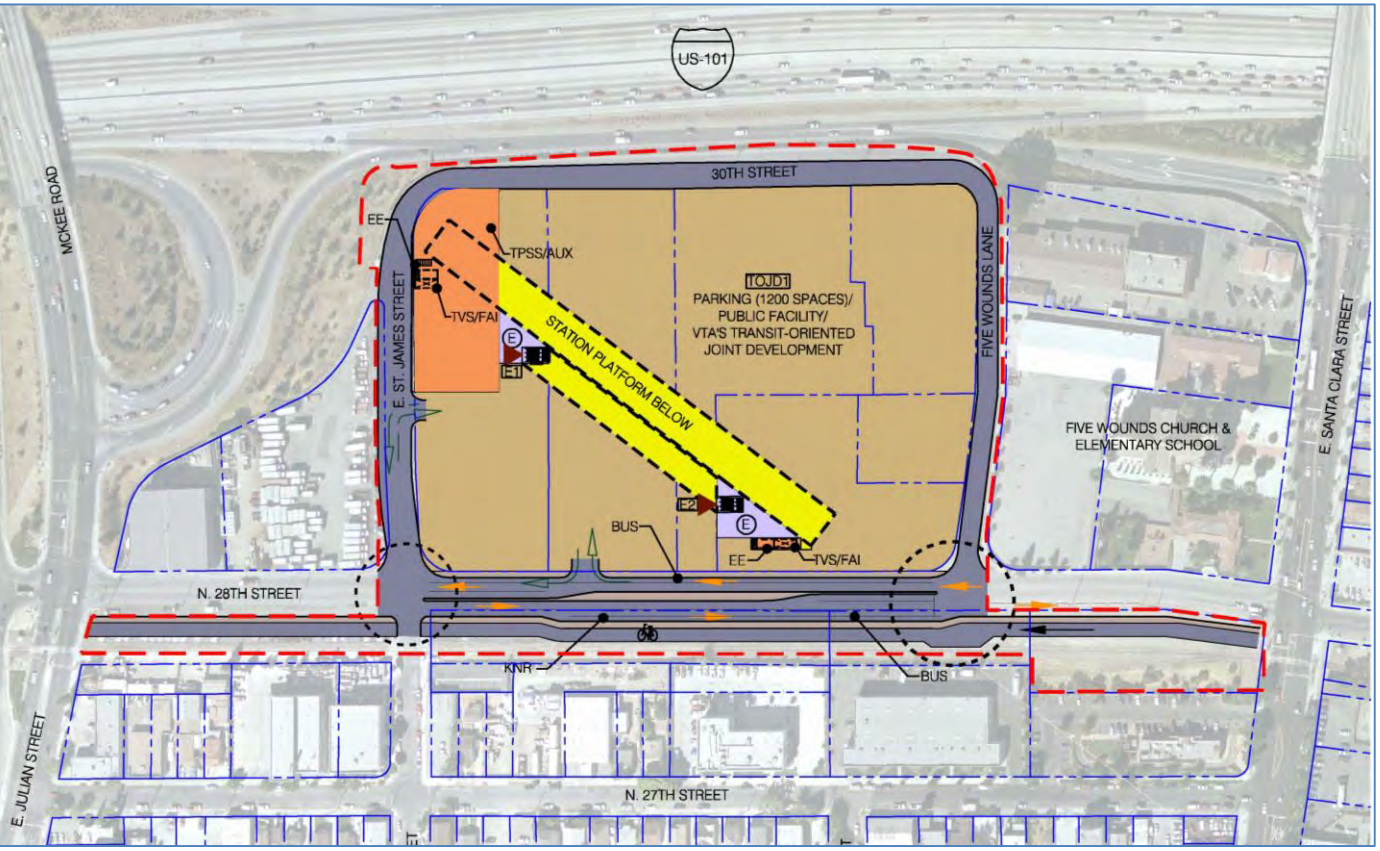
- Downtown San Jose Station - West Option
- Diridon Station - North Option
- Tunneling Methodology - Single-Bore Option

East Tunnel Portal Construction Staging Areas



- Connection to VTA's BART Silicon Valley Phase I Extension
- Space for staging of construction equipment and materials
- Space for excavated materials from tunnel

Alum Rock/28th Street Station

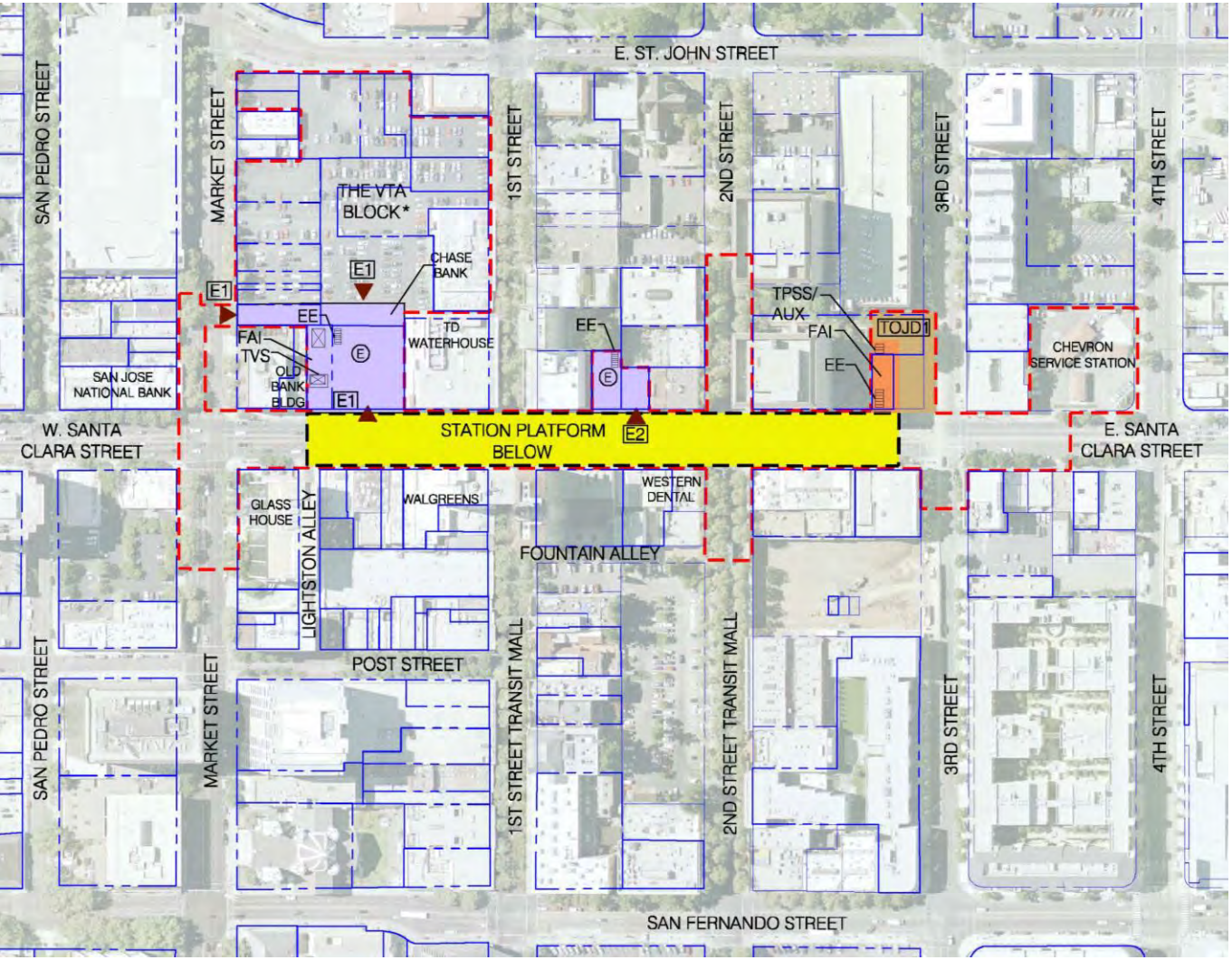


- Subway station
- Street-level entrances
- Systems facilities
- BART Parking (1,200 spaces)
- TOJD: office, retail, and residential land uses

13th and Santa Clara Street Ventilation Structure

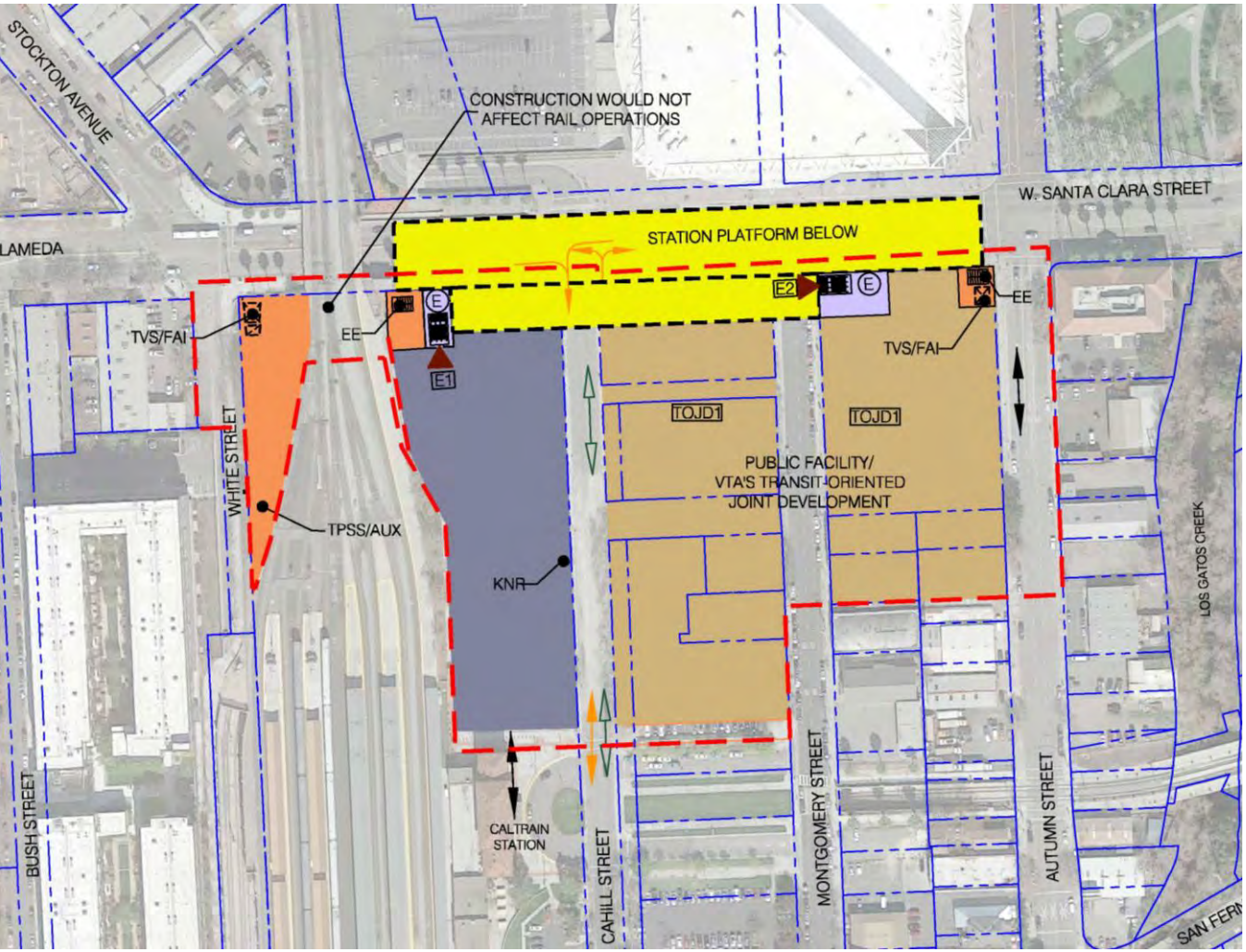
- Mid-Tunnel Ventilation Structure
- Emergency access for first responders
- TOJD: retail land uses

Downtown San Jose Station – West Option



- Subway station
- Street-level entrances
- Systems facilities
- TOJD: office and retail land uses

Diridon Station – North Option

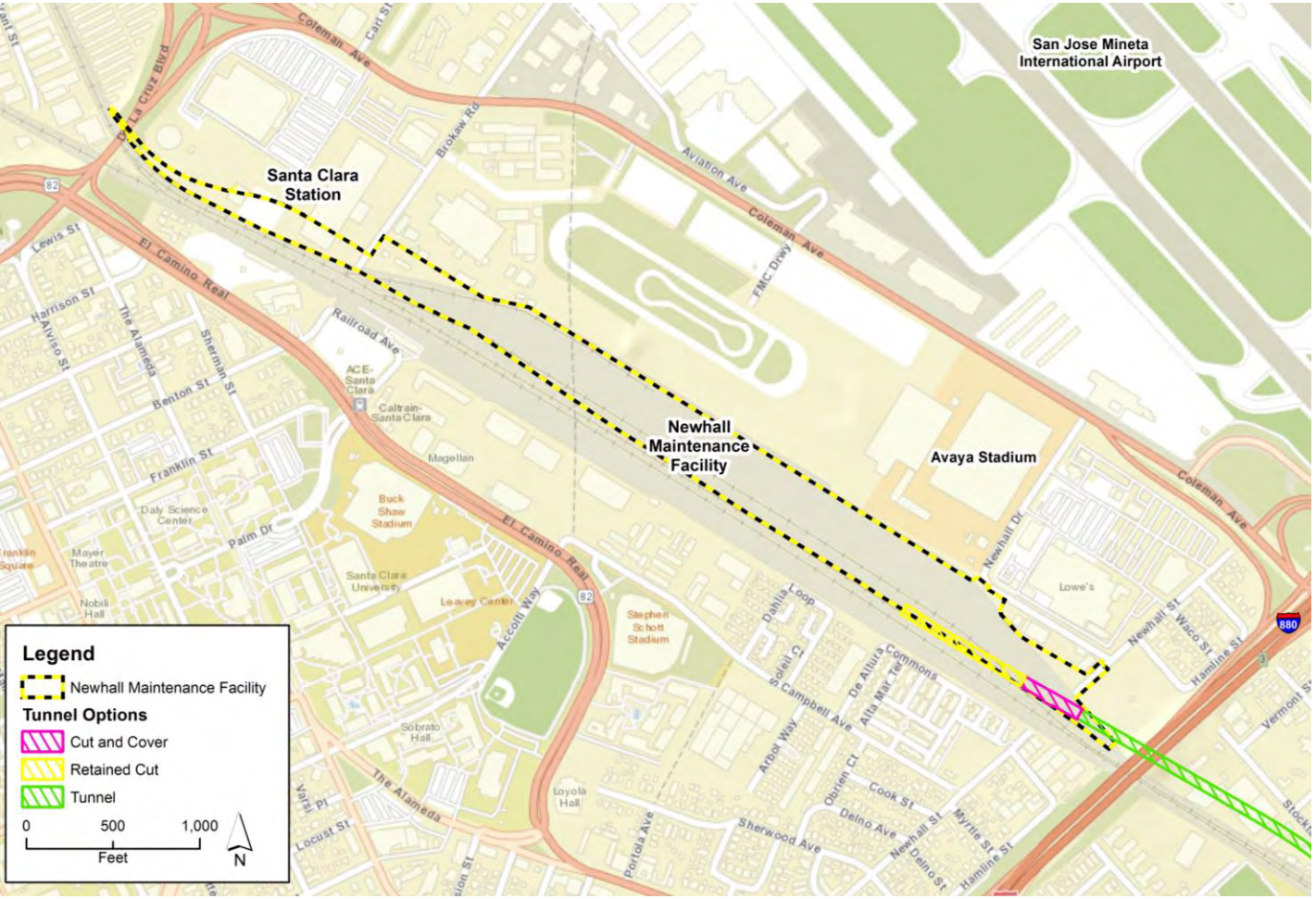


- Subway station
- Street-level entrances
- Systems facilities
- Reconfigured VTA bus transit center
- TOJD: office and retail land uses

Stockton Avenue Vent Structure Options

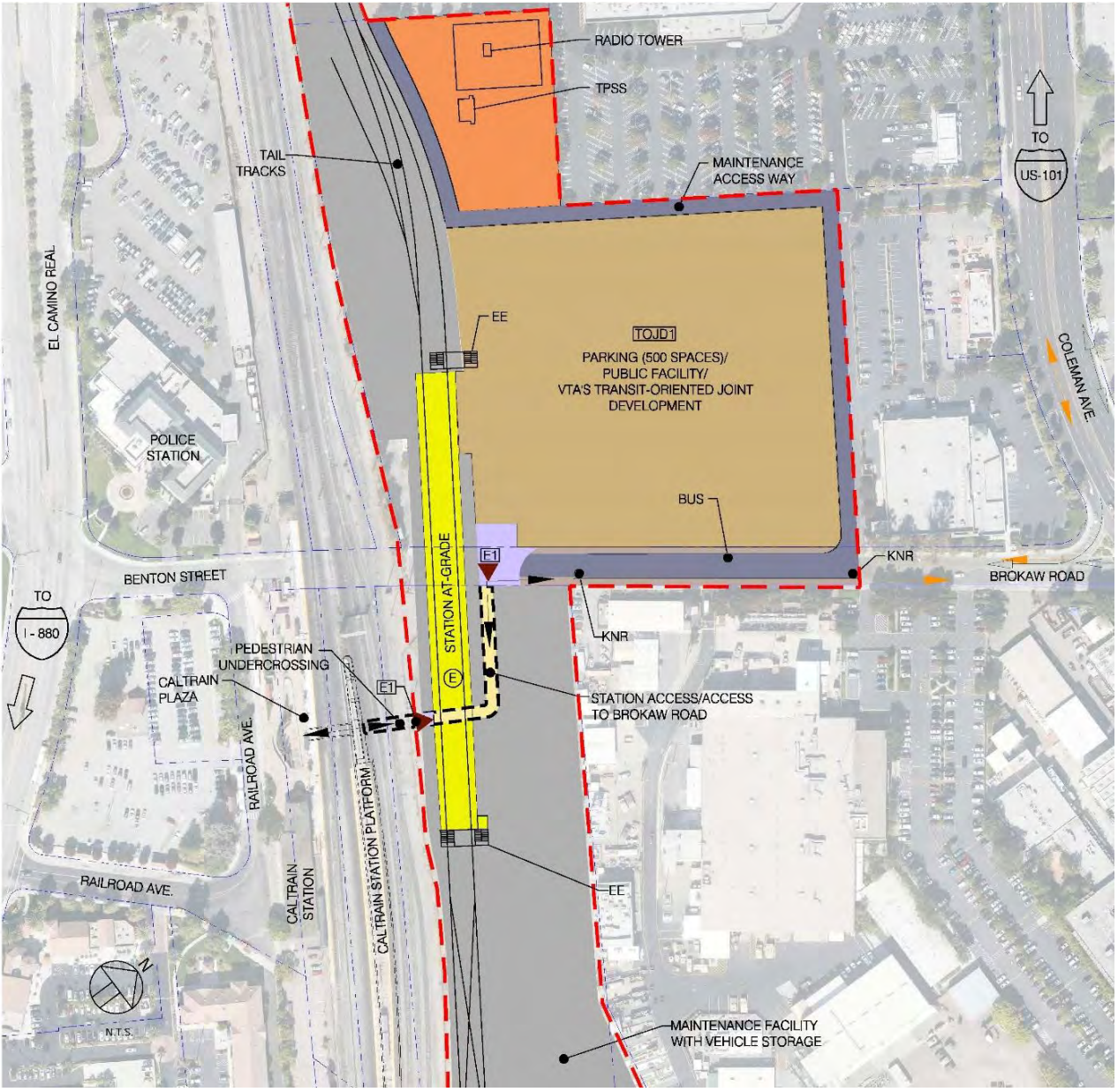
- Mid-Tunnel Ventilation Structure
- Emergency access for first responders
- TOJD: retail land uses

Newhall Maintenance Facility



- Facilities for routine maintenance of rail cars
- Facilities for routine maintenance of non-revenue/maintenance vehicles
- Capacity to store up to 200 rail cars
- West tunnel portal

Santa Clara Station



- At-grade station
- Below-grade concourse
- Systems facilities
- BART Parking (500 spaces)
- Enhanced underground pedestrian connection to Caltrain Station
- TOJD: office, retail, and residential land uses

Summary of Transit Oriented Joint Development (TOJD)

Location	Residential (dwelling units)	Retail (square feet)	Office (square feet)	Parking (spaces)
Alum Rock/28th Street Station	275	20,000	500,000	2,150
Santa Clara and 13th Streets Ventilation Structure	N/A	13,000	N/A	N/A
Downtown San Jose Station – West Option	N/A	10,000	35,000	128
Diridon Station North Option	N/A	72,000	640,000	400
Stockton Avenue Ventilation Structure	N/A	15,000	N/A	N/A
Santa Clara Station	220	30,000	500,000	2,200

Source: VTA 2018. Table 2-3 in Final SEIS/SEIR.

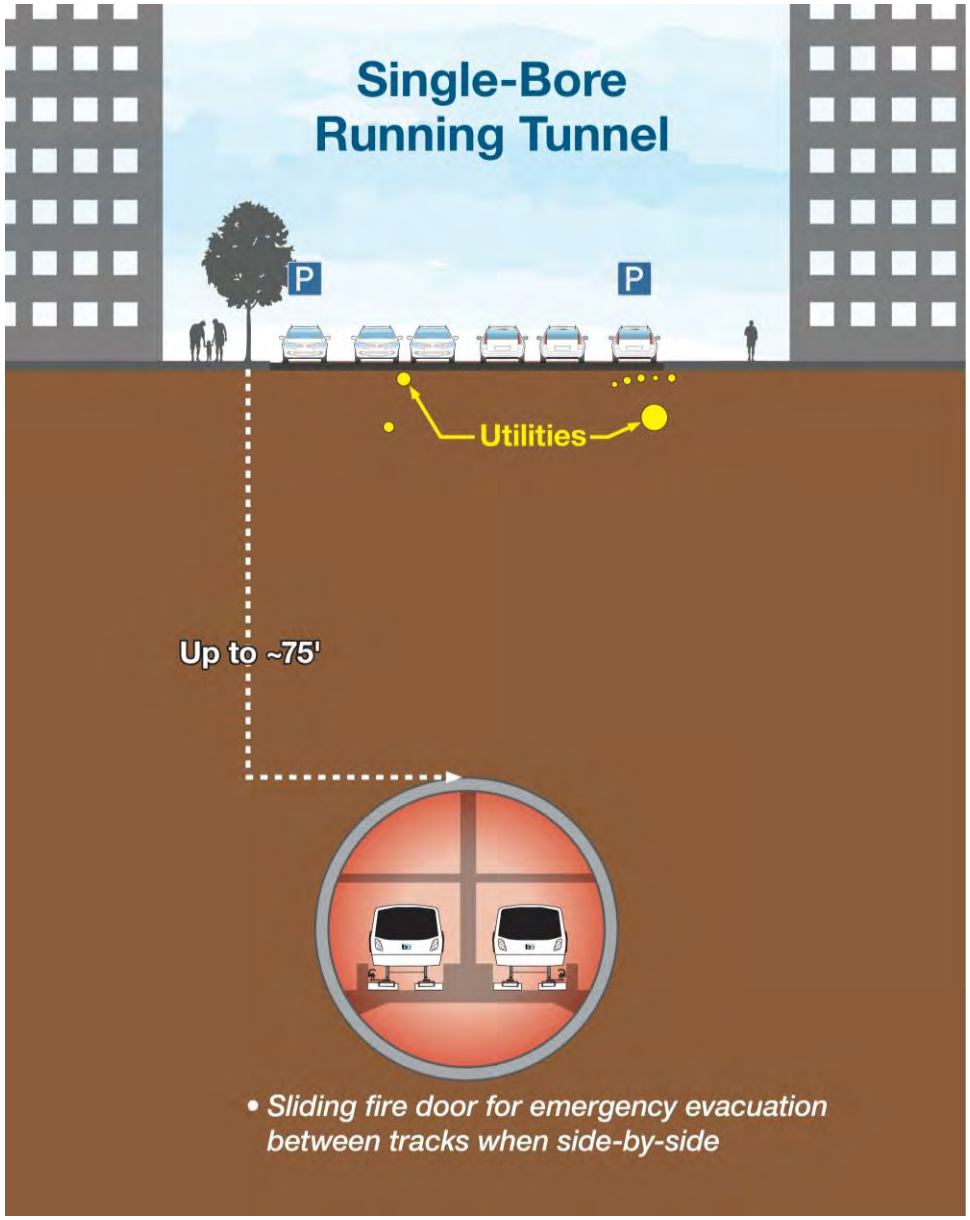
Note: Densities and parking spaces are based on the General Plans and Specific Plans of the Cities of San Jose and Santa Clara

Tunneling Methodology

Engineering History

- Phase II engineering put on hold in 2009 to focus on Phase I delivery
- Phase I construction underway (FFGA: March 2012)
- Review of Phase II revived in 2014
  - Impacts to street level activities and underground utilities
  - Advances in the tunneling industry since 2008
  - Feasibility of alternate tunneling methodologies
  - Scoping comments received to reduce impacts to Downtown
  - Changes to applicable codes and standards

Single-Bore Tunnel Concept



Development and Evaluation of Single-Bore Option

Preliminary Analysis of Single-Bore Methodology (2015)

- Determined feasible
- Reviewed with BART and FTA
- Included as option in environmental document

Single-Bore Tunnel Technical Studies (2016)

- Focus on key areas including tunnel, station configuration, emergency egress, and ventilation
- Design criteria and key assumptions developed in concert with BART
- Ongoing BART participation
- Topic specific workshops and presentations

Barcelona Study Tour (2017)

Tunneling Options Independent Risk Assessment Comparative Analysis (2017)

Development and Evaluation of Single-Bore Option

August 25, 2017 Board of Directors Workshop

- Introduced single-bore option and discussed environmental and construction considerations for both tunneling methods

September 22, 2017 Board of Directors Workshop

- Presented evaluation of constructability, safety and security, operations and maintenance, passenger experience, cost and schedule, and economic impact
- Preliminary staff recommendation of single-bore methodology

September 28, 2017 Joint VTA and BART Board of Directors Meeting

- Reviewed twin-bore and single-bore configurations

November 13-15, 2017 Operations Peer Review Panel

- Panel opined that with some adjustments to address BART's operational safety considerations: the single-bore tunnel can be operated safely as an extension of the BART system

Technical review of twin-bore and single-bore options

- Conferring with BART management and technical staff (FTA granted extension for this work)

Summary of Efforts

- There are no new construction methods that VTA had not thoroughly evaluated (including mining techniques)
- Base costs for twin-bore and single-bore are comparable for decision-making purposes
- Single-bore satisfies all applicable operations, maintenance, and safety requirements
- Single-bore offers schedule time and sequencing advantages
- Single-bore offers operations and safety advantages

Summary of Efforts (continued)

- Single-bore has significantly fewer construction impacts and risks
- Single-bore offers flexibility for future station area development
- At 9/22 Board Workshop, single-bore was presented as the preferred tunneling option for VTA's BART Phase II Project
- Continued efforts have strengthened the conclusion that single-bore is equal or superior to twin-bore as a tunneling option

Environmental Impacts & Mitigation Measures

Santa Clara Valley Transportation Authority

Solutions that move you

Topical Areas Evaluated under CEQA

Construction and Operations

- Air Quality
- Biological Resources & Wetlands
- Community Facilities & Public Services
- Cultural Resources
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions & Climate Change
- Hazards and Hazardous Materials
- Land Use
- Noise & Vibration
- Transportation
- Utilities & Service Systems
- Visual Quality & Aesthetics
- Water Resources, Water Quality, & Floodplains

Mitigation Monitoring and Reporting Program (MMRP)

What it is:

- Consolidated list of all mitigation measures in the environmental document

What it will do:

- Will ensure all promises made in the environmental document will be carried forward through construction

When it will be implemented:

- Prior to, during, and after construction

Representative Mitigations During Construction

Noise Mitigation

- Installation of temporary noise barriers
- Noise monitoring during construction

Vibration Mitigation

- Pre-/Post-Construction Building Surveys
- Vibration monitoring during construction

Parking Mitigation (NEPA only)

- Replacement Parking at Diridon Station during construction

Cultural Resources Mitigation

- Measures to protect both archaeological and historic architectural resources

Construction Outreach Management Program

Construction Education and Outreach Plan (CEOP)

- to foster communication during construction between VTA, various municipalities, and the public

Construction Transportation Management Plan (CTMP)

- to coordinate location-specific circulation and access within and around the construction areas for all modes

Emergency Services Coordination Plan (ESCP)

- to minimize impact to local emergency service routes and response times due to construction activities

…to be incorporated into all plans and specifications of all contracts through which Phase II will be implemented.

Construction Education & Outreach Plan (CEOP)

Responsible Parties:

VTA in coordination with Cities of San Jose and Santa Clara

Timeline: Prepared & implemented after environmental process

Part A: Planning (January 2018 – December 2018)

Part B: Preconstruction (December 2018 – October 2019)

Part C: Construction (October 2019 – 2026)

Critical elements include:

General Outreach

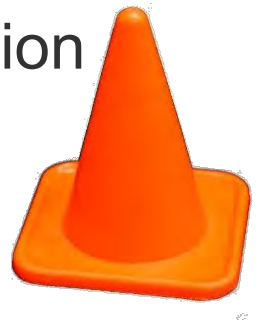
Stakeholder Engagement

Business Promotion

Construction Transportation Management Plan (CTMP)

Critical components include:

- Construction activities sequencing schedule
- Phasing of construction, anticipated closures, detours, temporary signals, street reconfigurations, etc.
- Truck haul routes
- Minimize impacts during special events
- Traffic Control Plans for each area of construction



Emergency Services Coordination Plan (ESCP)

Critical components include:

- Maintain regular communication with local fire and police departments of construction schedule and potential lane/road closures
- Ensure emergency access to residents and businesses and maintain service response times

Representative Mitigations During Operations

Traffic Mitigation

As a result of TOJD, traffic mitigation for operations will be required at the following intersections:

- Coleman Avenue/I-880 SB Off-Ramp
- Coleman Avenue/Brokaw Road
- Lafayette Street/Lewis Street

Groundborne Noise Mitigation

- Isolated Slab Track or equivalent (14,600 feet)

Impacts after Mitigation

Construction-Related Impacts

- Transportation
  - Vehicular Traffic, Bicyclists, and Pedestrians
    - At all stations, West Tunnel Portal, Newhall Maintenance Facility
  - Transit-Bus
    - At Downtown San Jose and Diridon Stations
- Air Quality
  - Nitrogen Oxides and Reactive Organic Gases
    - Assumes peak utilization of heavy construction equipment at all facilities simultaneously
- Noise
    - At Downtown San Jose and Diridon Stations

Impacts after Mitigation

Operation-Related Impacts

- Traffic
  - De La Cruz & Central Expressway
    - Santa Clara Station
- Air Quality
  - Reactive Organic Gases (ROG)
    - Due to increased development
- Greenhouse Gas Emissions
    - Due to increased development

Board Action

Santa Clara Valley Transportation Authority

Solutions that move you

Board Action

1. Certify that the Subsequent Environmental Impact Report (SEIR):
   - Meets the requirements of CEQA;
   - Represents the independent judgment of the Lead Agency; and
   - Reviewed and considered SEIR.
2. Adopt:
   - Findings;
   - Facts in Support of Findings; and
   - Statement of Overriding Considerations.
3. Adopt a Mitigation Monitoring and Reporting Program.
4. Adopt the Recommended Project Description and Approve the Phase II Extension Project that consists of the BART Extension with Transit-Oriented Joint Development

Recommended Alternative and Options

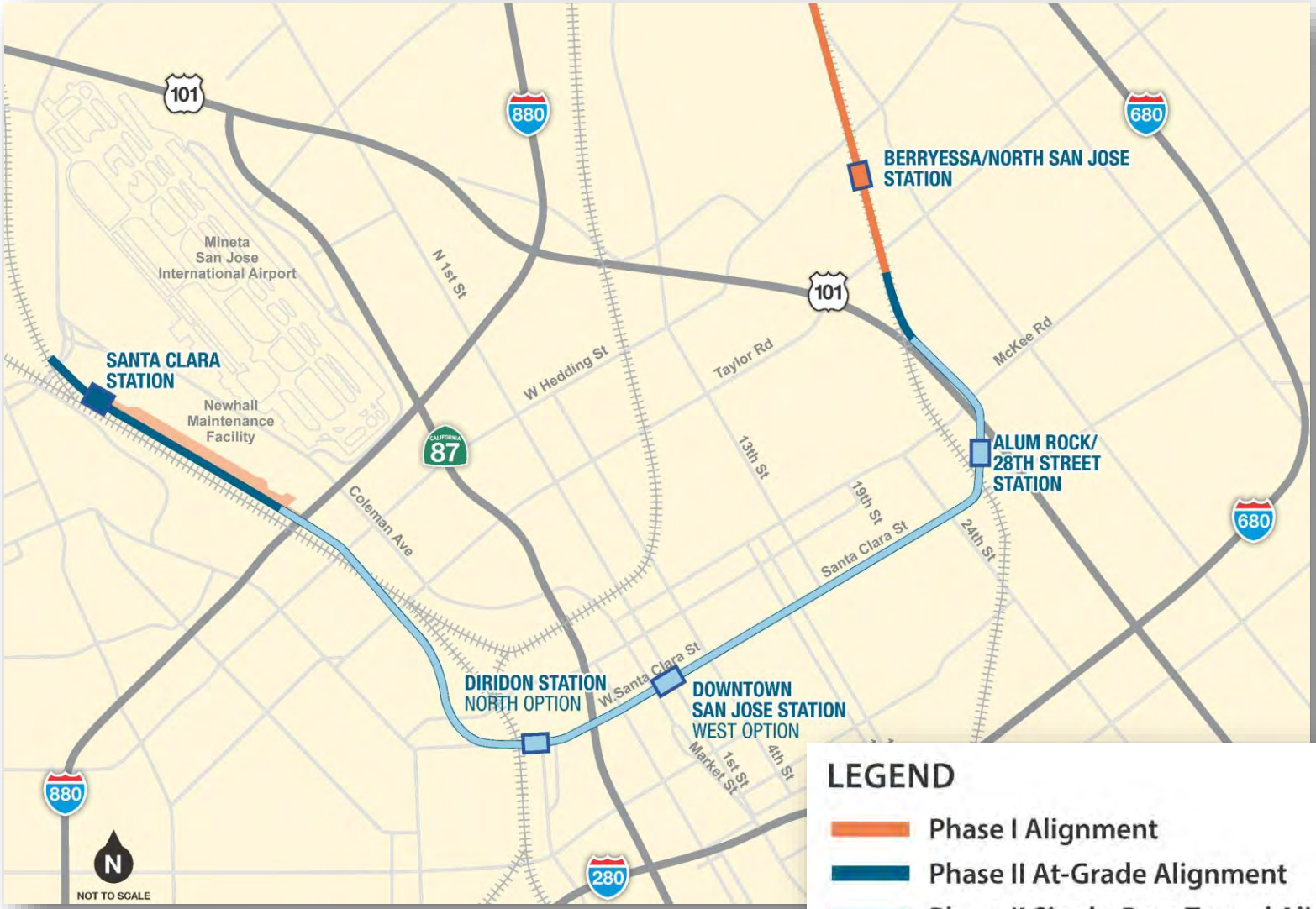
Recommended Alternative:

- BART Extension with TOJD Alternative

Recommended Options:

- Downtown San Jose Station - West Option
- Diridon Station - North Option
- Tunneling Methodology - Single-Bore Option

Recommended Phase II Extension Project



Board Action

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Santa Clara Valley Transportation Authority

MEMORANDUM

DATE: April 3, 2018

TO: VTA Board of Directors

FROM: Evelynn Tran, Deputy General Counsel
Tom Fitzwater, BART Silicon Valley Environmental Planning Manager

SUBJECT: Sharks Sports & Entertainment LLC Comments on VTA's BART Silicon Valley Phase II Extension Project Final SEIS/SEIR

On April 2, 2018, the Silicon Valley Law Group (SVLG) submitted a comment letter on behalf of the Sharks Sports & Entertainment LLC (Sharks LLC) regarding the Santa Clara Valley Transportation Authority's (VTA's) BART Silicon Valley Phase II Extension Project (Project) Final SEIS/SEIR. As background, VTA is the lead agency under the California Environmental Quality Act (CEQA) and is the agency that will need to certify the Subsequent Environmental Impact Report (SEIR). The Federal Transit Administration (FTA) is the lead agency under the National Environmental Protection Act (NEPA) and is the agency that released the Final Supplemental Environmental Impact Statement (SEIS) and will need to issue the Record of Decision to complete the NEPA environmental process. In its comment letter, the Sharks LLC asserts that the Final SEIS/SEIR is legally insufficient to support an approval of the Project. Its comments were divided into several categories and primarily focused on short- and long-term parking in the Diridon Station area. As discussed below, staff believes that the Final SEIR complies with CEQA and recommends that the VTA Board of Directors (VTA Board) certify the Final SEIR and approve the recommended Project.

VTA addresses the Sharks LLC's comments in the order presented in SVLG's letter:

Traffic Engineer Report

The Sharks LLC generally challenged the adequacy of the transportation studies prepared in support of the SEIS/SEIR. In support of its challenge to the studies, the Sharks LLC provided a separate opinion of its own traffic engineer. VTA prepared extensive transportation analyses as described in Volume I, Chapter 3 *NEPA and CEQA Transportation Operations Analysis* and Section 5.5 *Impacts from Construction of the BART Extension* and Chapter 6.*CEQA Alternatives Analysis of Construction and Operation.* The VTA Board may still "adopt the environmental conclusions reached by the experts that prepared the EIR even though others may disagree with the underlying data, analysis, or conclusions. Discrepancies in results arising from different

methods for assessing environmental issues do not undermine the validity of the EIR's analysis as long as a reasonable explanation supporting the EIR's analysis is provided."[1]

Compliance with the California Environmental Quality Act

The Sharks LLC asserts that the Final SEIR fails because there is no stable "or decipherable" project description. In fact, the Sharks LLC states that "there is no section in the document that provides a project description as required by CEQA." The Final SEIS/SEIR provides a clear recommended project description in Volume I, Chapter 2, where the project alternatives and options, along with the CEQA recommended project, are discussed in detail. The Sharks LLC, focusing on one section of the Final SEIR relating to the Transit Oriented Joint Development (TOJD), also found fault with the document because, according to it, the Final SEIR did not include a full statement of objectives. To the contrary, VTA prepared a full chapter on the purpose and need of the transportation project, including the recommended BART Extension with TOJD Alternative project, in Volume 1, Chapter 1.

The Sharks LLC also claims that the Project is not adequately described for the TOJD because VTA needs additional approvals from the City of San José (City). As set forth in VTA's response to the City's comment, VTA's proposed TOJD is based on the current general plan designations for the sites. VTA acknowledges that the City would have responsible agency discretionary approval authority over aspects of the BART Extension with TOJD Alternative that are within its jurisdiction and that the City would consider the Final SEIR and determine the adequacy of the document for purposes of its approvals. The fact that the City has discretionary approval authority over the TOJD does not mean that the project description is not "adequately described for CEQA purposes" as the Sharks LLC claims. In fact, CEQA and the CEQA Guidelines acknowledge that a responsible agency has discretionary approval authority after the lead agency approves the environmental document. Pub Res C §21104, 21153(c), 21069.

Interim Parking Loss During Construction

The Sharks LLC claims that there is insufficient mitigation for interim parking loss in the Diridon Station area during construction. However, the loss of parking spaces is no longer considered a potentially significant environmental impact under CEQA. (*San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.) VTA Volume I, Chapter 5, *Construction*, and Volume II, *Master Response 2 – Diridon Station Short-Term Parking* addressed this topic for NEPA purposes. As set forth in Master Response 2, VTA would provide 450 replacement off-street parking spaces during construction. With this mitigation, this would result in the net loss of 305 on-street and off-street parking spaces, or 2.1 percent of the total 14,450 available parking within a 0.5-mile radius of Diridon Station, for up to 8 years during construction. The loss of 2.1 percent of the total available

[1] CEB, Practice Under the California Environmental Quality Act (2012) § 11.35 at p. 11-27.

parking spaces at an existing major transportation center in the downtown urban core of San José with many multi-modal options was not considered an adverse effect on parking.

Moreover, the Final SEIS/SEIR includes the following mitigation plans for construction outreach: Construction Education and Outreach Plan to foster communication during construction between VTA, various municipalities, and the public (including the local businesses); Construction Transportation Management Plan to coordinate location-specific circulation and access within and around the construction areas for all modes; and an Emergency Services Coordination Plan to minimize impact to local emergency service routes and responses due to construction activities. Namely, and contrary to the Sharks LLC's assertions, VTA did address parking by construction workers. Specifically, VTA will require construction workers to park in designated areas or in the construction staging areas. This is addressed in Volume 1, Chapter 5, Section 5.5.1. Significantly, in the NEPA analysis, under NEPA Mitigation TRA-CNST-D, VTA will provide replacement parking spaces prior to removing existing parking during construction at Diridon Station. This mitigation was summarized in the Executive Summary under Table ES-1 and discussed in more detail in Volume 2, Master Response 2. Since this MM is mitigation for a NEPA impact rather than a CEQA impact, it will be enforced pursuant to NEPA, following approval under NEPA by the FTA.

In its letter, the Sharks LLC also faults VTA for not analyzing potential impacts caused by the illegal behavior of the public. It claims without evidence that the loss of off-street parking and the 40 on-street parking spaces will cause motorists to park illegally, and therefore, affects the ability of pedestrians and bicyclists to have a good line of sight and will be a safety issue. However, CEQA does not require an analysis of every possible potential impact; the analysis needs only be reasonable and practical. Here, it is not reasonable to require a lead agency to predict, analyze, and mitigate against the presumed illegal behavior of the public. In any event, the Construction Management Plan will ensure that safety measures for all transportation modes are maintained during construction.

Long Term Parking Loss and Consistency with Land Use Plans

The Sharks LLC also challenged the analysis relating to long-term parking loss. As discussed above, parking loss is no longer considered a significant impact under CEQA. However, the Final SEIR/SEIS analyzed it for NEPA purposes. As disclosed in Volume 2, Master Response 3, BART has implemented new policies to discourage drive-alone trips to BART stations. On June 9, 2016, the BART Board of Director's adopted a BART Station Access Policy that included a Station Access Design Hierarchy. In descending order, BART's priorities for passenger access to its stations are walk, bicycle, transit and shuttle, drop-off and pick-up, and, lastly, auto parking. The decision to not provide park-and-ride facilities for the BART Extension at Diridon Station is also consistent with BART's Station Access Policy adopted June 9, 2016, regarding "urban" BART stations. Diridon Station would be classified as an "urban" station under the policy characteristics identified in BART's Station Access Policy. Specifically, BART's definition of

an Urban Station has the characteristics that are consistent with the characteristics of the Diridon Station, namely (1) combined walk, bike, and transit access of greater than 75%; (2) drive alone rates of 5% or less; (3) almost all auto access is from drop-off activity; (4) highway access is not convenient; (5) the station can be found in a downtown or neighborhood business district; (6) the station may be underground or otherwise has a limited spatial footprint; and (7) the station is well-served by many types of transit service that stop on adjacent streets.

Additionally, the decision to not provide park-and-ride facilities for the BART Extension at Diridon Station is also consistent with the Envision San José 2040 General Plan, Commercial Downtown Land Use Plan Policies, and Transportation Policies (adopted November 2011). San José's Transportation Goals, Policies, and Actions aim to establish circulation policies that increase bicycle, pedestrian, and transit travel, while reducing motor vehicle trips, to increase the City's share of travel by alternative transportation modes.

Transit-Oriented Joint Development

The Sharks LLC asserts that the TOJD needs to be analyzed under NEPA. The Final SEIS/SEIR provides an explanation that TOJD is an independent action by VTA, with no federal action nor federal participation. The coordination of the TOJD with a federal transportation project is not anticipated to result in the federalization of the TOJD for NEPA purposes.

Reservation of Rights and Reference to Similar Projects

The Sharks LLC also compared this Project against other rail projects in Southern California and their mitigation measures. However, these studies were prepared a number of years ago and were approved prior to the State eliminating direct parking loss impacts as an environmental topic that needed to be addressed under CEQA. Therefore these studies are not applicable to the CEQA adequacy of this Final SEIR.

In conclusion, VTA stands by the Final SEIS/SEIR as adequately disclosing and addressing the environmental impacts and mitigation measures for the VTA's BART Silicon Valley Phase II Extension Project.

SILICON VALLEY LAW GROUP
A LAW CORPORATION ®

April 2, 2018

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RE: Sharks Sports & Entertainment LLC Comments Regarding VTA's BART Silicon Valley Phase II Extension Project – Final Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report and Draft Section 4(f) Evaluation, December 2016.

Dear Mr. Fitzwater and Ms. Kraft:

I am submitting comments to the Final Supplemental Environmental Impact Statement/ Subsequent Environmental Impact Report and Draft Section 4(f) Evaluation, dated February 2018 (Final SEIS/SEIR) for the BART Silicon Valley Phase II Extension Project (Phase II Project) on behalf of Sharks Sports & Entertainment LLC (SSE). By a letter dated March 6, 2017, SSE previously submitted extensive substantive comments in an effort to improve the Final SEIS/SEIR so that the Phase II Project will be constructed without unnecessary damage to San Jose's downtown. SSE is deeply disappointed to see that there have been no substantive changes to the Final SEIS/SEIR in response to SSE's comments. There have also been no substantive changes to the Final SEIS/SEIR in response to extensive comments from the City of San Jose (City) regarding the impacts to the Diridon Station area as set forth in the City's letter also dated March 6, 2017. In light of the fact that the Final SEIS/SEIR did not make any substantive changes in response to SSE's or the City's prior comment letters, those prior comments are incorporated and reasserted by this reference.

Background

As pointed out in our earlier comment letter, SSE is the parent company of San Jose Arena Management, LLC, which manages the SAP Center (Arena), an 18,000-seat regional multipurpose event center located adjacent to the planned BART Diridon Station.

With over 170 events per year, the Arena is one of San Jose's most consistent and impactful economic catalysts and is a critical asset to the City's economic success. The SAP Center operations support over 5,000 FTE jobs, generate more than $250 million in annual economic impact, and provide millions of dollars in direct general fund revenue for the City of San Jose.

As a regional event center, the Arena attracts more than 1.5 million people to San Jose's downtown area every year, drawing a diverse crowd from throughout Santa Clara, San Mateo, Santa Cruz and Alameda counties and beyond. The region from which the Arena draws is primarily suburban, and BART will not be a viable option for the majority of the Arena's patrons. The Arena is reliant on a large supply of convenient parking nearby, as well as highly functional and efficient vehicle ingress and egress. One of the reasons the Arena was located where it was is because of the excellent access to this location by major highways and large surface streets.

Automobile transport is the primary means of transportation in the South Bay. In fact, the 2040 San Jose General Plan predicts that more than 20 years from now 60% of all trips will still be by automobile. After approximately 20 years of light rail operation, the use of light rail to attend Arena events is trivial – currently averaging less than 2% of patrons for regular games and far less for special events. Similarly, travel by Caltrain for Arena events is minimal – estimated to be less than 5% of patrons for regular games and far less for special events. Past predictions of mass transit use for Arena events have been grossly overestimated. There is no study in the Final SEIS/SEIR supporting any speculation that BART riders will reduce parking demand for Arena events by any measurable level.

SSE was a major contributor to Measure B, which is providing funding for the Phase II Project. SSE did so with the clear understanding, for the better part of a decade, that the BART Diridon Station would include a parking garage and would not dramatically disrupt traffic operations and pedestrian flow on Santa Clara Street. Nonetheless, as shown in the Final SEIS/SEIR, there are no longer any plans to provide parking for the BART Diridon Station, and traffic on Santa Clara Street in front of the Arena will be disrupted for years.

Traffic Engineer Report

SSE's traffic engineer, Jim Benshoof of Wenck Associates, reviewed the Final SEIS/SEIR to determine whether the transportation and parking impacts have been accurately and professionally identified and evaluated. He also assessed any proposed mitigation measures to determine whether they were likely to be effective. His professional judgment is that the Final SEIS/SEIR is not an improvement on the Draft SEIS/SEIR, and the issues he pointed out before have not been addressed. Moreover, the cursory parking inventory presented in the Final SEIS/SEIR was not undertaken in accordance with accepted industry methodology for evaluating parking impacts.

The Wenck Associates, Inc., report: *Assessment of Final SEIS/SEIR For Bart Silicon Valley Phase II Extension Project, February 2018, Evaluation of Parking Impacts at BART Diridon Station* and attachments dated April 2, 2018 (Wenck Report) is attached hereto and incorporated by reference.

Lack of Compliance with the California Environmental Quality Act

1. The Final SEIS/SEIR fails to comply with CEQA.

a. There is no stable or even decipherable project description. In numerous locations, the Santa Clara Valley Transportation Authority (VTA) and the Federal Transit Administration (FTA) state that the project description can be found in the Executive Summary and cobbled together from multiple sections of the document. That is not where a project description should be located. There is no section in the document that provides a project description as required by CEQA.

i. On page ES-2, the Final SEIS/SEIR states that the CEQA alternatives are 1) the No Build Alternative; 2) the CEQA BART Extension Alternative; and 3) the CEQA BART Extension with TOJD Alternative. CEQA requires that an EIR evaluate a project with a meaningful project description, and then evaluate alternatives that would reduce potential environmental impacts. Characterizing the alternatives as a project description does not meet this CEQA requirement.

ii. CEQA requires a complete and stable project description that contains a full statement of objectives, not just those related to the TOJD projects included in Section 1.3 of the Final SEIS/SEIR.

b. Throughout the document the drafters state that the project has not yet been developed to a level of detail needed to include specific mitigation measures. However, CEQA requires that the project description supply the amount of information needed for evaluation and

review of the environmental impacts (Section 15124 of the CEQA Guidelines). The Final SEIS/SEIR "CEQA project" tends to emphasize the TOJD projects, which, in terms of the amount of detail provided, can only be considered program-level projects.

i. Furthermore, the drafters are non-responsive to the City's comment L3-20, which states that the "Project Description in the SEIS/SIER is insufficient under CEQA for environmental impact analysis needed for TOJD entitlements from the City. The City will need to determine what, if any, subsequent environmental analysis would be required when additional project details become available. Likewise, the City cannot make a final determination of TOJD General Plan, specific plan, municipal code or policy conformance until more project specific details are available. General Plan conformance is based on the entirety of the General Plan goals and policies and not solely the Land Use/Transportation Diagram designation."

ii. The drafters do not acknowledge anywhere in the Final SEIS/SEIR that additional environmental review may be required – they merely defer to the City to make the determination. Based on the City's comment above, it must be acknowledged that the Phase II Project is not adequately described for CEQA purposes nor, with the many changes and decisions yet to be made, is it stable as required by CEQA.

c. CEQA requires an analysis of indirect impacts due to a lack of parking both during construction and in the long-term. While air quality emissions can be generated due to the additional driving required to find parking, other indirect impacts include those related to pedestrian and bicycle safety. The Transportation/Traffic section of the CEQA checklist asks the question:

> Would the project: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? (Appendix G of the CEQA Guidelines, XVI., (f))

The lack of adequate parking both during construction and in the long-term will result in many situations where the safety of bicycle and pedestrian facilities will be compromised. When parking is not available, the occurrence of illegal on-street parking (in loading zones and restricted parking areas or across driveways and sidewalks) affects the ability of pedestrians and bicyclists to have a good line of sight, and the quality of pedestrian and bicycle paths of travel is compromised and could result in injury or death. This has not been evaluated. (See also §3.h, below.)

2. The Final SEIS/SEIR fails to identify several potential construction impacts of the Phase II Project as discussed in SSE's previous comment letter dated March 6, 2017. As changed in the Final SEIS/SEIR, the provisions regarding construction impact mitigation (and in particular

mitigation for impairment of access to the Arena), do not provide sufficient information to constitute meaningful disclosure, do not establish objective measurable standards, and do not commit to further mitigation if the currently planned mitigation is ineffective. In short, the proposed construction impacts mitigation consists only of vague statements of undefined future actions. This is inadequate under both CEQA and NEPA.

Interim Parking Loss During Construction

3. Master Response 2 of the Final SEIS/SEIR includes a new mitigation measure for impacts to parking during construction (page 2-11) that is legally insufficient.

> Mitigation Measure TRA-CNST-D: Provide Temporary Replacement Parking at Diridon Station. VTA will provide 450 temporary replacement off-street parking spaces during construction to mitigate for parking impacts caused by the BART Extension construction. The temporary replacement parking will be provided prior to the removal of existing parking spaces. (Master Response 2, page 2-11)

a. This measure is completely without performance criteria as required by CEQA and NEPA. There is no assurance that the mitigation measure can be implemented, and there is no mechanism to determine whether it will be successful in reducing any parking impacts during construction. The measure does not specify where this parking will be located or the times of the day the parking spaces will be available. The measure does not preclude the use of the parking area(s) by construction workers or equipment. It also does not include future studies and a determination of what measures VTA will employ should it be determined during the eight (8) year construction period that additional spaces are required.

b. A description of this measure is not included in Table ES-1 of the Final SEIS/SEIR. Nor does it appear to be in the CEQA Mitigation Monitoring and Reporting Program (MMRP). Master Response 2 states that Mitigation Measure TRA-CNST-D (revised) is described in Section 5.5.1, Construction Outreach Management Program. The new mitigation measure is not included in this section of the Final SEIS/SEIR. NEPA and CEQA require that mitigation measures be clear and feasible. If they are not included in the appropriate sections of the Final SEIS/SEIR, as in this case, decision makers do not have the information needed to certify the environmental documents or make an informed choice.

c. TRA-CNST-D states that "VTA will provide 450 temporary replacement off-street parking spaces during construction to mitigate for parking impacts caused by the BART Extension construction." This mitigation measure fails to mitigate the adverse impacts caused by the loss of 755 parking spaces. This measure incorrectly relies upon parking sites identified

through the San Jose Diridon Station Area Plan (DSAP) Parking Study for fulfilling these 450 spaces. That study was not intended solely to provide spaces to replace spaces lost during the BART construction. Moreover, this mitigation measure includes no commitment by the VTA to pay for the cost of property acquisition or construction of temporary replacement spaces, so the proposed mitigation is illusory.

d. As an example of a legally adequate mitigation for a very similar project, the January 2012 Final EIS/EIR prepared by the Los Angeles County Metropolitan Transportation Authority and Federal Transit Administration for the Regional Connector Transit Corridor Project in Los Angeles (METRO FEIS/FEIR) included a parking mitigation program to reduce impacts associated with the loss of parking during construction (Chapter 3, pages 3-60 and 3-61). (Attached) Measures included those designed to reduce the need for construction worker parking and to limit where workers could park (not on public streets). Specific measures included providing construction workers with transit passes to avoid impacts to local parking. The Final SEIS/SEIR does not include a discussion of the need for parking by construction workers as the METRO FEIS/FEIR did, and is therefore inadequate.

e. The METRO FEIS/FEIR mitigation program included options for public street re-striping and phasing construction in a way that minimizes parking disruption and the loss of on-street parking. Another mitigation measure included increasing the time limits for on-street parking. All measures and their efficacy are to be determined during an annual parking assessment and other options are to be explored throughout the construction period. These measures are not included in the Final SEIS/SEIR, nor does it include mitigation performance standards as required by NEPA and CEQA.

f. The METRO FEIS/FEIR (Traffic Report - Appendix L and Chapter 3) (Attached) included a robust construction-related parking analysis, unlike the Final SEIS/SEIR. The Metro parking study included a detailed block-by-block evaluation of all on-street parking spaces, loading spaces, and driveways that may be affected due to the project. Occupancy rates were evaluated during both the AM and PM peak hours for all street segments within the project area. In contrast, the Final SEIR/SEIS contains no similar analysis.

g. The METRO FEIS/FEIR also evaluated development pressure on existing parking lots and determined that potential land use choices inconsistent with surrounding neighborhoods could occur (see page 3-26 of Appendix L of the METRO FEIS/FEIR) (Attached). The sequencing of construction so that multiple blocks of on-street parking are not temporarily removed at one time was also evaluated (see page 141 of the METRO FEIS/FEIR) (Attached). No such evaluations were completed for the BART Phase II project.

h. Further, as noted above, on-street parking creates a visual barrier between motor vehicle traffic and crossing pedestrians. This concern is especially acute for children and people

using wheelchairs. When the parking supply is inadequate, motorists will park wherever they can, including too close to a crosswalk which interferes with the line of sight for vehicles, pedestrians, and bicyclists resulting in additional safety impacts. These indirect safety impacts are not described in Sections 3.5.2.12 or 6.2.1 of the Final SEIS/SEIR, as referenced in Master Response 2 (page 2-14). However, in accordance with information published by the US Department of Transportation Federal Highways Administration, such safety concerns need to be addressed.[1] This is a deficiency in the analysis for both interim and long-term parking loss impacts and requires revision under both NEPA and CEQA.

i. The City of San Jose in their comment letter (Comment L3-7) pointed out that VTA and BART must replace all lost parking – San Jose is the local jurisdiction and has permit authority over all of the TOJD. Nonetheless, there was no substantive response to the City's comment.

j. The Final SEIS/SEIR fails to adequately identify or mitigate negative impacts the BART Project would cause for businesses near the Diridon Station, downtown businesses and the SAP Center. The parking assertions presented in the Final SEIS/SEIR are not based on data obtained in accordance with sound scientific methodology used in the traffic engineering.

Long Term Parking Loss

4. The lack of a long-term parking solution/parking garage is a failure to comply with NEPA and a breach of commitments made by VTA/FTA, which has been relied on by SSE and every governmental agency undertaking land use planning in the Diridon Station area.

a. SSE and the City relied on the garage promised in every planning document relating to BART Diridon Station until the December 2016 Draft SEIS/SEIR, including but not limited to, the 2004 SEIR, the 2007 Final SEIR and the 2010 FEIS. Each of these documents was supported by traffic and parking modeling and studies that demonstrated that BART Diridon Station would have significant park-and-ride use and that a parking structure is necessary to mitigate the adverse impacts caused by these BART commuters on nearby businesses and residences.

b. Under FTA requirements for parking under NEPA the Final SEIS/SEIR needed to study the adverse impacts to businesses and residential neighborhoods caused by BART Diridon Station parking pressure. The parking "inventory," referenced in Master Response 2 (which is not included in the technical appendix in violation of NEPA) did not do this. Indeed, the parking "inventory" does not meet any generally accepted traffic engineering criteria for analyzing parking requirements.

[1] See FHWA – http://www.pedbikesafe.org/PEDSAFE/countermeasures_detail.cfm?CM_NUM=60

i. Merely counting parking spaces in the project area is not an adequate study under NEPA or CEQA. FTA requires the identification of parking impacts and provision of ways to avoid, minimize, and mitigate any adverse effects on nearby residential or business communities (see Master Response #3, page 2-13). The Final SEIS/SEIR does not include an adequate evaluation of such impacts in the Diridon Station area – a location with both residential neighborhood and commercial uses.

c. The Travel Demand Modeling discussed in Master Response 3 at page 2-16 is irrelevant to the issue that the FTA requires to be evaluated. The Travel Demand Model only looked at the impact of a BART Diridon Station garage on system-wide BART ridership. It completely ignored any impact of BART parkers on the nearby residences and businesses.

d. There is no study or model relied upon or mentioned in the Final SEIS/SEIR, and no data presented in the administrative record, to support the decision to reverse the prior decisions (which were based on evidence) to provide a parking garage to mitigate the BART parking pressure impacts in the Diridon Station area. Nor was there any information presented in the Final SEIS/SEIR showing the prior parking studies were obsolete or that new information regarding parking demand was considered. The sole basis for the assertion that there will be no park-and-ride at BART Diridon Station is table 3-16, 2035 Forecast Year Mode of Access by BART Extension Station. This does not withstand even cursory scrutiny, because the sole basis for its assertion is the misclassification of BART Diridon Station as an urban station and not as a balanced intermodal station.

i. Master Response 3 of the Final SEIS/SEIR (at page 2-15) refers to the 2010 FEIS, Table 3-15, Mode of Access by SVRTP Alternative Station, which assumed 44 percent of the Diridon Station BART riders would access the station by auto park-and-ride. The word "assumed" in the preceding sentence is not correct and presents a misleading representation regarding the basis for the 44 percent park-and-ride projection. The actual sentence that introduces Table 3-15 in the 2010 FEIS is: "Table 3-15 presents projected mode of access at stations on the average weekday." That table was produced through an application of the VTA's travel demand model that allowed for BART parking at the Diridon Station, not the forced outcome in the Final SEIS/SEIR caused by VTA's after-the-fact and predetermined "policy decision" not to provide BART parking at Diridon station. There is no physical change in the Diridon Station area since 2010 identified in the Final SEIS/SEIR or Master Response 3 that invalidates the 2010 Travel Demand Model.

ii. VTA's response to SSE's comment P84-5 states that the updated parking inventory (which cannot be found in the Final SEIS/SEIR) determined that "a parking garage at the Diridon Station was determined to be no longer necessary." The parking assertions presented in the Final SEIS/SEIR are not based on data obtained in accordance with sound scientific

methodology used in the traffic engineering profession. Therefore, the assertions made in the Final SEIS/SEIR are seriously inaccurate and misleading.

e. The Final SEIS/SEIR states, without any evidentiary support in the record, that BART Diridon Station is projected to be a destination station in the AM commute direction, as patrons travel to nearby "activity centers," rather than an origin station, and therefore the parking demand at this station would be less than at stations that primarily function as origins in the AM commute direction. (Response to SSE Comment P84-18 of the Final SEIS/EIR). Since the preparation of the 2005 Downtown Strategy and FEIR, there have been two EIR addendums to revise the phasing of downtown development to account for the fact that the demand for residential development has outpaced the demand for office space (jobs). As a result, downtown San Jose is jobs poor, as is the rest of the City. This is why the Envision San Jose 2040 General Plan emphasizes correcting the jobs to housing imbalance in the City, including the Downtown Growth Area. Being jobs poor means the BART Diridon Station will be an originator not a destination station. The Final SEIS/EIR not only has no evidence for the assertion that BART Diridon will be a destination, the evidence is entirely to the contrary and well known to VTA.

f. The City of San Jose is a city of a million residents – the largest in the San Francisco Bay Area. Diridon Station is located in the downtown and will one day be the largest transit station in the western United States with bus transit, the Caltrain commuter line, passenger rail service (Capitol Corridor and ACT), California High Speed Rail (HSR), and BART all converging at the same station. These facts *encourage* the provision of parking - not discourage it. Caltrain supplies parking at Diridon Station that is often full. There is a Caltrain stop in Santa Clara, and Caltrain provides parking there as well. Caltrain has not determined that since Diridon is only "one stop away" parking would not be provided there. The objective evidence based on the Caltrain data is that BART Diridon Station is an originator and the functional equivalent of an end-of-the-line station.

g. Traffic volume data collected by the California Department of Transportation (Caltrans) shows that the total traffic volume along I-680 and I-880 north of San Jose during both the a.m. and p.m. peak periods is practically the same in the northbound and southbound directions. Thus, contrary to assertions presented in the Final SEIS/SEIR, without any evidence to support them, current traffic volumes on I-680 and I-880 north of San Jose confirm that the Diridon Station will serve as an origin for persons traveling to the north, as well as a destination for trips from the north. Not applying available reliable information, such as Caltrans materials, and instead presenting selective assumptions regarding the BART Diridon Station's function, lacks scientific integrity.

h. The VTA's conclusion that the Diridon Station will function as a destination station is not supported by the information presented in Table 3-18. This is the only "evidence" the Final SEIS/SEIR presents in the record to support its assertion. However, this table simply

presents comparative travel times for selected origin-destination pairs. Though several pairs represent trips to downtown San Jose, the table does not present any pairs with downtown San Jose as the origin and the destination being Milpitas, Union City, Fremont, Pleasanton, etc. This cherry picking of data does not present an accurate picture of the function of BART Diridon Station and indicates a determined attempt by the Final SEIS/SEIR to avoid building the previously required parking garage no matter what the actual facts or consequences might be.

i. Contrary to the Final SEIS/SEIR's statement that driving to Diridon Station is not convenient, the locations of the on- and off-ramps to all major highways near Diridon demonstrate that such access is convenient, and the station will serve as an origination station for riders west and south of downtown San Jose.

i. The DSAP FEIR[2] includes a discussion of parking and traffic associated with the BART and HSR projects in the Cumulative Conditions scenario and trips. Trips generated and parking spaces included in the BART project were taken from the traffic study completed for the BART FEIS (2010). This information was vital to the determination of cumulative impacts in the DSAP EIR. Indeed, the DSAP project is an extremely important project to the City of San Jose, as major developers are purchasing properties and beginning the entitlement process that would allow millions of square feet of development. The approved DSAP included parking for the BART project. To not include the previously promised and assumed parking puts the DSAP projects in jeopardy. The claim that the decision not to provide any park-and-ride parking is consistent with other land use plans affecting the Diridon Station area such as the DSAP is simply untrue and without any support in the record.

j. At 3-79 the Final SEIS/SEIR concedes that "if" BART riders access BART Diridon Station for park-and-ride they could also go to "several downtown parking garages." However, there is no parking study demonstrating that any of these spaces are "excess." Certainly, on evenings and weekends those spaces are often filled by Arena patrons. During the day these garages are filled close to capacity, so BART is taking parking that belongs to others – including Arena customers, by not building a parking garage to accommodate its passengers. Moreover, early morning BART commuters taking parking currently used by downtown businesses and residents is exactly the impact the FTA requires BART to analyze and mitigate[3]. Based on the current Final SEIS/SEIR this unmitigated and unevaluated parking pressure scenario would result in the downtown lots being overrun with BART parkers.

k. VTA and BART have determined that the Alum Rock/28th Street Station warrants the construction of 1,200 parking spaces. This station does not meet the criteria of an end-of-the-line station to the extent that Diridon Station does. Plus, as any resident of the South

[2] https://www.sanjoseca.gov/DocumentCenter/View/34120 p. 155
[3] https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/transportation-impacts-0

Bay knows, access is far less convenient to Alum Rock than to Diridon. The underlying information buried in the Final SEIS/SEIR also reveals that Alum Rock is less convenient than Diridon, and the conclusion to the contrary in the Final SEIS/SEIR is not supported by the evidence in the record.

l. Providing parking at the BART Santa Clara Station will not alleviate the parking pressure caused by the BART Diridon Station. The only direction to travel on BART from Diridon will be to the north - whether to an area of the City of Santa Clara without housing or jobs, or to the East Bay. Driving from San Jose to get on BART in Santa Clara, where a 500-space parking lot is proposed (and opposed by Apple which leases a building that will be removed to construct the Santa Clara Station parking structure), makes no sense since vehicular and transit options in that area are disconnected. The proposed Santa Clara Station and parking lot area is inaccessible on two sides (airport to the east and major rail line to the west). To assume that SAP Center patrons in San Jose and southern Santa Clara County will drive to Santa Clara to take BART to Diridon to attend an event is preposterous.

i. It should be noted that the Final SEIS/SEIR included a discussion of options considered, but not carried forward for the location of the Santa Clara Station and parking lot. If the currently proposed location is chosen and becomes infeasible due to costs and opposition from Apple, there will not be another option for a parking lot in Santa Clara. If this is the case and no other alternatives are evaluated (which strikes at the heart of NEPA), there will have been no planning for a parking structure at Diridon Station. If this alternative is not, in fact, viable, but is chosen as the project alternative, decision makers will not have received the information necessary to make an informed choice.

ii. The Final SEIS/SEIR determined that construction of the Santa Clara Station with TOJD results in an impact at the intersection of Coleman Avenue and Brokaw Road (LOS F: PM peak hour) (page 3-97) under City of Santa Clara criteria. Page 3-98 of the Final SEIR/SEIR states that a mitigation measure for this intersection has been proposed and is presented in Impact BART Extension + TOJD TRA-1. The mitigation measure is actually TRA-A and includes improvements at the intersection (page 3-111) that the Final SEIS/SEIR states would reduce impacts to a less than significant level. However, page 2-17 (last paragraph) of the Final SEIS/SEIR states that "Improvements to Brokaw Road and the intersection of Brokaw Road and Coleman Avenue near the Santa Clara Station are not part of the project, but the statement was included in the Draft SEIS/SEIR. The statement has now been removed and shown in strikeout text. The clarifications described above would not result in adverse effects or significant environmental impacts." If this is the case, there is no mitigation for the Coleman/Brokaw impact, which is a violation. In addition, the text of Chapter 3, where the impact is identified, has not been revised in the Final SEIS/SEIR. Again, this confusion misleads the decision makers who must certify the environmental documents and approve the project.

5. VTA cannot use an after-the-fact policy change, which has no factual support, to avoid its obligation to mitigate its parking impacts at BART Diridon Station. VTA's response P84-32 to SSE's comment letter states "The comment cites a policy that is no longer applicable because it has been superseded by BART's Station Access Policy, adopted June 9, 2016. Refer to Master Response 3, Diridon Station Long-Term Parking, regarding long-term parking impacts at Diridon Station for information about the 2016 BART updated parking policy." This policy, which basically eliminates the provision of parking at Diridon Station, which parking was included in all previous environmental documents prepared for the extension of BART to San Jose and the DSAP EIR, was approved by VTA on June 9, 2016.[4]

a. The CEQA Notice of Preparation (NOP) for the 3rd Draft Supplemental Environmental Impact Report for VTA's BART Silicon Valley – Phase II Extension Project (attached) was issued on January 30, 2015. CEQA Section 15125(a) Environmental Setting states that "An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives."

b. Because BART's Station Access Policy was adopted after the NOP was issued by VTA, the policy was not in effect when environmental review commenced. The policy cannot be considered part of the existing condition and it cannot be used as a reason for why the Diridon Station is not considered to be a Balanced Intermodal Station. Again, all previous environmental documents prepared for the extension of BART to San Jose as well as the DSAP project included BART parking at Diridon Station. The NOP had been released and the project was defined prior to the policy change. It is therefore unlawful to rely on this after-the-fact policy to avoid the assessment of direct and indirect impacts associated with not including parking at Diridon Station.

c. The Final SEIS/SEIR fails to disclose that of a total of 3,480 spaces presently available for the Arena (through the combination of off-site spaces and on-site Lot D), 1,115 of these available spaces will be lost due to the Phase II Project. This loss of 1,115 parking spaces presently available for Arena customers (over 30 percent of existing available spaces) would have devastating effects on nearby businesses, the SAP Center and downtown San Jose. And this is before the impact of the BART parking spillover on the available downtown parking supply is considered.

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[4] **DSAP EIR** (https://www.sanjoseca.gov/DocumentCenter/View/34120 p. 155

d. The significant transportation adversities described above will be a severe negative impact on the SAP Center and the nearby bars and restaurants (e.g. San Pedro Square) that depend on event center activities to support their own businesses. Entertainment goers behave differently than commuters, who when faced with transportation adversity will continue to try and persevere to their place of employment. Rather, customers of event centers and other entertainment venues will not tolerate poor access and will take their business to more convenient locations. In the San Francisco Bay Area there are several other event centers that provide choices for customers if access to SAP Center is impacted. This reality is ignored in the Final SEIS/SEIR.

Transit-Oriented Joint Development (TOJD)

6. TOJD must be evaluated on both NEPA and CEQA criteria. The VTA has made the statement throughout the Final SEIS/SEIR (e.g., the revised Executive Summary, page ES-2[5]) that the inclusion of TOJD projects in the environmental analysis is a CEQA-only analysis and the TOJD projects have "independent utility" and are, therefore, not subject to NEPA. However, the Final SEIS/SEIR actually refutes these statements.

a. Section 2.3.3.1 of the Final SEIS/SEIR (page 2-64), when describing the TOJD Alternative at the future Santa Clara Station, states that "If the CEQA BART Extension with TOJD Alternative is selected, the design of the 400 spaces of parking to accommodate BART PNR demand around the station campus would be coordinated with the TOJD."

b. Further, page 6.1-1 (last paragraph) of the Final SEIS/SEIR states that "The majority of TOJD within the BART station areas would occur after the BART facilities are completed. However, during construction of the BART facilities, additional work to facilitate TOJD would also be undertaken. This could involve utility relocation and additional structural support to accommodate TOJD."

[5] As redacted: "The proposed TOJD is not included in the NEPA Build Alternative because it is a proposed independent action by VTA and no federal action is involved. The proposed TOJD serves a separate purpose and need than the BART Extension Alternative and has independent utility. It is included as an alternative under CEQA to support local and regional land use planning. No private developer has been identified at this time, and the proposed TOJD project by VTA may be subject to refinement once a private developer is identified. Any proposed TOJD by VTA, should the Board decide to implement this alternative, would be separately funded, and would not include federal funding. The proposed TOJD may be constructed at the same time as the BART Extension Alternative or later in time, dependent on the availability of funding and subject to market forces. However, the design of the stations and structures would not preclude TOJD. Because no federal action is involved, VTA's proposed TOJD, which is intended to be consistent with the general plans and approved area plans of the cities of San Jose and Santa Clara, as applicable, and is considered in the cumulative background conditions for NEPA purposes."

i. The utility relocation and additional structural support are potential impacts to the Arena building and its underground utilities as a result of the northern BART Diridon station option (staff preferred option). This impact has not been adequately disclosed, discussed or mitigated.

c. Transit-oriented development, by definition, includes shared parking as noted in the following policies contained in the City of San Jose's General Plan:

i. CD-1.10 Promote shared parking arrangements between private uses and the provision of commonly accessible commercial or public parking facilities which can serve multiple users in lieu of providing individual off-street parking on a property-by-property basis. Consider in-lieu parking fees or other policy actions to support this goal.

ii. LU-5.5 Encourage pedestrian and vehicular connections between adjacent commercial properties with reciprocal-access easements to encourage safe, convenient, and direct pedestrian access and "one-stop" shopping. Encourage and facilitate shared parking arrangements through parking easements and cross-access between commercial properties to minimize parking areas and curb-cuts.

iii. TR-8.10 Update existing parking standards to reduce parking requirements for transit-oriented developments, mixed-use projects, and projects within the Urban Villages to take advantage of shared parking opportunities generated by mixed use development. Update existing parking standards to address TDM actions and to require amenities and programs that support reduced parking requirements.

d. For the reasons above, only two of which are included in the Final SEIS/SEIR, the links between TOJD and BART parking and the provision of utilities are inextricably connected. The project would result in federal dollars being spent for TOJD parking and utility work which is one standard by which federal nexus is determined. It would be impossible to determine which components of the project are paid for by the federal government and which are the responsibility of the VTA. The TOJD alternatives must, therefore, have federal environmental review according to the requirements of NEPA.

e. Further, the City of San Jose has determined that the TOJD proposed by the project is inconsistent with the General Plan land use designations for the development sites (Comment L3-20). There is no detailed discussion of how parking will be provided at the TOJDs and how those parking spaces will be excluded from being used by BART riders, which would be the definition of transit-oriented shared parking. In fact, VTA itself notes in Response L3-19 that "the provision of parking per City requirements presents a major constraint to site development." If BART riders use this parking, which they should under the definition of transit-oriented development, then federal dollars would be intertwined with the construction of

BART stations at TOJD locations. The federal nexus is again accomplished, thus requiring NEPA review of the TOJDs.

Inconsistency with Land Use Plans

7. VTA's Master Response 3 includes the following inaccurate and misleading statement: "Additionally, the decision to not provide park-and-ride facilities for the BART Extension at Diridon Station is also consistent with the Envision San Jose 2040 General Plan, Commercial Downtown Land Use Plan Policies, and Transportation Policies (adopted November 2011)." The response goes on to list several City of San Jose land use policies, none of which say that parking for BART should be excluded from the Diridon Station area.

a. In fact, parking for BART at the Diridon Station has been included in every previous environmental and planning document prepared for its extension to San Jose. In addition, it was included in the DSAP FEIR prepared by the City of San Jose, which is consistent with the City's General Plan. To say that San Jose policies somehow encourage the decision to exclude BART parking from the Diridon Station area is untrue, particularly in light of the fact that San Jose has a contractual obligation to provide parking in the area. The insistence on mischaracterizing the applicable land use plans evidences improper agency bias and predetermination to avoid an objective evaluation of this issue.

Reservation of Rights and Reference to Similar Projects

8. In addition to the issues raised above, SSE reserves the right to assert in any future proceeding any issue raised by any commentator at any stage of the administrative process leading to approval/certification of the Final SEIS/SEIR or the Record of Decision (ROD).

9. Examples from the Los Angeles Metro Subway and Regional Connector Transit Corridor EIS/EIRs are attached to show that legally sufficient parking impact studies, mitigation measures, and specific mitigation performance measures in MMRPs are routinely prepared for very similar projects. These recent EIS/EIR's for similar joint federal and state downtown rail projects establish an objective standard for these documents – a standard the Final SEIS/SEIR does not meet. The FTA is a lead agency in both the Metro and BART projects, yet the BART Final SEIS/SEIR is manifestly deficient when compared to the standard demonstrated in the Metro EIS/EIRs. BART's predetermination not to provide parking at Diridon and to avoid undertaking any studies that demonstrate the need for parking is one explanation for this deficiency. The refusal to commit to standard mitigation measures appears to reflect an agency trying to avoid binding commitments despite what is required by law and regulation.

Conclusion

SSE supports BART to San Jose. However, the Final SEIS/SEIR does not provide definitive, enforceable mitigation of the significant adverse environmental impacts identified by SSE, nor does it adequately perform its function as an informational document. Indeed, the goal of the document seems to be to avoid mitigating the BART-caused parking pressure impacts regardless of the actual facts or the law. This predetermination defies the purposes of NEPA and CEQA. For all of the above reasons, the Final SEIS/SEIR is legally insufficient to support the Phase II Project.

Respectfully Submitted,

SILICON VALLEY LAW GROUP

Jeffrey S. Lawson

Attachments as described above

cc via email: Nanci Klein, City of San Jose, w/attachments

Santa Clara Valley Transportation Authority

MEMORANDUM

DATE: April 5, 2018

TO: VTA's Board of Directors

FROM: Tom Fitzwater, BART Silicon Valley Environmental Planning Manager

SUBJECT: Apple Inc. Comments on VTA's BART Silicon Valley Phase II Extension Project Final SEIS/SEIR

On April 4, 2018, Apple Inc. submitted a comment letter regarding VTA's BART Silicon Valley Phase II Extension Project (Project) Final SEIS/SEIR. As background, VTA is the lead agency under the California Environmental Quality Act (CEQA) and is the agency that will need to certify the Subsequent Environmental Impact Report (SEIR). FTA is the lead agency under the National Environmental Protection Act (NEPA) and is the agency that released the Final Supplemental Environmental Impact Statement (SEIS) and will need to issue a Record of Decision to complete the NEPA environmental process. The letter claims that VTA has not provided accurate information or followed CEQA's procedural requirements. Many of the claims that Apple, Inc. raises relate to individualized economic claims, which are not the focus of an environmental review under CEQA. Staff believes that the Final SEIR complies with CEQA and recommends that the VTA Board of Directors (VTA Board) certify the Final SEIR and approve the recommended Project.

In its letter, Apple, Inc. states that it is concerned about the unnecessary impacts of prematurely demolishing its critical R&D facility simply to be used as a construction lay down yard. However, as discussed in Volume II, Response to Comment P-85, the property where Apple's facility is located would only be used as a construction staging area to construct the permanent facility on the site, which includes station facilities associated with Santa Clara Station. The site would not be demolished prematurely to be used as a construction staging area for other purposes or other project features that are not located on the Apple site. Therefore, Apple's claim that the Project would prematurely demolish its facility for a construction lay down yard is not accurate.

Apple, Inc. believes that the SEIS/SEIR's construction schedule is unrealistic and misleading. However, as shown in Volume I, Chapter 5, a construction schedule was provided. The schedule in Figure 5-1 shows that construction would begin in late 2019 /early 2020 with relocation planning and right-of-way acquisition beginning in 2018 through 2021. Demolition activities are scheduled from 2019 through 2022. This schedule reflects the entire project and not any specific location within the project. After FTA issues the ROD, and as engineering progresses, the project delivery method and schedule and sequencing of construction will be defined. Once the VTA Board of Directors adopts a project description, VTA will work closely with all stakeholders, including Apple, Inc., to provide up-to-date information regarding project delivery, construction sequencing, and schedule.

Apple, Inc. states that the SEIS/SEIR does not confirm whether funding for construction of Santa Clara Station is committed or will be available after construction of the segment of the extension within the City of San Jose. However, as described in the SEIS/SEIR, local and state funding has been committed for this project, and three sales tax measures have been supported by the voters of Santa Clara County supporting this project include construction and operation of Santa Clara Station.

The letter from Apple, Inc. suggests that the project description is not accurate or stable. However, the Final SEIS/SEIR provides a clear recommended project description in Volume I, Chapter 2, where the project alternatives and options, along with the CEQA recommended project, are discussed in detail.

Apple, Inc. asserts that the alternatives analysis is superficial and not responsive. However, as described in great detail in Volume 1, Section 2.4, *Alternatives Considered And Withdrawn*, a very detailed and extensive alternatives analysis was conducted for the location of Santa Clara Station. The alternatives considered, as described in this section, include a Parking Structure South Option, West Option, within Newhall Maintenance Facility Option, South Option, Near Avaya Stadium Option, and No Parking Option. These alternatives were eliminated from consideration because they did not result in the reduction of environmental impacts, and in some cases resulted in more environmental impacts, and were less operationally efficient as compared to the alternative selected in the recommended project description. Also, as stated in the response to Apple's comment letter in P-85 of Volume II, Chapter 2, the alternatives analysis focused on the permanent location of the Santa Clara Station facilities because the site would not be used for a lay down area for any project feature other than the permanent facilities located on the site. Therefore, an alternatives analysis for construction staging areas elsewhere than where the permanent facilities are located is not warranted. Contrary to the letter's claim, the SEIS/SEIR contains an abundance of analysis sufficient for project-level environmental clearance.

Apple, Inc. also claims that the SEIS/SEIR fails to adequately analyze displacement of Apple, Inc.'s facilities. However, the SEIS/SEIR discusses in detail in the Socioeconomics Section that construction of the Santa Clara Station would displace one business, Apple, Inc.'s R&D facility, and discusses that VTA will adhere to all appropriate and applicable federal, state, and local laws and regulations the govern the acquisition and relocation activities of a government agency.

Therefore, the SEIS/SEIR does adequately analyze the displacement of Apple, Inc.'s facilities. Apple, Inc. claims that the cost estimates in Chapter 9 must be revised to incorporate acquisition and relocation costs of Apple, Inc. However, as stated in the SEIS/SEIR, the right-of-way estimates, including contingencies, adequately cover all anticipated property acquisition costs for the Project

In conclusion, VTA stands by the Final SEIS/SEIR as adequately disclosing and addressing the environmental impacts and mitigation measures for the VTA's BART Silicon Valley Phase II Extension Project. After FTA issues the ROD VTA will coordinate actively with adjacent property owners and stakeholders.

April 4, 2018

Via Overnight Delivery and E-mail

Tom Fitzwater, SVRT Environmental Planning Manager
VTA Environmental Programs & Resources Management, Building B-2
3331 North First Street
San Jose, CA 95134
BARTPhase2EIS-EIR@VTA.org

Re: VTA's BART Silicon Valley Phase II Extension Project Final Supplemental Environmental Impact Statement / Subsequent Environmental Impact Report

Dear Mr. Fitzwater:

On March 6, 2017, Apple Inc. submitted comments to VTA Environmental Programs & Resources Management regarding the Draft SEIS/SEIR for the BART Silicon Valley Phase II Extension Project. As we explained at that time, Apple strongly supports expanding BART into Silicon Valley for economic and environmental reasons. However, we had—and continue to have—serious concerns about the unnecessary impacts of prematurely demolishing our critical research and development (R&D) facility at 335 Brokaw Road, simply so it can be used as a temporary construction lay down yard. We have carefully reviewed the Responses to Comments dated February, 2018 and wanted to supplement our comments in advance of the VTA Board of Directors' consideration of the Project at its April 5, 2018 hearing.

We fully incorporate the comments we provided on March 6, 2017. As we explained in that letter, Apple's lease at 335 Brokaw expires in 2025 (with options to extend). Demanding that Apple vacate this site before our initial lease term expires will require replicating this highly specialized technology facility, in its entirety, in another location prior to demolition. To date, Apple has invested approximately $54.5 million in 335 Brokaw and constructing a duplicate facility would double this price. As indicated in our prior comments, this facility is critical to Apple's business, as is operating it through 2025.

Apple is supportive of VTA's long-term plans to use the site for a parking structure, but evicting the company in favor of construction staging would be a significant waste of public resources and would cause unneeded environmental impacts. For these reasons, it is essential to the decision-

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making process that VTA provide accurate information and follow CEQA's procedural requirements. To date, it has not done either.

The SEIS/SEIR's Proposed Construction Schedule is Unrealistic and Misleading.

The SEIS/SEIR's analysis is based on an assumption that demolition and site preparation for the Santa Clara Station will begin in 2019. As we are now through the first quarter of 2018, it is essential for VTA to be more transparent and realistic about its actual construction timing for the Santa Clara Station.

Throughout the CEQA/NEPA process, not one significant timing estimate has been accurate for the BART extension projects, and there are still three complex BART stations to be built before construction could realistically commence at the Santa Clara Station. To continue to assert that 335 Brokaw is needed in 2019 for a construction staging site for the Santa Clara Station strains credulity and diminishes public credibility in this document. We have previously sought to work with VTA to find solutions that will minimize impacts, but those solutions depend on an accurate understanding of the construction schedule. Critical to having a meaningful dialogue with Apple – and the public at large – is providing a realistic construction schedule.

Moreover, the SEIS/SEIR blindly fails to describe whether funding for the Santa Clara Station is committed or will be realistically available after constructing the San Jose stations in order to start construction by 2019. As funding for the Santa Clara Station appears to be speculative, it would be particularly wasteful if the 335 Brokaw facility—where Apple has invested tens of millions—is demolished and left to sit vacant while VTA continues to seek funding. And if funding is not currently committed, VTA should be transparent and confirm a realistic timeline.

These clearly inaccurate and unsupported timing assumptions in the SEIS/SEIR's project description unnecessarily create an economic cloud over Apple's existing R&D operations. Without a fact-based estimate for commencement of demolition, it is not possible for the public and decision-makers to accurately assess the environmental and economic tradeoffs required to reduce this critical R&D facility to a staging yard.

The SEIS/SEIR's Schedule Flaws Lead to Analytical Flaws.

Numerous flaws flow from the SEIS/SEIR's superficial and conclusory timing assertion. Without an accurate and stable project description, it is not possible to appropriately address impact mitigation or weigh a project's potential benefits against its costs. *See, e.g.*, *County of Inyo v. City of Los Angeles*, 71 Cal. App. 3d 185, 192 (1977). In this case, the unrealistic notion that demolition will occur in 2019 artificially increases the significance of some impacts (e.g., requiring the premature replication of a major technology facility elsewhere in the South Bay, and all related construction/operational impacts) and artificially downplays the significance of others (e.g., the wisdom of spending excess millions of dollars in eminent domain costs, relative to the value of potentially accelerating construction, or the relative impacts of using an alternative laydown site).

The Draft SEIS/SEIR did not contain the level of detail required to understand the proposed uses of the temporary lay down yard, the timing needs, or analytical comparisons to other interim sites

and the relative funding and cost impacts, and the Responses to Comments are too dismissive and cursory to remedy these flaws. While the final document does refer to Apple (rather than FedEx, or a generic "company") as the tenant at 335 Brokaw, it continues to omit any meaningful analysis about the specific impacts of converting a multi-million dollar R&D facility for short term laydown yard. Indeed, the responses focus on the *long-term* plans to use the site for a parking structure—but this use is not relevant to Apple's comments, which address the consequences of early demolition for interim purposes.

The Alternatives Analysis is Impermissibly Superficial and is Not Responsive.

This failure deprives the VTA Board of any meaningful opportunity to assess the relative feasibility and impacts of alternative lay down sites. As we have described, unlike 335 Brokaw, there are multiple alternative sites in the area that would not require any building demolition to accommodate construction staging,. Unfortunately, these alternative temporary construction lay down sites are summarily dismissed with non-responsive statements which, again, assert that the sites are not suitable for *permanent* BART facilities (e.g., Response P85-3 regarding Newhall Maintenance Facility, 2016 South Option, BAE Systems site). As stated in our March 2017 letter, Apple is supportive of the permanent use of 335 Brokaw, but the response nonetheless focuses exclusively on why these alternative sites are not feasible for the permanent station. This response is totally unresponsive to our comment. None of the reasons cited for rejecting the alternative sites as a site for the station have any relevance to locating the temporary lay down on those sites. The document still fails to explain why demolishing an existing, high value building for a temporary construction lay down yard is environmentally (let alone economically) superior to using nearby vacant lots for this temporary purpose. This conclusory analysis certainly does not provide the project-level detail needed to provide the public and decision-makers with evidence to weigh options and understand environmental impacts.

Given the current lack of detail, in our view it would make more sense for the construction of Santa Clara Station to be described as "Phase IIB" or "Phase III." Treating it as a separate phase, to be analyzed in detail later, would better match the superficial analysis devoted to the Santa Clara Station's construction impacts. The current analysis is programmatic at best.

The SEIS/SEIR Fails to Adequately Analyze Displacement of Apple's Facilities.

In response to our comments that the analysis treated 335 Brokaw as vacant, only superficial changes were made to replace the word "vacant" with "leased to a research and development tenant." The response also asserted that the analysis actually assumed Apple's use of the building. However, the response fails to cite to any analysis in the document of environmental impacts arising from demolishing and relocating Apple's facilities, as opposed to a vacant warehouse. As described in our March 2017 letter, the environmental impacts associated with replicating this state-of-the-art facility at another location and demolishing the existing facilities are far greater than demolishing a vacant building. Indeed, the response admits that such analysis was not actually done: "The change of tenant from FedEx to Apple and the nature of Apple's work does not result in any new significant impacts or new physical impacts from a CEQA perspective." Response P85-4. This response says that there is no difference between demolishing a vacant warehouse and the highly complex, expensive, and wasteful process of first replicating a high

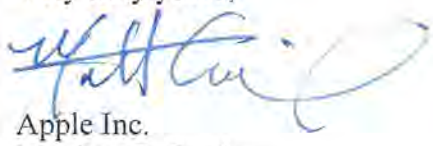
technology facility elsewhere and removing and demolishing the existing facility. There are far greater air quality, noise, traffic and other impacts associated with the latter, yet none of this has been accounted for.

The claim that the acquisition of the Apple facility is feasible is similarly dismissive, as it simply states that the acquisition was included in the cost estimates described in Chapter 9, *Financial Considerations*. This is highly doubtful, and certainly impossible to determine based on the information provided. Apple has invested tens of millions of dollars in 335 Brokaw and VTA will need to account for the cost of replicating this investment at another site. Notably, there were no changes made to Chapter 9 relating to costs despite the fact that our March 2017 letter provided new information. It is simply not credible that VTA had originally included an accurate accounting of this acquisition cost when it lacked critical information.

Conclusion

For all of these reasons, Apple continues to request that VTA take a hard look at alternatives that would avoid premature demolition of 335 Brokaw, in favor of feasible and less impactful construction lay down locations. In particular, we suggest that the VTA Board request a construction timeline based on availability of funding and construction progress at the earlier stations. To be defensible, the CEQA/NEPA document must disclose and properly assess this critical information. This information is also required for a well-informed discussion between VTA and Apple and will help both parties to find the best outcome. Again, we remain committed to a successful outcome for this project, but achieving that requires meaningful discussions about how to minimize costly and environmentally harmful impacts associated with the premature demolition of this important facility.

Very truly yours,



Apple Inc.
Matthew I. Currie
Director, Real Estate Law

Santa Clara Valley Transportation Authority

MEMORANDUM

DATE: April 5, 2018

TO: VTA's Board of Directors

FROM: Evelynn Tran, Deputy General Counsel
Tom Fitzwater, BART Silicon Valley Environmental Planning Manager

SUBJECT: Marburg Owners Association Comments on VTA's BART Silicon Valley Phase II Extension Project Final SEIS/SEIR

On April 4, 2018, the Marburg Owners Association submitted a comment letter regarding VTA's BART Silicon Valley Phase II Extension Project (Project) Final SEIS/SEIR. As background, VTA is the lead agency under the California Environmental Quality Act (CEQA) and is the agency that will need to certify the Subsequent Environmental Impact Report (SEIR). FTA is the lead agency under the National Environmental Protection Act (NEPA) and is the agency that released the Final Supplemental Environmental Impact Statement (SEIS) and will need to issue a Record of Decision to complete the NEPA environmental process. The letter claims that VTA has not properly addressed their concerns, nor has the information been presented in such a manner that clearly answers their questions. As discussed below, staff believes that the Final SEIR complies with CEQA and recommends that the VTA Board of Directors (VTA Board) certify the Final SEIR and approve the recommended Project.

The comments and concerns listed in the Marburg neighborhood community's March 28, 2018 letter are similar to the comments raised during the public comment period of the Draft SEIS/SEIR in December 28, 2016 through March 6, 2017. At the request of the Marburg neighborhood community, VTA held a community meeting on February 27, 2017 to provide information about the Project specific to the location and concerns of this community.

Two petitions were submitted by Marburg residents (dated January 30, and March 3, 2017) along with individual comments on the Draft SEIS/SEIR. These comments expressed opposition to the tunnel alignment crossing under some of the homes in the community. VTA provided a response to the January 30, 2017 petition in Response to Comment Letter P32 and provided a response to the March 3, 2017 petition in Response to Comment Letter P78. VTA also provided responses to other Marburg individual comments in the responses to comments in Volume II, Chapter 2. In addition, to address the Marburg owners' concerns, VTA prepared Master Response 4 – Marburg Place Concerns and Master Response 5 – Real Estate Acquisition for VTA Projects. Master Response 4 addressed the comments related to construction noise, operational noise, construction vibration, operational vibration, traffic during construction, health and safety, stability of foundations, and home values as well as provided a history of alignment alternatives considered at this location. Master Response 4 reiterated the conclusions that were disclosed in the Draft SEIS/SEIR that the Project would not result in adverse or significant impacts to the residents at Marburg Place. Master Response 5 provided VTA's process for right-of-way acquisition, which

includes the acquisition of tunnel easements, which would be necessary within this area because the tunnel alignment passes under this community. In addition, based on the Marburg concerns, VTA expanded the alternatives analysis of this area in Volume I, Section 2.4.2.2 *Alignment Alternatives near U.S. 101 and Alum Rock/28th Street Station*. This section describes the history of the project alignment dating back to 2004, along with the five alternative alignments that were considered. This discussion includes an extensive discussion of all six alternative alignments considered, including the alignment in the Recommended Project Description, and why the five alternative alignments were removed from further consideration.

Therefore, the Final SEIS/SEIR addressed noise, vibration, and safety impacts and determined there would be no adverse or significant impacts at Marburg Place. Alternative alignments were considered and rejected. And, regarding property values and compensation, VTA must comply with federal and state laws as explained in Master Response 5. In conclusion, VTA stands by the Final SEIS/SEIR as adequately disclosing and addressing the environmental impacts for the alignment at this location for VTA's BART Silicon Valley Phase II Extension Project.

Agenda Item #2.1

BAY AREA PROPERTY SERVICES

March 28, 2018

Valley Transportation Authority
1436 California Circle
Milpitas, CA 95035

Re: VTA/BART Extension
Phase II

Dear VTA Board of Directors:

The Marburg Owners Association, located at Destino Circle and Marburg Way in San Jose, had a meeting on March 27, 2018 to discuss the newly proposed route for the VTA/BART Extension, which will run underneath some of the homes in the community.

As a result of this meeting, the membership has requested that the following concerns be brought to the attention of the VTA Board, prior to the April 5th meeting:

- Noise Transmission/Vibration: The members of this community are concerned regarding noise transmission and vibration within their homes.
- Decreased Property Values: The members of this community are concerned that this project will cause their property values to decrease.
- Dismissal of Alternate Routes: The members of this community are aware that multiple routes were considered for this project, including running underneath Highway 101, but want additional information as to why the route directly impacting their community was chosen.
- Safety: There are multiple elements of this project that have raised safety concerns for the members of this community and are listed as follows:
  1. Earthquakes: What kind of steps are being proposed to ensure that tunneling under these homes would not compromise the structural integrity of the foundations of homes in this community?
  2. Residual Chemicals: Prior to the development of this community, the land served as a truck stop and the members of the community are concerned that there will be environmental impacts once ground breaks.
- Compensation: Will VTA be providing financial compensation to those homes that will be directly above the tunnel?

Although reports and subsequent documentation have been made available to the public for review, the Marburg community does not feel that their concerns have been properly addressed; nor has the information been presented in such a manner that clearly answers their questions. As a result, the community is still in opposition of this project and is requesting that their concerns are formally noted by the Board.

Thank you for your attention to this letter. If you have any questions, please contact me via email michelle@bayservice.net or by phone (925) 746-0542 x 137.

Thank you,

Michelle N. Kolodziej, CMCA, AMS
Managing Agent for Marburg Owners Association

1661 Tice Valley Blvd.
Suite 200
Walnut Creek
CA 94595-1648

info@bayservice.net
800-610-0757
Office: 925-746-0542
fax: 925-746-0554
www.bayservice.net

Public comments pertaining to the Final SEIR Certification and VTA's BART Silicon Valley Phase II Extension Project Approval

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From: Ken Pyle
Sent: Friday, March 30, 2018 3:03 PM
To: VTA Board Secretary
Cc: Kirk Vartan
Subject: Re: VTA Board Regarding BART Extension

Greetings,

As follow up to my earlier email, given that VTA has apparently just endorsed the single bore option, which wasn't part of the original plan presented to voters (since it apparently hadn't been invented yet), perhaps they can also revisit some of the other assumptions like the redundancy of the Caltrain and Bart extension to Santa Clara.

Another assumption to revisit is the need for a downtown station. The same or better results might be achieved by book-ending downtown with the Diridon and Alum Rock stations and eliminating the downtown station. Then, the city of San Jose could do something really disruptive and close off Santa Clara to passenger cars and just allow, electric, autonomous ride-share services (with a minimum number of passenger size) to operate on Santa Clara, as well as electric scooters, bikes and pedestrians. If it really got aggressive, San Jose could make the entire downtown area "car-free". This idea of closing off a main corridor to passenger cars may sound far out there, but downtown Minneapolis closed off their main street to cars and it is a very walkable environment; even in the middle of their cold winters. The reality is that the autonomous and electric technology to do this sort of thing will be commercialized long before BART is downtown. Heck, the electric scooters are here now and I used one yesterday to park outside downtown and scooter into the convention center.

By eliminating a station, it would probably save a huge amount of money and it might be possible to mitigate some of the issues identified by BART that are associated with a single bore.

Thanks,

Ken Pyle

On Thu, Jun 8, 2017 at 9:11 AM, Ken Pyle wrote:

Honorable Board,

The comments herein are in reaction to the 6/7/17 VTA presentation on Phase 2 of the BART extension to downtown San Jose and Santa Clara, as found here:

https://youtu.be/CMuuJM5nCDo

The VTA is to be praised for looking at new boring technologies to presumably reduce cost and implementation time of the phase 2 extension.

My concern is that VTA is not examining the economic viability of the extension from Diridon to the Santa Clara train station and whether there should be a mid-course correction.

On the webinar, it was mentioned that the original alignment was looked at in the year 2000; 17 years ago and what will be more than a quarter century upon completion of phase 2.

Given the extended time frame between project conception to completion, it would be prudent to examine the demand for BART from Diridon to the Santa Clara station, in light of the recent move to electrify and increase service frequency of Caltrain and compare it to the anticipated costs to understand the potential return on investment.

- Was this frequency of Caltrain service anticipated in the year 2000 when the original alignment plan was created?
- Is there the potential to coordinate with Caltrain to achieve the same outcome as an extension of BART to Santa Clara without building duplicate infrastructure?
- What will be the economic impact on BART/VTA by having duplicate infrastructures?
  It was stated that the voters voted three times for the project, as presented. Yes, the voters voted on what was presented, but underlying assumptions may have changed since their votes.

Just like VTA is looking at alternative technologies for boring, the board should not shy away from continually looking at alternatives that achieve the voters' desired outcome, while saving precious tax dollars.

Thank you,

Ken Pyle
Managing Editor,

From: Linda
Sent: Thursday, April 05, 2018 10:12 AM
To: VTA Board Secretary
Subject: I am opposed to the single Bore BART tunnel

Hi,

I am writing because I have seen on the news that you have come to a tentative agreement for the single bore BART extension tunnel. I am a Civil Engineer and have grave concerns about opting for a single-bore instead of the double-bore solution. The Twin bore is much safer and has less risk with emergencies. I know it is exciting to try for "innovative" solutions, but we recently saw in Florida what happens with innovative construction solutions. I think that pedestrian bridge collapse should give you pause.

While the Single Bore may cost more to construct, it will be much more risky even after it opens. A single bore has more risk in emergencies with fire, ventilation, and earthquake than does a dual bore. The twin bores would be closer to the surface, facilitating faster emergency response.

Both types will disrupt downtown during construction, but I would hope you reconsider the longer term risk with the single bore before deciding to proceed down that path.

Thank you,
Linda Zunas

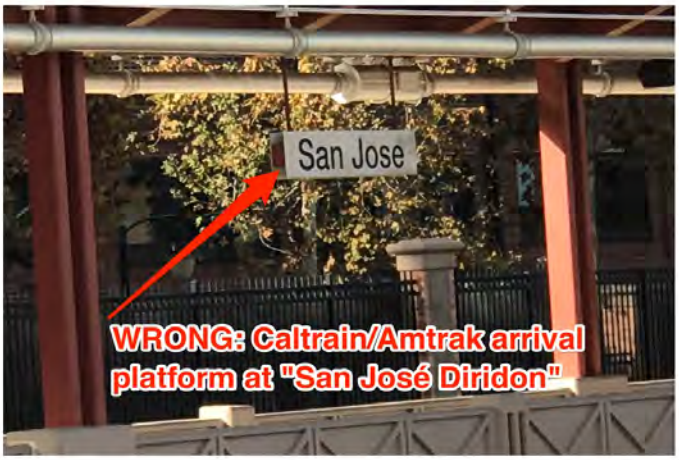
VTA Board Meeting 4/5/2018, ITEM 2.1 (Approve Phase 2 Project)

Sean Mulligan
[redacted]

KEY POINT: "Diridon" and "Diridon Station" as used in the EIS/EIR and all further documents need to be changed to "**San José Diridon**". Photograph #2 is wrong (and will cost thousands of dollars to correct), as is Photograph #3. This does NOT NEED to be done tonight, but it should be done well before Phase 2 stations are put out for bid. The sooner the change is made, the better.

PHOTOGRAPH #1: This is correct, except the missing diacritical over the final "e".

GOOD #1: San José WITH Diridon

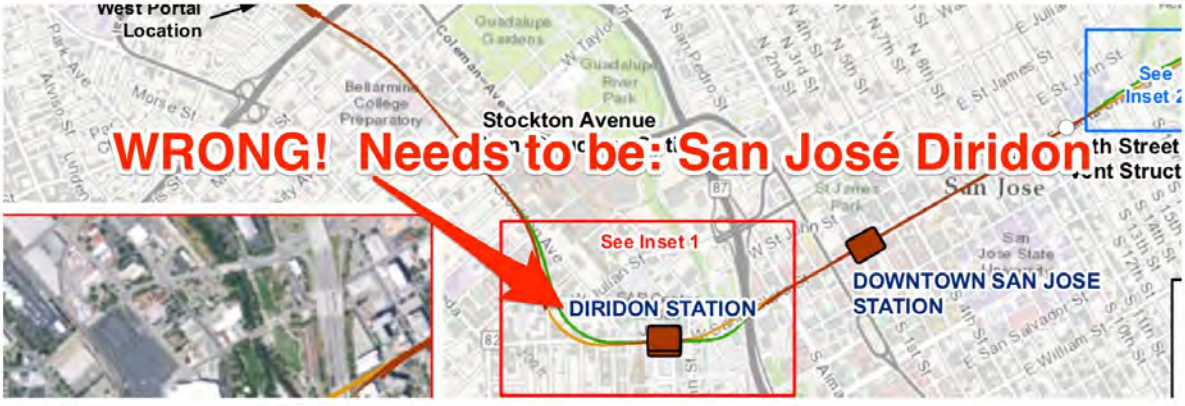


PHOTOGRAPH #2: This is wrong and is the old name of the station prior to adding "Diridon" in 1994. This photograph was taken November 24, 2017.

BAD #2: San José WITHOUT Diridon

BAD #3: Diridon WITHOUT San José

PHOTOGRAPH #3: This is the EIR from tonight's agenda item 2.1. It needs to be corrected as shown below, but not necessarily tonight.



From: VTA Board Secretary
Sent: Friday, February 26, 2021 6:08 PM
To: VTA Board of Directors
Subject: VTA Correspondence: Week ending February 26, 2021

VTA Board of Directors:

We are forwarding to you the following correspondence:

From	Topic
Roland Lebrun, Member of the Public	Comments pertaining to: 1) Platform heights compatibility; and 2) 2000 Measure A Program

Thank you.

Office of the Board Secretary
Santa Clara Valley Transportation Authority
3331 North First Street, Building B
San Jose, CA 95134-1927
Phone **408-321-5680**

Santa Clara Valley Transportation Authority
Solutions that move you

From: Roland Lebrun
Sent: Wednesday, February 24, 2021 8:05 PM
To: SFCTA CAC <cac@sfcta.org>
Cc: SFCTA Board Secretary <clerk@sfcta.org>; board@caltrain.com; Caltrain CAC Secretary <cacsecretary@caltrain.com>; VTA Board Secretary <Board.Secretary@vta.org>
Subject: Platform heights compatibility

Dear Chair Larson,

The correct answer to Mr. Edward Mason's question is that the platform compatibility issue can be resolved by using the same high speed trains as the French TGV Euroduplex, specifically TGV2020 which is platform-compatible with the Stadler KISS EMUs procured by Caltrain.

https://www.bloomberg.com/news/articles/2019-02-26/what-france-expects-from-its-tgv-2020-high-speed-trains

What France Expects From Its TGV 2020 High-Speed Trains - Bloomberg

SNCF's new trains should help it meet the challenge posed by new competitors. Simply called the TGV 2020, these trains offer some clear improvements, as illustrated in the video above.
www.bloomberg.com

Roland Lebrun

CC

SFCTA Commissioners
Caltrain Board
VTA Board
Caltrain CAC
VTA CAC

From: Roland Lebrun
Sent: Thursday, February 11, 2021 8:48 AM
To: VTA Board Secretary <Board.Secretary@vta.org>
Cc: MTC Info <info@bayareametro.gov>
Subject: 2000 Measure A June 2020 bi-annual report

Dear Chair Swaminathan,

Please forward the attached document to Crowe LLC and ask them to pay particular attention to lines 1-1 to 1-6 and "Other Expenditures" (after line 14).

Thank you.

Roland Lebrun

CC

VTA Board of Directors
MTC Commissioners

Figure 1.1 – Incurred Cost

Project	Dec 2019			Jun 2020			This Period
	Others	Measure A	Total	Others	Measure A	Total	Total
1-Extend BART from Fremont through Milpitas to Downtown San Jose and the Santa Clara Caltrain Station							
1-1 BART SV Program Dev., Implementation & Warm Springs	$ 243.6	$ 190.6	$ 434.2	$ 243.6	$ 195.5	$ 439.1	$ 4.9
1-2 BART SV Corridor Establishment and Maintenance (CEM)	$ 157.0	$ 293.1	$ 450.1	$ 165.1	$ 292.5	$ 457.6	$ 7.5
1-3 BART Silicon Valley Berryessa Extension	$ 1,167.9	$ 962.2	$ 2,130.1 (1)	$ 1,190.7	$ 1,006.9	$ 2,197.6 (1)	$ 67.5
1-4 BART Silicon Valley Santa Clara Extension	$ 162.3	$ 112.1	$ 274.4	$ 162.3	$ 169.5	$ 331.8	$ 57.4
1-5 BART Core System Modifications (BCS)	$ 60.4	$ 103.6	$ 164.1	$ 61.9	$ 106.1	$ 168.0	$ 3.9
1-6 BART Other Supporting Projects	$ 8.0	$ 86.9	$ 94.9	$ 8.0	$ 87.5	$ 95.5	$ 0.5
	$ 1,799.2	**$ 1,748.6**	**$ 3,547.8**	**$ 1,831.6**	**$ 1,858.0**	**$ 3,689.6**	**$ 141.8**
2 - Provide Connections from Mineta San Jose International Airport to BART, Caltrain and VTA Light Rail							
Mineta San Jose Airport People Mover (APM)	$ -	$ 2.1	$ 2.1	$ -	$ 2.1	$ 2.1	$ -
3- Extend Light Rail From Downtown San Jose to the East Valley							
DTEV Planning & Conceptual. Engg/DTEV Env & 90% CELR	$ 5.9	$ 61.5	$ 67.4	$ 5.9	$ 61.5	$ 67.4	$ -
CELR Phase I - Pedestrian Improvements	$ 16.0	$ 3.0	$ 19.0	$ 16.0	$ 3.0	$ 19.0	$ -
CELR Phase I - Eastridge Transit Center	$ 26.9	$ 33.5	$ 60.3	$ 26.9	$ 33.6	$ 60.5	$ 0.1
Eastridge to BART Regional Connector Project	$ 0.7	$ 20.2	$ 20.9	$ 2.9	$ 27.0	$ 29.9	$ 9.1
Total	**$ 49.5**	**$ 118.1**	**$ 167.6**	**$ 51.7**	**$ 125.1**	**$ 176.8**	**$ 9.2**
4 - Purchase Low-Floor Light Rail Vehicles□							
70 Low-Floor Light Rail Vehicles	$ 200.6	$ -	$ 200.6	$ 200.6		$ 200.6	$ -
5 - Improve Caltrain: Double Track to Gilroy and Electrify from Palo Alto to Gilroy							
Caltrain South County Capacity Improvements	$ 14.9	$ 2.3	$ 17.2	$ 14.9	$ 2.3	$ 17.2	$ -
Caltrain Electrification (VTA Share)	$ 26.4	$ 58.2	$ 84.6	$ 26.4	$ 60.7	$ 87.1	$ 2.5
Total	**$ 41.3**	**$ 60.5**	**$ 101.8**	**$ 41.3**	**$ 63.1**	**$ 104.4**	**$ 2.5**
6- Increase Caltrain Service							
Caltrain Improvement Plan/Caltrain Service Upgrades	$ -	$ 17.3	$ 17.3	$ -	$ 17.3	$ 17.3	$ -
Caltrain Mountain View Parking Structure	$ 0.1	$ 0.2	$ 0.3	$ 0.1	$ 0.2	$ 0.3	$ -
Blossom Hill Pedestrian Grade Separation	$ 10.0	$ 1.2	$ 11.2	$ 10.0	$ 1.2	$ 11.2	$ -
Caltrain Safety Enhancements	$ 0.1	$ 15.7	$ 15.8	$ 0.1	$ 15.7	$ 15.8	$ -
Santa Clara Station Pedestrian Underpass Extension	$ 10.0	$ 0.7	$ 10.7	$ 10.0	$ 0.7	$ 10.7	$ -
Santa Clara and San Jose Diridon Station Upgrade	$ -	$ 12.2	$ 12.2	$ -	$ 12.2	$ 12.2	$ -
Bike Sharing Pilot Project	$ 0.6	$ 0.2	$ 0.8	$ 0.6	$ 0.2	$ 0.8	$ -
Total	**$ 20.8**	**$ 47.6**	**$ 68.4**	**$ 20.8**	**$ 47.6**	**$ 68.4**	**$ -**
7 - Construct a New Palo Alto Intermodal Transit Center							
Palo Alto Intermodal Transit Center	$ 0.2	$ 0.0	$ 0.2	$ 0.2	$ 0.0	$ 0.2	$ -
8 - Improve Bus Service in Major Bus Corridors							
BRT Alternative Analysis/ BRT Strategic Plan	$ 0.7	$ 1.5	$ 2.2	$ 0.7	$ 1.5	$ 2.2	$ -
Alum Rock - Santa Clara Bus Rapid Transit	$ 94.2	$ 47.2	$ 141.5	$ 94.2	$ 47.5	$ 141.7	$ 0.3
Stevens Creek Bus Rapid Transit	$ 0.6	$ 3.1	$ 3.7	$ 0.6	$ 3.1	$ 3.7	$ 0.0
El Camino Real Rapid Bus Stop Improvements	$ -	$ 10.5	$ 10.5	$ -	$ 10.5	$ 10.5	$ 0.0
Procurement of BRT Articulated Buses	$ 19.2	$ 13.5	$ 32.7	$ 19.2	$ 13.6	$ 32.7	$ 0.0
Modifications to Chaboya and North Division for BRT Buses	$ -	$ 2.6	$ 2.6	$ -	$ 3.5	$ 3.5	$ 0.9
Money Counting Facility Replacement	$ -	$ 0.1	$ 0.1	$ -	$ 0.1	$ 0.1	$ 0.0
De Anza College Transit Center Improvement	$ -	$ 0.3	$ 0.3	$ -	$ 0.3	$ 0.3	$ -
Stevenscreek Rapid 523 Bus Stop Improvements	$ 0.2	$ 3.2	$ 3.4	$ 0.2	$ 3.3	$ 3.5	$ 0.1
Stelling Road Bus Stop Improvement	$ 0.6	$ 1.2	$ 1.8	$ 0.6	$ 1.2	$ 1.8	$ 0.0
Total	**$ 115.6**	**$ 83.3**	**$ 198.8**	**$ 115.6**	**$ 84.6**	**$ 200.2**	**$ 1.3**
9 - Upgrade Altamont Commuter Express (ACE)							
Included in Santa Clara and San Jose Diridon Station Upgrade	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10 - Improve Highway 17 Express Bus Service							
Highway 17 Bus Service Improvements	$ -	$ 2.5	$ 2.5	$ -	$ 2.5	$ 2.5	$ -
11 - Connect Caltrain with Dumbarton Rail Corridor							
Dumbarton Rail Corridor	$ -	$ 2.3	$ 2.3	$ -	$ 2.3	$ 2.3	$ -
12 - Purchase Zero-Emission Buses and Construct Service Facilities							
3 Zero Emission Buses (Pilot Program)	$ 11.4	$ 3.2	$ 14.7	$ 11.4	$ 3.2	$ 14.7	$ -
Zero Emission Buses Facility Improvements	$ 2.4	$ 2.4	$ 4.8	$ 2.4	$ 2.4	$ 4.8	$ -
Total	**$ 13.9**	**$ 5.6**	**$ 19.4**	**$ 13.9**	**$ 5.6**	**$ 19.4**	**$ -**
13 - Develop New Light Rail Corridors							
New Rail Corridors Study	$ -	$ 1.5	$ 1.5	$ -	$ 1.7	$ 1.7	$ 0.2
Light Rail Systems Analysis	$ -	$ 1.7	$ 1.7	$ -	$ 1.7	$ 1.7	$ -
Southern Light Rail Express	$ -	$ 1.1	$ 1.1	$ -	$ 1.1	$ 1.1	$ -
LRT Extension to Vasona Junction	$ -	$ 1.7	$ 1.7	$ -	$ 1.7	$ 1.7	$ -
Winchester LR Double Track & Platform Extension	$ -	$ 0.8	$ 0.8	$ -	$ 0.8	$ 0.8	$ -
SR 85 Major Transit Investment Study	$ 0.4	$ 0.6	$ 1.0	$ 0.9	$ 0.6	$ 1.5	$ 0.5
Total	**$ 0.4**	**$ 7.4**	**$ 7.7**	**$ 0.9**	**$ 7.6**	**$ 8.5**	**$ 0.7**
14 - Fund Operating and Maintenance Cost for Increased Bus, Rail and Paratransit Service							
Fund Operating and Maintenance Costs	$ -	$ 474.2	$ 474.2	$ -	$ 489.0	$ 489.0	$ 14.8
Other Expenditures							
Debt Service on Current Bonds (incl Interest & other bond costs	$ -	$ 374.0	$ 374.0	$ -	$ 392.8	$ 392.8	$ 18.8
Fund Exchange Payments	$ -	$ 114.6	$ 114.6	$ -	$ 115.9	$ 115.9	$ 1.3
Miscellaneous Operating Expenses	$ -	$ 11.7	$ 11.7	$ -	$ 11.9	$ 11.9	$ 0.2
Total	**$ -**	**$ 500.3**	**$ 500.3**	**$ -**	**$ 520.6**	**$ 520.6**	**$ 20.3**
GRAND TOTAL	**$ 2,241.5**	**$ 3,052.4**	**$ 5,293.9**	**$ 2,276.6**	**$ 3,208.0**	**$ 5,484.5**	**$ 190.7**

(1) Includes $6.1 million (Dec 2019) / $11.3 million (Jun 2020) in costs that are not federally eligible and are not related to Concurrent Non-Project Activities (CNPA). This includes costs arising from contracts that do not have federal terms and conditions, rework, and maintenance costs prior to Revenue Operations.