

1.1

INTRODUCTION



The Santa Clara Valley Transportation Authority (VTA) has prepared this Supplemental Environmental Impact Report (SEIR) in accordance with the California Environmental Quality Act (CEQA), Public Resources Code 21000 et seq.; and the CEQA Guidelines, California Administrative Code, 15000 et seq. Per CEQA Guidelines Section 15163(2)(b), a supplement to an EIR “need contain only the information necessary to make the previous EIR adequate for the project as revised.”

The SEIR updates information presented in the *Silicon Valley Rapid Transit Corridor-BART Extension to Milpitas, San Jose and Santa Clara - Final Environmental Impact Report* (November 2004). The VTA Board of Directors certified the Final Environmental Impact Report (FEIR) in December 2004 in accordance

with CEQA. Analysis of the Bay Area Rapid Transit Extension to Milpitas, San Jose and Santa Clara (BART Extension Project) presented in the FEIR was based on 10 percent design plans prepared during the Conceptual Engineering design phase of the Project. Following approval of the BART Extension Project by the VTA Board, the Preliminary Engineering design phase began, taking design plans to the 35 percent level. This SEIR describes the design changes and evaluates the associated environmental impacts of the Project at the 35 percent design level. The SEIR also covers substantive new information since certification of the FEIR.



1.2

BART EXTENSION PROJECT DESCRIPTION OVERVIEW

The BART Extension Project would begin at the planned BART Warm Springs Station (to be implemented by 2013) in Fremont and proceed on the former Union Pacific Railroad (UPRR) right-of-way (ROW) through Milpitas to near Las Plumas Avenue in San Jose. The extension would then descend into a subway tunnel, continue through downtown San Jose,

and terminate at grade in Santa Clara near the Caltrain Station. The total length of the alignment would be 16.1 miles. Six stations are proposed with an additional future station in Milpitas. Passenger service for the BART Extension Project would start in 2016, assuming funding is available.

1.3

DESIGN CHANGES



Several design changes occurred as the BART Extension Project moved from the 10 percent Conceptual Engineering design phase to the 35 percent Preliminary Engineering design phase. The following discussion lists and briefly describes the design changes by city (Fremont, Milpitas, San Jose, and Santa Clara). Summary tables of the changes are provided at the end of each city’s section. These tables also indicate the environmental analysis sections in this SEIR that include a discussion of potential environmental impacts or benefits associated with a particular design change. Design changes that result in impacts and the mitigation measures proposed to avoid or minimize these impacts are included in Section 1.5.

Several options for the BART Extension Project alignment, station configurations, and other features are presented. These options will be finalized during subsequent engineering phases of the Project.

1.3.1 CITY OF FREMONT

Design changes in Fremont include: the addition of two aerial alignment options from north of Mission Boulevard to East Warren Avenue; the addition of electrical facilities; the identification of access ease-

ments/roads; the elimination of a locomotive wye option; the addition or relocation of crossover tracks; a slight modification to the configuration of the Kato Road underpass; and the inclusion of a railroad intrusion detection system, which would also be installed in the cities of Milpitas, San Jose, and Santa Clara. The design changes are listed in Table 1.3-1 and shown in Figure 1.3-1. A full description of each design change in Fremont is provided in Section 3.2.1.

see Table 1.3-1 and Figure 1.3-1 >>

TABLE 1.3-1:

Design Changes in the City of Fremont				
NO.	PROJECT FEATURE	FEIR	SEIR	ENVIRONMENTAL ANALYSIS SECTION
1	Mission Boulevard to East Warren Avenue	BART at grade	Retain at grade alignment; add Aerial Option and Aerial East Option	Noise and Vibration; Visual Quality and Aesthetics; Construction
2	Electrical and communication facilities near East Warren Avenue	Access to site not discussed	Add access easment/road to Mission Falls Court	Socioeconomics
3	Locomotive wye (Fremont)	Wye option located approximately 0.8 miles south of East Warren Avenue	Eliminate wye location option	Biological Resources and Wetlands; Socioeconomics; Construction
4	Crossover tracks near Kato Road	Not applicable	Add crossover tracks both north and south of Kato Road	Noise and Vibration
5	Kato Road underpass	Kato Road reconstructed as an underpass with an 8 percent grade	Change to a 5 percent grade	Socioeconomics; Construction
6	Electrical and communication facilities near Scott Creek	Traction power substation at this location	Retain traction power subst.; add train cntrl building; add access easement/road to Milmont Dr.	Socioeconomics; Visual Quality and Aesthetics
7	Railroad intrusion detection system ¹	Not applicable	Add railroad intrusion detection system	Security and System Safety

¹ The railroad intrusion detection system would also be installed in Milpitas, San Jose, and Santa Clara where freight trains operate in close proximity to BART.

Design Change 1. Mission Boulevard/ East Warren Avenue Alignment.

- ❑ In the FEIR, the BART alignment would travel at grade over the Mission Boulevard underpass. South of Mission Boulevard, the BART alignment would be at grade and other agencies would reconstruct East Warren Avenue as a roadway underpass.
- ❑ In the SEIR, there are three options for the BART alignment from Mission Boulevard to East Warren Avenue. One option is the at grade configuration already analyzed in the FEIR. The two additional options include an Aerial Option and an Aerial East Option where BART would transition into an aerial configuration from just north of Mission Boulevard to south of East Warren Avenue. Under the aerial options, no improvements would be required for East Warren Avenue to accommodate the BART alignment.

Design Change 2. Electrical and Communication Facilities near East Warren Avenue.

- ❑ In the FEIR, a traction power substation and train control building are located south of East Warren Avenue and east of the railroad ROW; however, access to the site is not discussed.
- ❑ In the SEIR, this location is retained with an access easement/road connecting the site with Mission Falls Court.

Design Change 3. Locomotive Wye (Fremont).

- ❑ In the FEIR, one option for the locomotive wye would be located in Fremont on an undeveloped parcel on the west side of the corridor, approximately 0.8 miles south of East Warren Avenue. The other option would be located in Milpitas.

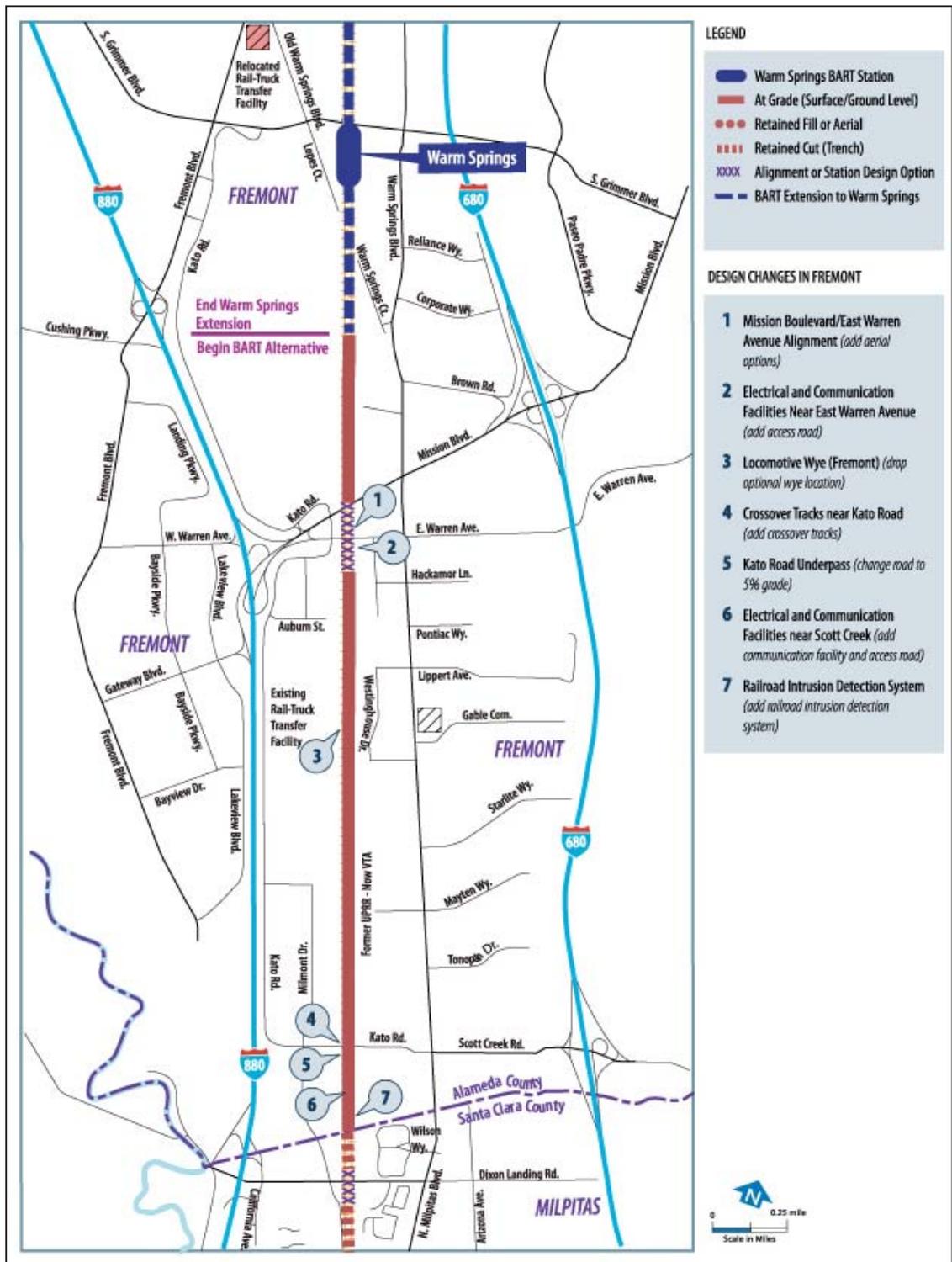


Figure 1.3-1: Design Changes in Fremont

- In the SEIR, the Fremont wye location option is eliminated. The option in Milpitas is retained, plus an additional option (see Design Change 13).

Design Change 4. Crossover Tracks near Kato Road.

- In the FEIR, there are no crossover tracks north or south of Kato Road.
- In the SEIR, crossover tracks would be located both north and south of Kato Road.

Design Change 5. Kato Road Underpass.

- In the FEIR, the BART alignment would cross at grade on a new bridge structure over Kato Road, which would be reconstructed as a roadway underpass. The slope of Kato Road would be an 8 percent grade.
- In the SEIR, Kato Road would also be constructed as a roadway underpass. However, the slope would be a 5 percent grade making the profile of Kato Road slightly longer.

Design Change 6. Electrical and Communication Facilities near Scott Creek.

- In the FEIR, a traction power substation is located south of Scott Creek and west of the railroad ROW.
- In the SEIR, this location is retained with an access easement/road connecting the site with Milmont Drive. The site would also include a train control building.

Design Change 7. Railroad Intrusion Detection System.

- In the FEIR, a railroad intrusion detection system is not included.
- In the SEIR, this system would be installed along the railroad corridor in Fremont.¹

1.3.2 CITY OF MILPITAS

Design changes in Milpitas include: the addition

of one alignment option at Dixon Landing Road; the addition or relocation of crossover tracks; the addition or relocation of electrical and communication facilities; the identification of access easements/roads; the potential elimination of a locomotive wye; the addition of three alignment options south of Curtis Avenue; and the reconfiguration of Project features at the Montague/Capitol Station. The railroad intrusion detection system described for Fremont would also be installed in Milpitas. The design changes are listed in Table 1.3-2 and shown in Figure 1.3-2. A full description of each design change in Milpitas is provided in Section 3.2.2.

Design Change 8. Dixon Landing Road Alignment.

- In the FEIR, the BART alignment would travel below grade in a retained cut under Dixon Landing Road. Dixon Landing Road would be supported above BART on a new roadway structure that would remain at grade.
- In the SEIR, there are two options for the BART alignment at Dixon Landing Road. One option is the retained cut configuration already analyzed in the FEIR. In addition, an At Grade Option is included. Under this option, Dixon Landing Road would be reconstructed as a new roadway underpass with BART passing at grade over the roadway on a new bridge structure. An adjacent cross street to the west of the railroad ROW, Milmont Drive, would be lowered due to the slope of Dixon Landing Road.

Design Change 9. Berryessa Creek.

- In the FEIR, BART would pass over Berryessa Creek on a new 100-foot-long bridge.
- In the SEIR, BART would cross over Berryessa Creek on a new double box culvert.

¹ The railroad intrusion detection system would be installed not only in the City of Fremont but also in the cities of Milpitas, San Jose, and Santa Clara where freight trains operate in close proximity to BART, such as where both trains are operating at grade in the corridor.

TABLE 1.3-2:

Design Changes in the City of Milpitas				
NO.	PROJECT FEATURE ¹	FEIR	SEIR	ENVIRONMENTAL ANALYSIS SECTION
8	Dixon Landing Road Alignment	BART in a retained cut	Retain retained cut alignment; add At Grade option	Noise and Vibration; Construction
9	Berryessa Creek	BART crosses over creek on a 100-foot-long bridge	BART cross over creek on a double box culvert	Biological Resources and Wetlands; Water Resources, Water Quality, and Floodplains; Construction
10	Crossover tracks between Berryessa Creek and Railroad Court	Crossover tracks near Railroad Court	Eliminate crossover tracks near Railroad Court, add crossover tracks to the north	Noise and Vibration
11	Electrical and communication facilities near Railroad Court	Access to site not discussed	Add access easement/road to Railroad Court	Socioeconomics; Visual Quality and Aesthetics
12	High rail vehicle access south of Calaveras Boulevard	High rail vehicle access at this location	Retain high rail vehicle access; add access easement/road to Railroad Avenue	Socioeconomics
13	Locomotion wye (Milpitas)	Locomotive wye located east of the railroad ROW between Curtis Avenue and Montague Expressway	Retain location under the Retained Cut Long and Aerial Long options; add a No Wye Option associated with the Retained Cut Short and Aerial Short options	Socioeconomics
14	Curtis Avenue to Trade Zone Boulevard	BART in a long retained cut	Retain long retained cut alignment; add Retained Cut Short Option, Aerial Long Option, and Aerial Short Option	Hazardous Materials; Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics; Construction
15	Crossover tracks north of Montague Expressway	Crossover tracks located in a retained cut north of Montague Expressway	Retain crossover tracks; other locations vary depending on alignment chosen for south of Curtis Avenue	Noise and Vibration
16	Electrical facilities north of Montague Expressway	Traction power substation at this location	Retain location under the Retained Cut Long or Aerial Long options; under the Retained Cut Short or Aerial Short options, substation located immediately north of Piper Drive	Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics
17	Montague/Capitol Station	Three- to five-level parking structure on 3.4 acres at Montague Capitol Station; bus transit center south of South Milpitas Boulevard; radio tower at the northwest corner of parking garage	Add a Parking Structure Option with Surface Parking with a four- to eight-level parking structure on 2 acres with additional surface parking; add a Surface Parking Option with no parking structure; bus transit center north of South Milpitas Boulevard; radio tower at the southwest corner of the station area	Air Quality; Noise and Vibration; Socioeconomics; Transportation and Transit; Visual Quality and Aesthetics; Water Resources, Water Quality, and Floodplains
18	Depth of retained south of East Penitencia Channel	Depth of retained cut from south of East Penitencia Channel to south of Trade Zone Boulevard approximately 30 feet below grade	Under the Retained Cut Long and Retained Cut Short options, depth between 10 and 30 feet below grade	Noise and Vibration

NOTE:
¹ The railroad intrusion detection system described in Design Change 7, Railroad Intrusion Detection System, would also be installed in Milpitas where freight trains operate in close proximity to BART.

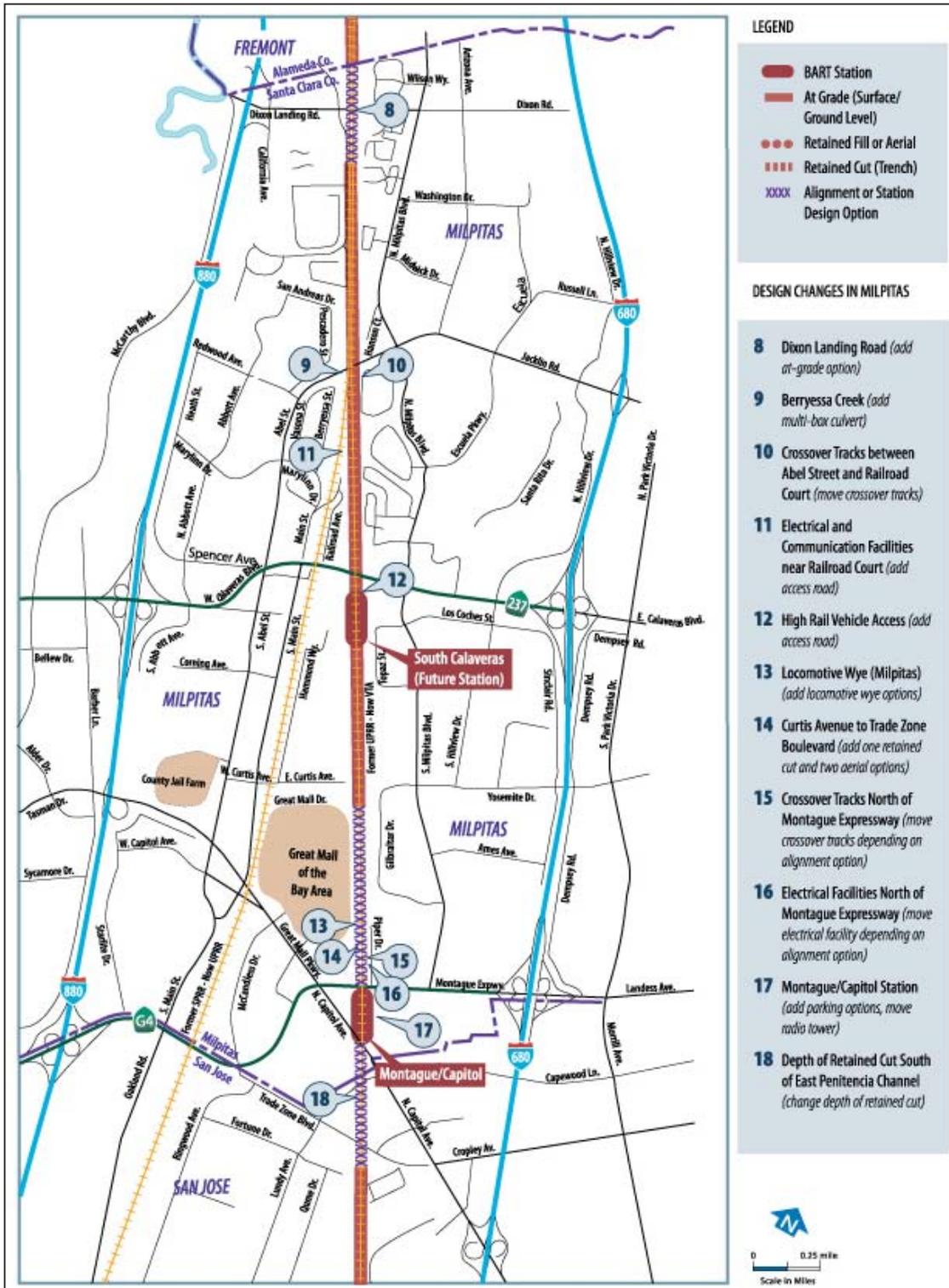


Figure 1.3-2: Design Changes in Milpitas

Design Change 10. Crossover Tracks between Berryessa Creek and Railroad Court.

- ❑ In the FEIR, crossover tracks would be located near Railroad Court.
- ❑ In the SEIR, the crossover tracks located near Railroad Court are eliminated. Instead, crossover tracks would be located to the north towards the Berryessa Creek crossing.

Design Change 11. Electrical and Communication Facilities near Railroad Court.

- ❑ In the FEIR, a high voltage substation, traction power substation, switching station, and train control building would be located north of Railroad Court on the west side of the railroad ROW; however, access to the site is not discussed.
- ❑ In the SEIR, this location is retained with an access easement/road connecting the site with Railroad Court.

Design Change 12. High Rail Vehicle Access.

- ❑ In the FEIR, a high rail vehicle access point would be located south of Calaveras Boulevard (State Route 237).
- ❑ In the SEIR, this location is retained with an access easement/road connecting to Railroad Avenue.

Design Change 13. Locomotive Wye (Milpitas).

- ❑ In the FEIR, one option for the locomotive wye would be located north of Montague Expressway and east of the railroad ROW. The other option would be located in Fremont.
- ❑ In the SEIR, there are two options for the locomotive wye. One option includes constructing a new wye in Milpitas in the same location as that described in the FEIR. The second option considered is no wye at all. There is no longer a wye option in Fremont.

Design Change 14. Curtis Avenue to Trade Zone Boulevard.

- ❑ In the FEIR, the BART alignment would be in a long retained cut starting from South of Curtis Avenue and ending south of Trade Zone Boulevard. BART would continue in a

retained cut past the Great Mall and would pass beneath Montague Expressway, Capitol Avenue, and Trade Zone Boulevard, each of which would be supported above BART on new roadway structures. The retained cut configuration would allow a UPRR freight track to cross the BART alignment on a bridge to gain access to a new locomotive wye and an existing spur track that serves three businesses east of the BART alignment.

- ❑ In the SEIR, there are four options for the BART alignment from south of Curtis Avenue. One option is the long retained cut configuration already analyzed in the FEIR. The three additional options include a Retained Cut Short Option, Aerial Long Option, and Aerial Short Option. The Aerial Long Option would also allow the UPRR freight track to cross the BART alignment to gain access to industries and the potential wye east of the railroad ROW. However, the two short options do not allow for this crossing. Under either retained cut option, Montague Expressway, Capitol Avenue, and Trade Zone Boulevard would require the same improvements as described in the FEIR. Under either aerial option, no improvements would be required for Montague Expressway or Trade Zone Boulevard. However, Capitol Avenue would be reconstructed below grade.

Design Change 15. Crossover Tracks North of Montague Expressway.

- ❑ In the FEIR, crossover tracks would be located north of Montague Expressway in a retained cut configuration.
- ❑ In the SEIR, the crossover tracks would remain in the same location and configuration under the Retained Cut Long Option for the alignment south of Curtis Avenue (see Design Change 14). Under the Aerial Long Option, the tracks would be located slightly farther north and on the aerial structure. Under the Retained Cut Short Option, the crossover tracks would be located in the same general location as under the Aerial Long Option but in an at grade configuration. Under the Aerial Short Option, the crossover tracks would be located the farthest north.

Design Change 16. Electrical Facilities North of Montague Expressway.

- ❑ In the FEIR, a traction power substation would be located north of Montague Expressway and east of the railroad ROW.
- ❑ In the SEIR, this substation would remain in this location under the Retained Cut Long and Aerial Long options for the alignment south of Curtis Avenue (see Design Change 14). However, under the Retained Cut Short and Aerial Short options, this substation would be located immediately north of the Piper Drive cul-de-sac and east of the railroad ROW.

Design Change 17. Montague/Capitol Station.

- ❑ In the FEIR, a three to five level parking structure would be constructed on 3.4 acres at the north end of the station area. A radio tower would be located at the northwest corner of the parking structure, either alongside or on top of the structure. A bus transit center would be located to the south of both the parking structure and South Milpitas Boulevard, which would be extended into the station area from Montague Expressway to Capitol Avenue.
- ❑ In the SEIR, there are two new options for parking in the station area. Under the Parking Structure with Surface Parking Option, a four to eight level parking structure on two acres would be in the same general location as described in the FEIR. New property acquisition would include the areas east and west of Gladding Court to be designated as surface parking and/or future transit facilities. Additional surface parking and/or future transit facilities would be located as needed within the station area. Under the Surface Parking Option, the area where the parking structure would be located under the Parking Structure Option would be for surface parking and/or future transit facilities. The areas east and west of Gladding Court would be acquired and used for surface parking and/or future transit facilities. Additional surface parking and/or future transit facilities would be located within the station area. Under either parking option, the bus transit center would be located north of the South Milpitas Boulevard extension. The radio tower would be located west of the railroad ROW and south of South Milpitas Boulevard.

The configuration of the station would vary depending on the option chosen for the alignment south of Curtis Avenue (Retained Cut Long or Short Options, Aerial Long or Short Options – see Design Change 14). If either retained cut option were chosen, the station would include two side platforms, as described in the FEIR. If either aerial option were chosen, the station would include a center platform in an aerial configuration.

Design Change 18. Depth of Retained Cut South of East Penitencia Channel.

- ❑ In the FEIR, the depth of the retained cut from south of East Penitencia Channel to Trade Zone Boulevard is approximately 30 feet below grade.
- ❑ In the SEIR, under the Retained Cut Long and Retained Cut Short options for the alignment south of Curtis Avenue (see Design Change 14), the depth is generally less than 30 feet. Along the shallowest portion of the retained cut, the depth is only 10 feet below grade.

1.3.3 CITY OF SAN JOSE

Design changes in San Jose include: the addition or relocation of electrical, communication, or ventilation facilities; the identification of access easements/roads; the adjustment in the depth of some of the retained cuts; the reconfiguration of Project features at the Berryessa, Alum Rock, and Diridon/Arena stations; the elimination of the Civic Plaza/SJSU and Market Street stations; the addition of the Downtown San Jose Station; the addition or relocation of crossover tracks; the modification of the tunnel alignment in some locations; and other minor changes. The railroad intrusion detection system described for Fremont would also be installed in San Jose (see Design Change 7). The design changes are listed in Table 1.3-3 and shown in Figures 1.3-3 and 1.3-4. A full description of each design change in San Jose is provided in Section 3.2.3. The yard and shops facility, which is partially located in San Jose but mostly located in Santa Clara, is discussed in Section 1.3.4 for design changes in Santa Clara.

TABLE 1.3-3:

Design Changes in the City of San Jose				
NO.	PROJECT FEATURE ^{1,2}	FEIR	SEIR	ENVIRONMENTAL ANALYSIS SECTION
19	Electrical Facilities south of Trade Zone Boulevard	Traction power substation at this location	Retain traction power substation; add two potential locations for access easement/rd. to Qume Dr.	Noise and Vibration; Socioeconomics
20	Depth of retained cut Hostetter Road to Sierra Road/Lundy Avenue	Depth of retained cut from north of Hostetter Road to south of Sierra Road/Lundy Avenue between 20 to 50 feet below grade	Depth between 10 and 35 feet below grade	Noise and Vibration; Construction
21	Communication facilities south of Hostetter Road	Not applicable	Add train control building south of Hostetter Road and east of the railroad ROW	Socioeconomics; Visual Quality and Aesthetics
22	Electrical and communication facilities near Berryessa Road	Traction power substation located north of Berryessa Road either near Aschauer Court or Berryessa Road	Substation located south of Berryessa Road under the BART aerial structure at the north end of the Berryessa Station area	Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics
23	Berryessa Station	Parking structure located northeast or southwest of Berryessa Station; access from Berryessa Road from a new street along the west side of the railroad ROW; up to 400 vendor stalls would be displaced at the San Jose Flea Market	Add a Parking Structure with Surface Parking Option with a 4- to 6-level parking structure on 3.4 acres; add a Surface Parking Option with no parking structure; add access road east of railroad ROW and north of Mabury Road; change configuration of access road off Berryessa Road	Air Quality; Biological Resources and Wetlands; Noise and Vibration; Socioeconomics; Transportation and Transit; Visual Quality and Aesthetics
24	Crossover tracks and pocket track near Berryessa and Mabury roads	Three crossover tracks and a pocket track located on aerial guideway from Berryessa Station to south of Mabury Road	Two crossover tracks and a pocket track from Berryessa Station to Mabury Road	Noise and Vibration
25	Electrical and communication facilities near Mabury Road	High voltage substation located north of Mabury Road and east of the railroad ROW; high voltage line along the north side of Mabury Road that connects to an existing Pacific Gas & Electric (PG&E) high voltage line near the intersection of Mabury and King roads; site includes switching station, gap breaker station, and train control building	Change location of facilities to south of Mabury Road and west of the railroad ROW; add two options for high voltage line connection: Mabury Underground Option and Las Plumas Overhead Option; add access easement/road to DOT Way	Noise and Vibration; Visual Quality and Aesthetics
26	High rail vehicle access south of Mabury Road	High rail vehicle access at this location with access road to San Jose Mabury Yard	High rail vehicle access farther south w/ access easement/road to Nicora Avenue	Socioeconomics
27	Maintenance of way siding track	Not applicable	Add a maintenance of way siding track south of Mabury Road	Noise and Vibration; Socioeconomics
28	Tunnel portals	East tunnel portal located north of Las Plumas Avenue; cut and cover excavation is approximately 600 feet long; west tunnel portal located west of I-880; cut and cover excavation is approximately 1,000 feet long; tunnel portal equipment rooms not discussed	East tunnel portal located near Las Plumas Avenue; cut-and-cover excavation reduced to approx. 150 feet; west tunnel portal located near Newhall Street; cut-and-cover excavation reduced to approximately 200 ft; add tunnel portal equipment rooms	Socioeconomics; Construction
29	Tunnel cross passages	Cross passages spaced every 650 to 800 feet	Cross passages spaced every 300 to 800 feet	Security and System Safety
30	Ventilation structure south of Las Plumas Avenue	Ventilation structure/shaft located between Las Plumas Avenue and Lower Silver Creek	Drop ventilation structure/shaft	Visual Quality and Aesthetics

NO.	PROJECT FEATURE ^{1 2}	FEIR	SEIR	ENVIRONMENTAL ANALYSIS SECTION
31	Gap breaker station near Marburg Way	Not applicable	Add gap breaker station north of Marburg Way and east of US 101	Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics; Construction
32	US 101 alignment	Tunnel curves under US 101 in conflict with abandoned bridge foundations at US 101/McKee Road/Julian Street interchange	Shift alignment to the east to avoid abandoned bridge foundations	Noise and Vibration
33	Alum Rock Station	3- to 5-level parking structure on 4.2 acres; traction power substation located underground at the southwest end of the station beneath 28th Street; two vents shafts; no BART Transit Police Station; slip ramp provides direct access from parking garage to US 101	Change to 5-level parking structure on 3.9 to 6 acres; traction power substation located aboveground at the north end of the station; add an auxiliary power substation; change location of vent shafts; add vent shafts; add a BART Police Transit Station; drop slip ramp	Air Quality; Community Services and Facilities; Noise and Vibration; Security and System Safety; Transportation and Transit; Visual Quality and Aesthetics; Construction
34	Gap breaker station near 22nd Street	Not applicable	Add facility at the northwest corner of East Santa Clara and 22nd streets	Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics; Construction
35	Ventilation structure near 20th Street	Ventilation structure/shaft located south of East Santa Clara Street on the east side of 20th Street	Eliminate ventilation structure/shaft	Visual Quality and Aesthetics
36	Ventilation structure west of Coyote Creek	Ventilation structure/shaft located at the northwest corner of East Santa Clara and 13th streets	Four alternate sites include the location in the FEIR, plus three locations south of East Santa Clara Street: one between 16th and 17th streets and two between 15th and 16th; add auxiliary power substation	Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics; Construction
37	Gap breaker station near 9th Street	Not applicable	Add facility at the northwest corner of East Santa Clara and 9th streets	Cultural and Historic Resources; Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics; Construction
38	Civic Plaza/SJSU Station	Station located underground between 4th and 7th streets; station entrances between 4th and 8th streets; vent shafts located at either end of the station	Consolidate station with Market Street Station into a single downtown station	Socioeconomics
39	Downtown San Jose Crossover	Crossover tracks located in tunnel west of Civic Plaza/SJSU Station; crossover box approximately 685 feet long	Crossover tracks within Downtown San Jose Station box; crossover portion of box approximately 535 feet long	Noise and Vibration
40	Downtown San Jose Station	Not applicable	Add station between 4th and San Pedro streets; station entrances located between 2nd and San Pedro streets; add vent shafts; add traction power substation and auxiliary power substation	Cultural and Historic Resources; Energy; Geology, Soils, and Seismicity; Hazardous Materials; Noise and Vibration; Socioeconomics; Transportation and Transit; Utilities; Visual Quality and Aesthetics; Construction
41	Market Street Station	Station located underground between 1st Street and Almaden Avenue; station entrances between 2nd Street and Almaden Avenue; vent shafts located at either end of the station	Consolidate station with Civic Plaza/SJSU Station into a single downtown station	Cultural and Historic Resources; Socioeconomics

	PROJECT FEATURE ^{1 2}	FEIR	SEIR	ENVIRONMENTAL ANALYSIS SECTION
42	Diridon/Arena Station and alignment	Station under the Caltrain tracks; one vent shaft located at each end of the station; 4-6 level parking structure on 2.8 acres east of HP Pavilion plus 4-6 level parking structure southeast of San Jose Diridon Caltrain Station	Shift station away from the Caltrain tracks; shift tunnel alignment to the south from the Caltrain tracks to The Alameda; two vent shafts located at each end of the station; 4 level parking structure on 4.5 acres west of HP Pavilion; eliminate parking structure southeast of San Jose Diridon Station; add No Parking Option; add two options for bus transit center	Air Quality; Hazardous Materials; Noise and Vibration; Socioeconomics; Transportation and Transit; Visual Quality and Aesthetics; Construction
43	Traction power substation near Diridon/Arena Station	Substation located at the east end of the Diridon/Area Station between Autumn and Montgomery streets	Substation located west of the Caltrain tracks at the southeast corner of White and West Santa	Cultural and Historic Resources; Noise and Vibration; Visual Quality and Aesthetics
44	Gap Breaker station near Morrison Avenue	Not applicable	Add facility north of The Alameda and west of Morrison Avenue	Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics; Construction
45	Ventilation structure near Stockton Avenue	One ventilation structure/shaft located west of Stockton Avenue and north of Cinnabar Street, the other located east of Stockton Avenue and north of Taylor Street	Eliminate the two facilities in the FEIR; add five alternate locations for one facility: one on the west side of Stockton Avenue near Schiele Avenue; two on the east side of Stockton Avenue, also near Schiele Avenue; and two on the east side of Stockton Avenue near Villa Avenue; add auxiliary power substation	Cultural and historic Resources; Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics; Construction
46	Gap breaker station near Emory Street	Not applicable	Add facility at the southwest corner of Stockton Avenue and Emory Street	Noise and Vibration; Socioeconomics; Visual Quality and Aesthetics; Construction
47	Tunnel alignment near Hedding Street	Tunnel near Hedding Street runs along the east side of the Caltrain railroad ROW and ascends south of I-880; tunnel portal south of Newhall Street	Tunnel is shifted to the east and ascends at I-880; tunnel portal north of Newhall Street	Noise and Vibration; Socioeconomics; Construction
48	Ventilation structure south of I-880	Ventilation structure/shaft located south of I-880 and east of the Caltrain railroad ROW	Eliminate ventilation structure/shaft	Visual Quality and Aesthetics
49	Depth of tunnel bores	Depth at approximately 20 to 60 feet below ground surface to top of tunnel bores	Depth at approximately 20 to 75 feet below ground surface to top of tunnel bores	Noise and Vibration
50	Crossover tracks near the west tunnel portal	Not applicable	Crossover tracks located in retained cut north of tunnel portal	Noise and Vibration
<p>NOTE:</p> <p>¹ The railroad intrusion detection system described in Design Change 7, Railroad Intrusion Detection System, would also be installed in San Jose where freight trains operate in close proximity to BART.</p> <p>² The yard and shops facility, which is partially located in San Jose but mostly located in Santa Clara, is described in Design Change 51 in Santa Clara.</p>				

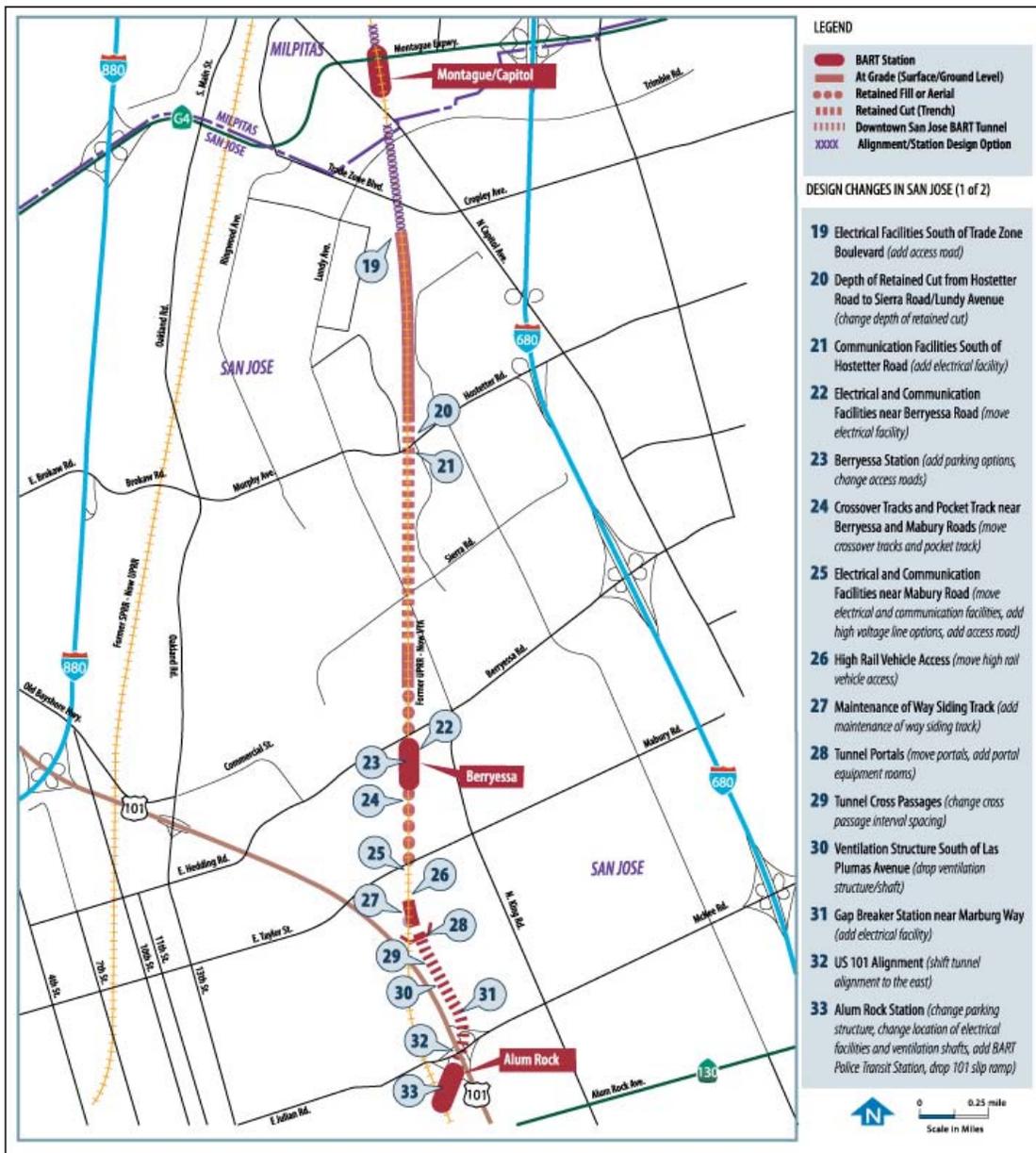


Figure 1.3-3: Design Changes in San Jose

Design Change 19. Electrical Facilities South of Trade Zone Boulevard.

- In the FEIR, a traction power substation is located south of Trade Zone Boulevard and west of the railroad ROW.
- In the SEIR, this location is retained with a two potential locations for an access easement/ road connecting the site with Qume Drive.

Design Change 20. Depth of Retained Cut from Hostetter Road to Sierra Road/Lundy Avenue.

- In the FEIR, the depth of the retained cut from north of Hostetter Road to south of Sierra Road/Lundy Avenue varies from approximately 20 to 50 feet below grade. The deepest portions are under the Hostetter Road and Sierra Road/Lundy Avenue overcrossings.
- In the SEIR, the depth varies from approximately 10 to 35 feet below grade.

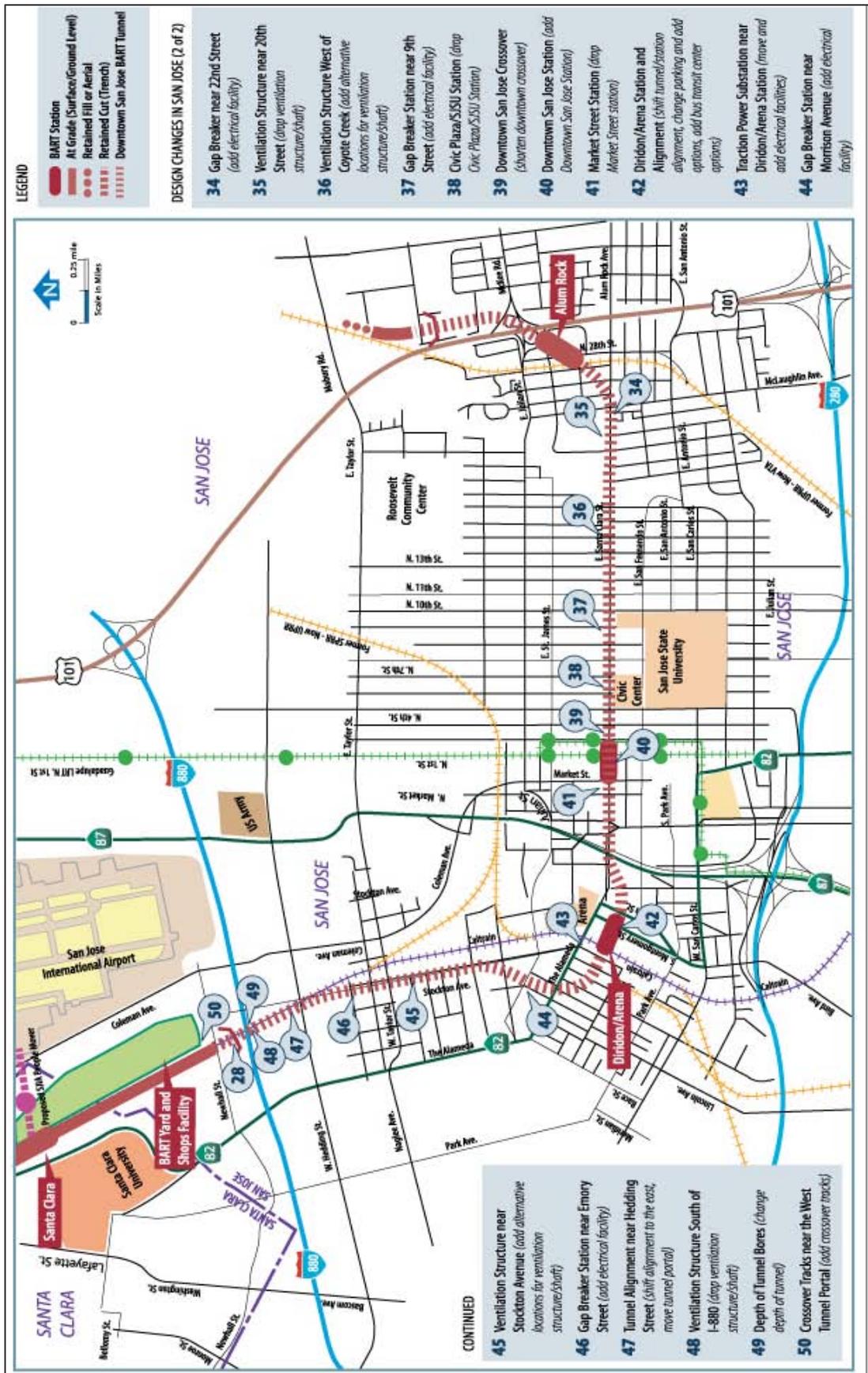


Figure 1.3-4: Design Changes in San Jose

Design Change 21. Communication Facilities south of Hostetter Road.

- ❑ In the FEIR, a train control building is not identified south of Hostetter Road.
- ❑ In the SEIR, a train control building would be located south of Hostetter Road and east of the railroad ROW.

Design Change 22. Electrical and Communication Facilities near Berryessa Road.

- ❑ In the FEIR, a traction power substation would be located west of the railroad ROW and either south of Aschauer Court or north of Berryessa Road.
- ❑ In the SEIR, this substation would be located south of Berryessa Road under the BART aerial structure at the north end of the Berryessa Station area. The site would also include a train control room.

Design Change 23. Berryessa Station.

- ❑ In the FEIR, there are two options for the parking structure. One option includes a three- to six-level parking structure on 5.1 acres in the northeast section of the station area. A second option includes a three- to six-level parking structure on 6.2 acres in the southwest section of the station area. Access to the station area from the north would be from Berryessa Road via a new street along the west side of the railroad ROW. Right-of-way required for this access road would displace up to 400 vendor stalls at the San Jose Flea Market.
- ❑ In the SEIR, the northeast parking structure is eliminated, and there are two new options for parking. Under the Parking Structure with Surface Parking Option, a four- to six-level parking structure on 3.4 acres would be constructed in the same general location as the parking structure in the southwest section of the station area described in the FEIR. Property would be acquired to the east of the railroad ROW and north of Mabury Road. This area would be designated for surface parking and/or future transit facilities. Access to this eastern parking area would be from a new access road off Mabury Road. A new traffic signal would be installed at the intersection of this new road and Mabury Road. Additional surface parking

and/or future transit facilities would be located as needed within the station area. Under the Surface Parking Option, the area designated for the parking structure under the Parking Structure with Surface Parking Option would be designated for surface parking only and/or future transit facilities. Additional surface parking and access would be provided as described under the Parking Structure with Surface Parking Option. Under either option, access to the station area from the north would be from Berryessa Road via a new street along the east side of the railroad ROW.

Design Change 24. Crossover Tracks and Pocket Track near Berryessa and Mabury Roads.

- ❑ In the FEIR, three crossover tracks would be located on the aerial structure from south of Berryessa Station to south of Mabury Road. A pocket track would be located between the three crossover tracks.
- ❑ In the SEIR, the crossover tracks located south of Mabury Road are eliminated. Two crossover tracks and a pocket track would be located on the aerial structure from south of Berryessa Station to Mabury Road.

Design Change 25. Electrical and Communication Facilities near Mabury Road.

- ❑ In the FEIR, a high voltage substation, switching station, gap breaker station, and train control building would be located north of Mabury Road and east of the railroad ROW. Approximately 1,400 feet of new high-voltage line would run from the substation along the north side of Mabury Road and connect to an existing Pacific Gas & Electric (PG&E) high-voltage line near the intersection of Mabury and King roads.
- ❑ In the SEIR, this location north of Mabury Road and east of the railroad ROW is eliminated. Instead, these facilities would be located south of Mabury Road and west of the railroad ROW. An access easement/road would connect the site to DOT Way, a private street that leads to the City of San Jose Mabury Yard. There are two options for a high-voltage line connection from the high voltage substation to the PG&E Mabury Substation, which located south of the King Road/Las Plumas Avenue intersection. Under the Mabury Underground Option, the

new line would run underground within the ROW of Mabury Road beginning at the high voltage substation and extending to King Road. An existing PG&E high-voltage line on King Road would be upgraded, extending for approximately 2,500 feet from Mabury Road to the PG&E Mabury Substation. Under the Las Plumas Overhead Option, the new line would begin at the high voltage substation, run south along the BART alignment, continue along Marburg Way, then along Las Plumas Avenue to King Road. The existing PG&E high-voltage line on King Road would be upgraded, extending for approximately 550 feet to the PG&E Mabury Substation.

Design Change 26. High Rail Vehicle Access.

- ❑ In the FEIR, a high rail vehicle access point would be located south of Mabury Road with an access road connecting to the City of San Jose Mabury Yard.
- ❑ In the SEIR, the high rail vehicle access point would be located slightly south of the location described in the FEIR with an access easement/road connecting to Nicora Avenue.

Design Change 27. Maintenance of Way Siding Track.

- ❑ In the FEIR, a maintenance of way siding track is not located south of Mabury Road.
- ❑ In the SEIR, a maintenance of way siding track would be constructed to the west of the railroad ROW just south of Mabury Road to just south of the east tunnel portal.

Design Change 28. Tunnel Portals.

- ❑ In the FEIR, the east tunnel portal is north of Las Plumas Avenue and the length of the cut and cover excavation between the portal and headwall is approximately 600 feet. The west tunnel portal is west of I-880 and the length of the cut and cover excavation between the portal and headwall is approximately 1,000 feet. Tunnel portal equipment rooms are not discussed.
- ❑ In the SEIR, the east tunnel portal would be near Las Plumas Avenue and the length of cut-and-cover excavation required between the portal and headwall is reduced to approximately 150

feet to minimize property acquisition. The west tunnel portal would be near Newhall Street and the length of cut-and-cover excavation required between the portal and headwall is reduced to approximately 200 feet to avoid conflict with the I-880 bridge foundations. At each tunnel portal, an aboveground structure would provide access leading down to an equipment room.

Design Change 29. Tunnel Cross Passages.

- ❑ In the FEIR, cross passages between the two tunnel bores would be spaced every 650 to 800 feet.
- ❑ In the SEIR, cross passages would be spaced every 300 to 800 feet.

Design Change 30. Ventilation Structure South of Las Plumas Avenue.

- ❑ In the FEIR, a ventilation structure and vent shaft is located between Las Plumas Avenue and Lower Silver Creek.
- ❑ In the SEIR, this facility is eliminated.

Design Change 31. Gap Breaker Station near Marburg Way.

- ❑ In the FEIR, there is no gap breaker station north of Marburg Way.
- ❑ In the SEIR, a gap breaker station would be located north of Marburg Way and east of US 101.

Design Change 32. US 101 Alignment.

- ❑ In the FEIR, the tunnel alignment would curve under US 101 in potential conflict with abandoned bridge foundations at the US 101/McKee Road/Julian Street interchange.
- ❑ In the SEIR, the alignment is shifted to the east to avoid the abandoned bridge foundations.

Design Change 33. Alum Rock Station.

- ❑ In the FEIR, a three- to five-level parking structure would be constructed on 4.2 acres at the north end of the station area. A traction power substation would be located underground at the southwest end of the Alum Rock Station beneath 28th Street. Two vent shafts would be located

at either end of the station along 28th Street. A BART Transit Police Station was not included at the Alum Rock Station. A slip ramp would be constructed to provide direct access from the parking garage to southbound US 101.

- In the SEIR, a five-level parking structure on 3.9 acres would be in the same general location as described in the FEIR. Additional surface parking and/or future transit facilities would be located as needed within the station area. The traction power substation would be located aboveground at the north end of the station. An auxiliary power substation would be located near the traction power substation. The station would include five vent shafts: three vent shafts would be located near the traction power substation, and two vent shafts would be located near the plaza at the south end of the station. The Alum Rock Station would include a BART Transit Police Station. The slip ramp is eliminated, as it does not meet the California Department of Transportation's (Caltrans') design criteria.

Design Change 34. Gap Breaker Station near 22nd Street.

- In the FEIR, there is no gap breaker station near East Santa Clara and 22nd streets.
- In the SEIR, a gap breaker station would be located at the northeast corner of this intersection.

Design Change 35. Ventilation Structure near 20th Street.

- In the FEIR, a ventilation structure and vent shaft is located south of East Santa Clara Street on the east side of 20th Street.
- In the SEIR, this facility is eliminated.

Design Change 36. Ventilation Structure West of Coyote Creek.

- In the FEIR, the ventilation structure and vent shaft would be located at the northwest corner of East Santa Clara and 13th streets.

- In the SEIR, this location is retained as one of four alternate locations for the ventilation structure and associated vent shaft. The other three locations are on the south side of East Santa Clara Street between 15th and 17th streets.

Design Change 37. Gap Breaker Station near 9th Street.

- In the FEIR, there is no gap breaker station near East Santa Clara and 9th streets.
- In the SEIR, a gap breaker station would be located at the northwest corner of this intersection.

Design Change 38. Civic Plaza/SJSU Station.

- In the FEIR, the Civic Plaza/SJSU Station would be located underground between 4th and 7th streets. Station entrances would be located between 4th and 8th streets. The station would include two vent shafts. One shaft would be near the southwest corner of East Santa Clara and 7th streets. The other vent shaft would be north of East Santa Clara between 4th and 5th streets.
- In the SEIR, the Civic Plaza/SJSU Station and all associated station features, such as station entrances and vent shafts, are consolidated into a single downtown station (see Design Change #40).

Design Change 39. Downtown San Jose Crossover.

- In the FEIR, crossover tracks are located in the tunnel west of the Civic Plaza/SJSU Station between 2nd and 4th streets. The crossover box to accommodate these tracks is approximately 685 feet long.
- In the SEIR, crossover tracks are located east of the Downtown San Jose Station (see next design change) between 2nd and 4th streets. The crossover tracks are accommodated within the station box, with the crossover portion of the box reduced from the FEIR to 535 feet long.

Design Change 40. Downtown San Jose Station.

- ❑ In the FEIR, there is no underground station located between San Pedro and 4th streets.
- ❑ In the SEIR, a single downtown station would be located underground between these two streets. Station entrances would be located between 2nd and San Pedro streets. The station would include two ventilation facilities and associated vent shafts. One shaft would be north of East Santa Clara between 2nd and 3rd streets. The other vent shaft would be located at the southwest corner of West Santa Clara and Market streets. The station would also include a traction power substation and an auxiliary power substation.

Design Change 41. Market Street Station.

- ❑ In the FEIR, the Market Street Station would be located underground between 1st Street and Almaden Avenue. Station entrances would be located between 2nd Street and Almaden Avenue. Station entrances would be located between 2nd and San Pedro streets. The station would include two vent shafts. One shaft would be north of East Santa Clara between 1st and 2nd streets. The other vent shaft would be located at the southeast corner of West Santa Clara and Almaden Avenue.
- ❑ In the SEIR, the Market Street Station and all associated station features, such as station entrances and vent shafts, are consolidated into a single downtown station (see Design Change #40).

Design Change 42. Diridon/Arena Station and Alignment.

- ❑ In the FEIR, this station would be partially constructed under the Caltrain railroad tracks north of the San Jose Diridon Caltrain Station. The station would include two vent shafts. One vent shaft would be located at east end of the station at the southeast corner of Crandall and Montgomery streets and the other would be located at the west end of the station at White Street. The station area would include two large multi-level parking structures. A four- to six-level structure would be located on 2.8 acres within an existing parking area adjacent

to and immediately west of the HP Pavilion. A second four- to six-level structure with a potential bus transit facility would be located east of the Caltrain Station and south of West San Fernando Street.

- ❑ In the SEIR, the underground station would be constructed to the east of the Caltrain railroad tracks to avoid these tracks. Due to this modified station alignment, the tunnel alignment would shift slightly to the south starting at the west end of the station. The tunnel would transition back to the original alignment near The Alameda. The station would include four vent shafts, two at each end of the station. At the east end, two vent shafts would be located east of Autumn Street. At the west end, two vent shafts would be located west of Cahill Street. Two options are included for the parking structure. Under the Parking Structure Option, a four-level structure on 4.5 acres would be in the same general location west of the HP Pavilion as described in the FEIR. No surface parking would be provided. Under the No Parking Option, no parking structure would be constructed. Under this option, additional parking would be provided at the Santa Clara Station (see Design Change 52). The SEIR also includes two options for a bus transit facility. Under the North Bus Transit Center Option, an existing facility located south of West Santa Clara Street between the Caltrain railroad tracks and Cahill Street would be expanded. Under the South Bus Transit Center Option, the facility would be located north of San Fernando Street between Cahill and Montgomery streets.

Design Change 43. Traction Power Substation near Diridon/Arena Station.

- ❑ In the FEIR, this traction power substation would be located underground at the east end of the Diridon/Arena Station between Autumn and Montgomery streets.
- ❑ In the SEIR, this substation would be located at street level west of the Caltrain tracks at the southeast corner of White and West Santa Clara streets. This site would also include an auxiliary power substation.

Design Change 44. Gap Breaker Station near Morrison Avenue.

- ❑ In the FEIR, there is no gap breaker station near Morrison Avenue.
- ❑ In the SEIR, a gap breaker station would be located north of The Alameda and west of Morrison Avenue.

Design Change 45. Ventilation Structure near Stockton Avenue.

- ❑ In the FEIR, one ventilation structure and vent shaft would be located west of Stockton Avenue and north of Cinnabar Street. Another facility would be located east of Stockton Avenue and north of Taylor Street.
- ❑ In the SEIR, both these locations are eliminated and there are five alternative locations for one ventilation structure and associated vent shaft. One site is on the west side of Stockton Avenue near Schiele Avenue. Two sites are on the east side of Stockton Avenue, also near Schiele Avenue. Two other sites are on the east side of Stockton Avenue near Villa Avenue. Any of these locations would also include an auxiliary power substation.

Design Change 46. Gap Breaker Station near Emory Street.

- ❑ In the FEIR, there is no gap breaker station near Emory Street.
- ❑ In the SEIR, a gap breaker station would be located at the southwest corner of Stockton Avenue and Emory Street.

Design Change 47. Tunnel Alignment near Hedding Street.

- ❑ In the FEIR, the tunnel alignment near Hedding Street runs along the east side of the Caltrain railroad ROW. The tunnel begins to ascend south of the I-880 overpass, with the west tunnel portal located south of Newhall Street.
- ❑ In the SEIR, the tunnel alignment near Hedding Street is shifted to the east. The tunnel begins to ascend at the I-880 overpass with the tunnel portal north of Newhall Street. This new configuration avoids conflict with the I-880 bridge foundations.

Design Change 48. Ventilation Structure South of I-880.

- ❑ In the FEIR, a ventilation structure and vent shaft would be located south of I-880 and east of the Caltrain railroad ROW.
- ❑ In the SEIR, this facility is eliminated.

Design Change 49. Depth of Tunnel Bores.

- ❑ In the FEIR, the depth of the tunnels as measured from the ground or street level to the top, or crown, of the tunnels varies from 20 feet to 60 feet.
- ❑ In the SEIR, the depth would vary from 20 feet to 75 feet.

Design Change 50. Crossover Tracks near the West Tunnel Portal.

- ❑ In the FEIR, there are no crossover tracks near the west tunnel portal.
- ❑ In the SEIR, crossover tracks would be located in a retained cut just north of the west tunnel portal.

1.3.4 CITY OF SANTA CLARA

Design changes in Santa Clara include the re-configuration of Project features at the yard and shops facility and the Santa Clara Station. The yard and shops facility, which is partially located in San Jose but mostly located in Santa Clara, is discussed entirely in this section. The railroad intrusion detection system described for Fremont would also be installed in Santa Clara (see Design Change 7). The design changes are listed in Table 1.3-4 and shown in Figure 1.3-5. A full description of each design change in Santa Clara is provided in Section 3.2.4.

TABLE 1.3-4:

Design Changes in the City of Santa Clara				
NO.	PROJECT FEATURE¹	FEIR	SEIR	ENVIRONMENTAL ANALYSIS SECTION
51	Yard and shops facility	In San Jose, the facility includes property south of I-880 and east of Caltrain railroad ROW to the city line In Santa Clara, the facility consists of several facilities on a site located north of the city line to De La Cruz Boulevard with tail tracks extending to Lafayette Street	In San Jose, no property required south of I-880; facilities located north of Newhall Street; reconfigure size and location of some buildings and facilities; eliminate radio tower; elim. BART Transit Police Station; add retention pond; and private parking spaces In Santa Clara, a single tail track ends north of De la Cruz Blvd; reconfigure size and location of some buildings and facilities; add radio tower; add retention pond; and private parking spaces	Community Services and Facilities; Noise and Vibration; Security and System Safety; Socioeconomics; Visual Quality and Aesthetics; Water Resources, Water Quality, and Floodplains
52	Santa Clara Station	Parking structure located north or south of Brokaw Road	Eliminate parking structure south location; retain parking structure north location; two alternate designs for parking structure depending on parking option chosen for the Diridon/Arena Station	Air Quality; Cultural and Historic Resources; Hazardous Materials; Noise and Vibration; Socioeconomics; Transportation and Transit; Visual Quality and Aesthetics
<p>NOTE: ¹ The railroad intrusion detection system described in Design Change 7, <i>Railroad Intrusion Detection System</i>, would also be installed in Santa Clara where freight trains operate in close proximity to BART.</p>				

Design Change 51. Yard and Shops Facility.

City of San Jose

- In the FEIR, the yard and shops facility in San Jose would include property from south of I-880 and east of the Caltrain railroad ROW to the San Jose/Santa Clara city line. Buildings south of I-880 would include a train control building; a two-story, 30,000 square foot Station/Structure Maintenance and Training Facility; and a 20,000 square foot Systems, Wayside Equipment and Non-Revenue Vehicle Maintenance Facility and Shops. A ventilation structure and vent shaft would be located at this site. A radio tower would be located midway between Brokaw Road and Newhall Street. The site would include a BART Transit Police Station.
- In the SEIR, the yard and shops facility does not include any property, buildings, or other facilities south of I-880. Instead, the yards and shops facility in San Jose would be located north of Newhall Street. Other noteworthy changes to the yards and shops facility in the

city include the identification of additional property acquisition on the FMC property (approximately 0.41 acres); the reconfiguration of the size and location of some of the buildings and facilities; the elimination of the radio tower located midway between Brokaw Road and Newhall Street; the elimination of a BART Transit Police Station (now located at the Alum Rock Station); the addition of a retention pond; and the addition of parking spaces for employees, authorized visitors, and delivery and service vehicles.

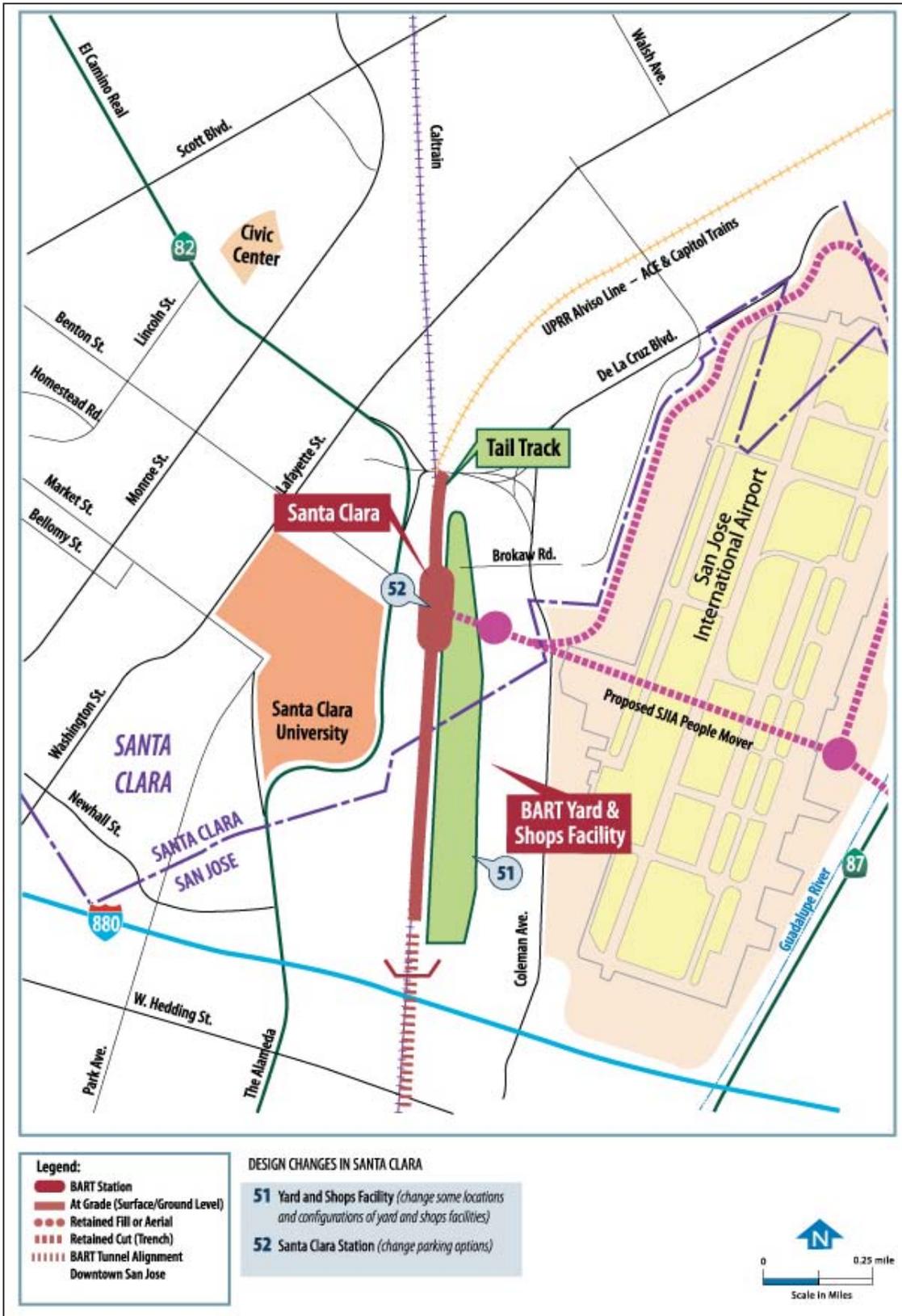


Figure 1.3-5: Design Changes in Santa Clara

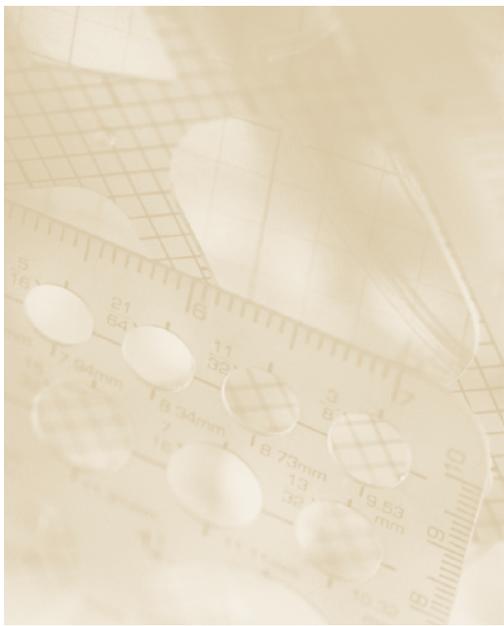
City of Santa Clara

- ❑ In the FEIR, the yard and shops facility in Santa Clara would be located from the City of San Jose/City of Santa Clara boundary line to De La Cruz Boulevard, where tail tracks would continue to Lafayette Boulevard.
- ❑ In the SEIR, the location for the yard and shops would be similar to that described in the FEIR, although a single tail track would terminate just north of De La Cruz Boulevard. Other noteworthy changes to the yards and shops facility in the city include the reconfiguration of the size and location of some of the buildings and facilities; the addition of a radio tower in the tail track area; the addition of a retention pond; and the addition of parking spaces for employees, authorized visitors, and delivery and service vehicles.

Design Change 52. Santa Clara Station.

- ❑ In the FEIR, there are two options for the parking structure. One option includes a three- to five-level parking structure on 3.6 acres north of Brokaw Road. A second option includes a three- to five-level parking structure on 4.0 acres south of Brokaw Road.²
- ❑ In the SEIR, the south parking structure is eliminated. The Santa Clara Station would include a three- to four-level parking structure on 3.3 acres located north of Brokaw Road in the same general area as described in the FEIR. If the No Parking Structure Option were chosen for the Diridon/Arena Station (see Design Change 42), the Santa Clara Station would include a five- to six-level parking structure in the same location. Additional surface parking and/or future transit facilities would be located as needed within the Santa Clara Station area near Coleman Avenue.

² On May 26, 2004, the Silicon Valley Rapid Transit Corridor Policy Advisory Board recommended the Parking Structure North Option only, which is reflected in the FEIR, Volume II, Chapter I, *Introduction*. However, on December 4, 2004 (the certification date of the FEIR), the VTA Board of Directors recommended retaining the Parking Structure South Option in addition to the Parking Structure North Option for further study.



1.4

CHANGES TO OTHER PROJECT FEATURES

In addition to the design changes described above, changes between the FEIR and the SEIR include changes to the construction staging areas, BART core system access requirements, VTA and BART fleet requirements, VTA and BART operating plans, and station boardings. While these are not necessarily design changes, they are listed here as such for consistency.

Other than the construction staging areas, the changes are due primarily to the difference in the long-range planning horizon where the FEIR includes projections for Year 2025 service levels and the SEIR includes projections for Year 2030. A summary table of design changes to other Project features is provided in Table 1.4-1 followed by a discussion of the changes.

1.4.1 CONSTRUCTION STAGING AREAS

Design Change 53. Construction Staging Areas.

- In the FEIR, there are 11 primary construction staging areas identified. Several of these areas encompass the locations of permanent facilities such as station areas.

- In the SEIR, the locations (footprints) of all permanent facilities would be used as construction staging areas, as each of these locations would involve some degree of construction equipment usage and storage, construction vehicle parking, and materials storage. These permanent facility locations would include stations areas, electrical and communication facilities areas, the yard and shops facility, etc. Since permanent facilities in and of themselves were not considered in the FEIR as construction staging areas but are considered as such in the SEIR, this increases the overall number of staging areas in the SEIR. In addition, the SEIR identifies 12 primary construction staging areas that are not part of the permanent facility footprints; 5 of these areas are included in the FEIR, although the acreages and configurations of these 5 areas are different in the SEIR.

see Table 1.4.4 >>

TABLE 1.4-1:

Design Changes for Other Project Features				
NO.	PROJECT FEATURE ^{1, 2}	FEIR	SEIR	ENVIRONMENTAL ANALYSIS SECTION
53	Construction staging areas	11 primary construction staging areas, plus the stations area	Footprints of all permanent facilities used as construction staging areas, plus 12 other primary construction staging areas	Socioeconomics; Construction
54	BART core system access	For Year 2025 service levels, approximately 3,235 spaces required	For Year 2030 service levels, parking was limited to 3,235 spaces	Chapter 5
55	Fleet requirements	Existing fleet size based on 2002 data, future fleet size projected for Year 2025 included 106 to 126 additional BART cars	Existing fleet size based on 2006 data, future fleet size projected for Year 2030 includes 166 additional BART cars	See Design Change 51
56	Operating plan	Eight VTA bus routes to provide service to major destinations Bus routes to operate at 10- to 60-minute headways in the peak direction from 4:30 a.m. to 8:30 a.m. in the morning peak and from 3:00 p.m. to 7:00 p.m. in the evening peak Three routes to operate in the reverse-peak commute direction	Six VTA bus routes to provide service to major destinations Bus routes to operate at 5- to 60-minute headways in the peak direction from about 5:00 a.m. to 9:00 a.m. in the morning peak and from 3:00 p.m. to 7:00 p.m. in the evening peak. Five routes to operate in the reverse-peak commute direction	Transportation and Transit
57	Station Boardings	A total of 83,585 daily boardings were projected in 2025 for the 7 stations without the future Calaveras Station	A total of 104,645 daily boardings were projected in 2030 for the 6 stations without the future Calaveras Station	Air Quality; Energy; Transportation and Transit

1.4.2 BART CORE SYSTEM ACCESS

Design Change 54. BART Core System Access. The BART core system refers to the BART system located north of the BART Extension Project.

- In the FEIR, BART core system access (parking) at the stations north of the BART Extension Project is based on Year 2025 service levels. In 2025, 3,235 spaces were projected to be required.
- In the SEIR, parking expansion at existing BART stations for the new horizon year of 2030 was assumed to be limited to 3,235 parking spaces as addressed in the FEIR.

1.4.3 FLEET REQUIREMENTS

Design Change 55. Fleet Requirements.

- In the FEIR, the existing fleet sizes for VTA and BART are given for Year 2002. Projected fleet requirements are given for Year 2025.
- In the SEIR, this information is updated to include the 2006 existing fleet size and anticipated Year 2030 service levels.

VTA’s existing fleet (2006) consists of 525 buses, 36 Valley buses, and 100 light rail vehicles. BART’s current fleet consists of 670 train cars. The projected fleet size to meet Year 2030 service levels if the BART Extension Project were not built includes an increase of 27 buses, no change in the number of Valley buses or light rail vehicles, and an increase of 229 BART train cars. With the BART Extension Project, the projected fleet size to meet Year 2030 service compared to the Year 2030 no Project conditions includes an increase

of 16 buses, a decrease of 4 Valley buses, no change in the number of light rail vehicles, and an increase of 166 BART train cars. Table 1.4-2 summarizes the

differences in existing and projected fleet sizes between the FEIR and the SEIR.

TABLE 1.4-2:

Comparison of Fleet Requirements Between the FEIR and SEIR						
SERVICE	FEIR			SEIR		
	2002 EXISTING	2025 PROJECTED (w/o BART EXTENSION)	2025 PROJECTED (w/ BART EXTENSION)	2006 EXISTING	2030 PROJECTED (w/o BART EXTENSION)	2030 PROJECTED (w/ BART EXTENSION)
VTA Buses	506	600	642	525	552	568
Valley Buses	—	22	47	36	36	32
VTA Light Rail	50	91	91	100	100	100
BART Cars	—	878 to 898	1,004	670	899	1,065

Source: VTA, July 2002; Connetics 2006.

1.4.4 OPERATING PLAN

Design Change 56. Operating Plan.

- In the FEIR, BART would operate every day from 4:00 a.m. to 1:00 a.m. with 6-minute headways from 6:00 a.m. to 7:30 p.m. After 7:30 p.m. and on weekends, the average headway would be 10 minutes. Eight VTA bus routes would provide service to several major employment destinations, activity centers, and transit facilities in the Silicon Valley. VTA bus routes would operate at 10- to 60-minute headways in the peak direction from 4:30 a.m. to 8:30 a.m. in the morning peak and from 3:00 p.m. to 7:00 p.m. in the evening peak. Three of the express bus routes would also operate in the reverse-peak commute direction. Bus service from the Central Valley would operate at the sole discretion of the respective local transit agencies and would terminate at the Warm Springs BART Station.
- In the SEIR, BART service would operate as described in the FEIR. Six VTA bus routes would provide service to several major employment destinations, activity centers, and transit facilities in the Silicon Valley. VTA bus routes would operate at 5- to 60-minute headways in the peak direction from 5:00 a.m. to 9:00 a.m. in the morning peak and from 3:00 p.m.

to 7:00 p.m. in the evening peak. Five of the express bus routes would also operate in the reverse-peak commute direction. Bus service from the Central Valley would operate at the sole discretion of the respective local transit agencies and would terminate at the Warm Springs BART Station.

1.4.5 STATION BOARDINGS

Design Change 57. Station Boardings.

- In the FEIR, 83,585 station boardings were projected in 2025 for seven stations without the Calaveras Station. The Montague/Capitol, Market Street, and Santa Clara Stations were all projected to have over 14,000 boardings per day.
- In the SEIR, a total of 104,645 station boardings were projected in 2030 without the Calaveras Station. A comparison of the 2025 FEIR and 2030 SEIR boardings by stations is provided in Table 1.4-3. The 2030 SEIR boardings are substantially higher than the 2025 FEIR primarily due to forecasting five more years into the future and the ridership models' use of ABAG's regionally adopted "Smart Growth"

land use scenario. The Montague/Capitol, Downtown, and Santa Clara Station are all projected to have over 20,000 boardings per day. The SEIR boardings with the Calaveras

Station are slightly lower than without the Calaveras Station due to the increased travel times from an additional stop.

TABLE 1.4-3:

Comparison of 2025 FEIR and 2030 SEIR Daily Station Boardings			
STATION NAME	FEIR	SEIR	
	7 STATIONS	6 STATIONS	6 STATIONS + CALAVERAS
South Calaveras	0	0	4,293
Montague/Capitol	19,247	31,010	27,757
Berryessa	6,537	7,932	7,972
Alum Rock	9,115	10,927	10,598
Civic Center/SJSU	6,236		
Market Street	17,866		
Downtown		23,474	22,749
Diridon/Arena	9,667	11,236	10,760
Santa Clara	14,919	20,066	19,532
TOTAL	83,585	104,645	103,661

Source: Connetics 2006



1.5

IMPACTS AND MITIGATION SECTION

Table 1.5-1 summarizes the impacts and mitigation measures of the BART Extension Project not previously identified in the FEIR. Where impacts cannot be mitigated to less than significant levels, CEQA Guidelines require the preparation of a Statement of Overriding Considerations in order for the SEIR to be certified. This statement provides a means to describe the balance between economic, legal, social or other benefits of a project and its unavoidable environmental effects.

Table 1.5-1 uses the following abbreviations to classify impacts by level of significance:

N → No impact

LS → Less than significant impact (impact below threshold levels either before or after mitigation is applied)

S → Significant or potentially significant impact (before mitigation)

SU → Significant unavoidable impact (impact above threshold levels where feasible mitigation would not reduce to less than significant)

These definitions are also repeated on each page of the table.

TABLE 1.5-1:

Summary of New Significant Impacts and Proposed Mitigation for the BART Extension Project

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
4.2 TRANSPORTATION AND TRANSIT			
TRANSIT			
No new significant impacts would result.	N	No new mitigation is necessary.	N
PARKING			
No new significant impacts would result.	N	No new mitigation is necessary.	N
PEDESTRIANS AND BICYCLES			
No new significant impacts would result.	N	No new mitigation is necessary.	N
VEHICULAR TRAFFIC—FREEWAYS			
<p>Design Change 52. Santa Clara Station (No Parking Option at Diridon/ Arena Station).</p> <p>The Project would add new trips totaling more than 1 percent of the freeway capacity on four freeway segments identified to operate at LOS F under 2030 Without Project conditions</p> <ul style="list-style-type: none"> ▪ I-880, Bascom Avenue to The Alameda (northbound AM peak hour) ▪ I-880, The Alameda to Coleman Avenue (northbound AM peak hour) ▪ I-880, Coleman Avenue to The Alameda (southbound PM peak hour) ▪ I-880, The Alameda to Bascom Avenue (southbound PM peak hour) 	S	The mitigation necessary to reduce significant impacts at these freeway segments is the widening of I-880. Due to the substantial cost, this measure is not considered feasible, resulting in a significant unavoidable impact to freeways.	SU
VEHICULAR TRAFFIC—FREEWAYS			
<p>Design Change 17. Montague/ Capitol Station (With the South Calaveras Future Station).</p> <p>Great Mall Parkway and Montague Expressway</p> <p>The level of service would be an unacceptable LOS F during both the AM and PM peak hours under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the volume/capacity (V/C) of .01 or more under 2030 Project conditions. This constitutes a significant impact by Congestion Management Program (CMP) standards.</p>	S	No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.	SU

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>[Design Change 17, cont']</p> <p>Milpitas Boulevard and Yosemite Drive</p> <p>The level of service would be an unacceptable LOS F and E during the AM and the PM peak hours, respectively, under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during both peak hours under 2030 Project conditions. This constitutes a significant impact by City of Milpitas standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Milpitas Boulevard and Montague Expressway</p> <p>The level of service would be an unacceptable LOS F under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Dempsey Road and Landess Avenue</p> <p>The level of service would be an unacceptable LOS E during the AM peak hour under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more under 2030 Project conditions. This constitutes a significant impact by City of Milpitas standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Park Victoria Drive and Landess Avenue</p> <p>The level of service would be an unacceptable LOS E and F during the AM and the PM peak hour, respectively, under 2030 Without Project with Improvements conditions, and the intersection would degrade to LOS F during the AM peak hour and experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by City of Milpitas standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Old Oakland/Main Street and Montague Expressway</p> <p>The level of service would be an unacceptable LOS F under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in the V/C of .01 or more during the AM peak hour under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Milpitas Boulevard and Calaveras Boulevard</p> <p>The level of service would be an unacceptable LOS F during both the AM and PM peak hours under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during both peak hours under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Hillview Drive and Calaveras Boulevard</p> <p>The level of service would be LOS D under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS E during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by City of Milpitas standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Park Victoria Drive and Calaveras Boulevard</p> <p>The level of service would be LOS E during the AM peak hour under 2030 Without Project with Improvements conditions and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more under 2030 Project conditions. This constitutes a significant impact by City of Milpitas standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Milpitas Boulevard and Escuela Drive</p> <p>The level of service would be LOS D during the AM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS E under 2030 Project conditions. This constitutes a significant impact by City of Milpitas standards.</p>	S	<p>The necessary improvements to mitigate the Project impact at this intersection consist of the addition of an exclusive northbound right-turn lane on Milpitas Boulevard. The implementation of this improvement will improve intersection level of service to an acceptable LOS D during the AM peak hour. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of this traffic improvement. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS
<p>Milpitas Boulevard and Los Coches Street</p> <p>The level of service would be LOS C during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS E under 2030 Project conditions. This constitutes a significant impact by City of Milpitas standards.</p>	S	<p>The necessary improvements to mitigate the Project impact at this intersection consist of the modification of the east and west legs of the intersection (Los Coches Street) to provide two left-turn lanes and one shared through/right-turn lane in the eastbound direction; and one left-turn lane, one through lane, and one right-turn lane in the westbound direction. This improvement will upgrade the intersection level of service to an acceptable LOS D during the PM peak hour. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of this traffic improvement. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Design Change 23. Berryessa Station Flickinger Avenue and Berryessa Road</p> <p>The level of service would be LOS D during the AM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS E under 2030 Project conditions. This constitutes a significant impact by City of San Jose standards.</p>	S	<p>The necessary improvement to mitigate the Project impact at this intersection to an acceptable level consists of the addition of a second eastbound left-turn lane on Berryessa Road. The implementation of this improvement will improve intersection level of service to an acceptable LOS D during the AM peak hour. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of this traffic improvement. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS
<p>Lundy Avenue and Berryessa Road</p> <p>The level of service would be LOS F during both the AM and PM peak hours under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>King Road and Mabury Road</p> <p>The level of service would be an unacceptable LOS E during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to LOS F under 2030 Project conditions. This constitutes a significant impact by City of San Jose standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Design Change 33. Alum Rock Station US 101 and Julian Street</p> <p>The level of service would be LOS D during the AM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS E under 2030 Project conditions. This constitutes a significant impact by City of San Jose standards.</p>	S	<p>The necessary improvement to mitigate the Project impact at this intersection to an acceptable level consists of the addition of an exclusive eastbound right-turn lane on Julian Street. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of this traffic improvement. The implementation of this improvement would improve intersection level of service to an acceptable LOS C.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>US 101 and McKee Road</p> <p>The level of service would be LOS D during the AM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS E under 2030 Project conditions. This constitutes a significant impact by City of San Jose standards.</p>	S	<p>The necessary improvement to mitigate the Project impact at this intersection to an acceptable level consists of the conversion of the northbound shared right and through lane on the US 101 off-ramp to an all-movement lane. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a 'fair share' amount toward the implementation of this traffic improvement. The implementation of this improvement would improve intersection level of service to an acceptable LOS D.</p>	LS
<p>24th Street and Santa Clara Street</p> <p>The level of service would be an unacceptable LOS E during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to LOS F under 2030 Project conditions. This constitutes a significant impact by City of San Jose standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a 'fair share' amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>US 101 and Santa Clara Street</p> <p>The level of service would be LOS E during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to LOS F under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>The necessary improvement to mitigate the Project impact at this intersection to an acceptable level consists of the conversion of the eastbound right-turn lane on Santa Clara Street to a free-right-turn lane. The unacceptable level of service condition at this intersection is due to the significantly high eastbound traffic volume accessing the US 101 southbound on-ramp. However, the addition of a free-right-turn lane would not be feasible due to its inability to operate as a free-right-turn movement with the ramp metering in operation. Should a feasible improvement be determined, a 'fair share' contribution will be evaluated at that time. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>McLaughlin Avenue and Story Road</p> <p>The level of service would be an unacceptable LOS E under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the AM peak hour under 2030 Project conditions. This constitutes a significant impact by City of San Jose standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a 'fair share' amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>King Road and Mabury Road</p> <p>The level of service would be an unacceptable LOS E during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to LOS F under 2030 Project conditions. This constitutes a significant impact by City of San Jose standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Design Change 42. Diridon/Arena Station and Alignment (Parking Structure Option).</p> <p>The Alameda and Taylor Street/ Naglee Avenue</p> <p>The level of service would be LOS F under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during both the AM and PM peak hours under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Race Street and The Alameda</p> <p>The level of service would be LOS E and F during the AM and PM peak hours, respectively, under 2030 Without Project with Improvements conditions. The intersection would degrade to an unacceptable LOS F during the AM peak hour, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>The identified 2030 Without Project possible improvement includes the addition of second westbound left-turn lane. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of these traffic improvements. With the Project traffic, a possible improvement includes the addition of an exclusive northbound right-turn lane. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of this traffic improvement. Although intersection operations would improve to an acceptable LOS E during the AM peak hour with this improvement, the level of service would remain at an unacceptable LOS F during the PM peak hour for both the Without Project and Project. The unacceptable level of service condition at this intersection is due to the significantly high non-Project related eastbound right-turn movement volume. The necessary improvement to improve intersection operations to acceptable levels consists of the addition of a fourth eastbound lane on The Alameda. However, this improvement would require the widening of The Alameda and Race Street, which is not feasible due to right-of-way constraints and not required to mitigate Project related traffic impacts. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Cahill Street and Santa Clara Street</p> <p>The level of service would be LOS C under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS F during both the AM and PM peak hours under 2030 Project conditions. This constitutes a significant impact by City of San Jose standards.</p>	S	<p>The necessary improvements to mitigate the Project impact at this intersection to an acceptable level consist of the addition of a second northbound left-turn lane on Cahill Street, and the addition of an exclusive left-turn and right-turn lane on the eastbound approach on Santa Clara Street. The implementation of these improvements will improve intersection level of service to an acceptable LOS C and D during the AM and PM peak hours, respectively. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of this traffic improvement. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS
<p>Design Change 42. Diridon/Arena Station and Alignment</p> <p>The Alameda and Taylor Street/ Naglee Avenue</p> <p>This intersection was projected to be impacted during both the AM and PM peak hours with the Parking Structure Option at the Diridon/Arena Station. However, with the elimination of the parking structure at the Diridon/Arena Station, this intersection would only be impacted during the PM peak hour.</p>	S	<p>There are no cost effective feasible improvements that can be made to mitigate Project impacts at this intersection. Should a feasible improvement be determined, a "fair share" contribution will be evaluated at that time. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Autumn Street and Julian Street</p> <p>This intersection would not be impacted by the Parking Structure Option at the Diridon/Arena Station. However, with the No Parking Option at the Diridon/Arena Station, this intersection would be impacted. The LOS would be an unacceptable LOS E during the PM peak hour under 2030 Without Project with Improvements conditions and the intersection would experience an increase in critical-movement delay of four or more seconds and an increase in the demand-to-capacity ratio (V/C) of .01 or more under the No Parking Option. This constitutes a significant impact by City of San Jose standards. The impact at this intersection would be a direct result of the shift in PNR traffic from the Diridon/Arena Station to the Santa Clara Station. Traffic projections show station traffic accessing the Santa Clara Station via this intersection.</p>	S	<p>Mitigation will include adding a third eastbound through lane to reduce impacts. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of this traffic improvement. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Cahill Street and Santa Clara Street</p> <p>This intersection was projected to be impacted during both the AM and PM peak hours with the Parking Structure Option at the Diridon/Arena Station. The LOS analysis shows that this intersection would continue to be impacted by the Project during both peak hours with the No Parking Option at the Diridon/Arena Station. However, the magnitude of this impact would be less with the No Parking Option than with the Parking Structure Option at the Diridon/Arena Station. With the Parking Structure Option, the level of service at this intersection would go from a LOS C under the year 2030 Without Project conditions to an unacceptable LOS F during both peak hours with the Project. However, the LOS at this intersection with the No Parking Option would deteriorate to an unacceptable LOS E and F during the AM and PM peak hours, respectively. Therefore, the increase in critical delay at the intersection would be less with the No Parking Option at the Diridon/Arena Station. This is a direct result of the decrease in station traffic accessing the Diridon/Arena Station via this intersection.</p>	S	<p>The necessary mitigation measures to mitigate the Project impact at this intersection include the addition of a second northbound left-turn lane and the addition of an exclusive left-turn and right-turn lane on the eastbound approach. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of this traffic improvement. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS
<p>Design Change 52. Santa Clara Station. <i>(With Parking Structure Option at Diridon/Arena Station).</i></p> <p>San Tomas Expressway and El Camino Real</p> <p>The level of service would be an unacceptable LOS F under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Lafayette Street and Benton Street</p> <p>The level of service would be an acceptable LOS D during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS E under 2030 Project conditions. This constitutes a significant impact by City of Santa Clara standards.</p>	S	<p>The identified 2030 Without Project possible improvements include the addition of an exclusive left-turn lane on the northbound direction, second through lanes on the northbound and southbound approaches, addition of an exclusive eastbound right-turn lane, and providing protected left-turn phasing on all approaches to the intersection. While these improvements would upgrade operations to acceptable levels, they may not be feasible due to right-of-way constraints and the current reversible lane on Lafayette Street.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Lafayette Street and Benton Street <i>(continued)</i></p>		<p>The necessary improvement, to mitigate the Project impact at this intersection beyond the Without Project condition, consists of the addition of an exclusive southbound right-turn lane on Lafayette Street. The implementation of this improvement would improve intersection level of service to an acceptable LOS D. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of these traffic improvements. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	
<p>Coleman Avenue and Brokaw Road</p> <p>The level of service would be an acceptable LOS D during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS F under 2030 Project conditions. This constitutes a significant impact by City of Santa Clara standards.</p>	S	<p>The identified 2030 Without Project necessary improvement includes the addition of third southbound through lane. The necessary improvement to mitigate the Project impact at this intersection consists of the addition of a second eastbound left-turn lane on Brokaw Road. The implementation of this improvement would improve intersection level of service to an acceptable LOS D. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of both of these traffic improvements. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS
<p>De La Cruz Boulevard and Central Expressway</p> <p>The level of service would be LOS F under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Monroe Street and Benton Street</p> <p>The level of service would be an unacceptable LOS E and F during the AM and the PM peak hour, respectively, under 2030 Without Project with Improvements conditions, and the intersection would degrade to LOS F during the AM peak hour and experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by City of Santa Clara standards.</p>	S	<p>Possible improvements include the addition of exclusive northbound and southbound right-turn lanes on Monroe Street. This improvement may be challenging due to right-of-way constraints along Monroe Street, but it is included as possible improvement. Although intersection operation levels will improve with the implementation of these improvements to conditions better than Without Project, the intersection level of service would remain at an unacceptable LOS F during the PM peak hour. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Monroe Street and Benton Street <i>(continued)</i></p>		<p>toward the implementation of these traffic improvements. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	
<p>De La Cruz Boulevard and Martin Avenue</p> <p>The level of service would be an unacceptable LOS E during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more under 2030 Project conditions. This constitutes a significant impact by City of Santa Clara standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Design Change 52. Santa Clara Station <i>(No Parking Option at Diridon/ Arena Station).</i></p>			
<p>San Tomas Expressway and El Camino Real</p> <p>The level of service would be an unacceptable LOS F under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Lafayette Street and Benton Street</p> <p>The level of service would be an acceptable LOS D during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would degrade to an unacceptable LOS E under 2030 Project conditions. This constitutes a significant impact by City of Santa Clara standards.</p>	S	<p>The identified 2030 Without Project possible improvements include the addition of an exclusive left-turn lane on the northbound direction, second through lanes on the northbound and southbound approaches, addition of an exclusive eastbound right-turn lane, and providing protected left-turn phasing on all approaches to the intersection. While these improvements would upgrade operations to acceptable levels, they may not be feasible due to right-of-way constraints and the current reversible lane on Lafayette Street. The necessary improvement, to mitigate the Project impact at this intersection beyond the Without Project condition, consists of the addition of an exclusive southbound right-turn lane on Lafayette Street. The implementation of this improvement would improve intersection level of service to an acceptable LOS D. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of these traffic improvements. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Coleman Avenue and Brokaw Road</p> <p>This intersection would degrade from an LOS D under the year 2030 Without Project conditions to an unacceptable LOS F during the PM peak hour with the Parking Structure Option at the Diridon/Arena Station. With the No Parking Option at the Diridon/Arena Station, this intersection would continue to degrade (the intersection would experience a greater increase in critical delay.)</p>	S	<p>The necessary improvement to mitigate the Project impact at this intersection consists of the addition of a second eastbound left-turn lane. With implementation of this improvement, the intersection level of service would improve to an acceptable LOS D, assuming the Parking Structure Option at the Diridon/Arena Station. With the No Parking Option, the proposed mitigation for this intersection would not be sufficient to mitigate the Project impact. The intersection of Coleman/Brokaw would continue to operate at an unacceptable LOS E with the implementation of the proposed second eastbound left-turn lane. The additional improvement needed to mitigate the No Parking Option Project impact at this intersection consists of the addition of an exclusive right-turn lane, the intersection level of service would improve to LOS D. In addition, although the AM peak hour is not projected to be impacted by the Project, a significant amount of northbound left-turn lane would be needed at this intersection. This will help serve station traffic more efficiently and avoid lengthy vehicle queues for this movement. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount toward the implementation of these traffic improvements. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.</p>	LS
<p>De La Cruz Boulevard and Central Expressway</p> <p>The level of service would be LOS F under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by CMP standards.</p>	S	<p>No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.</p>	SU
<p>Monroe Street and Benton Street</p> <p>The level of service would be an unacceptable LOS E and F during the AM and the PM peak hour, respectively, under 2030 Without Project with Improvements conditions, and the intersection would degrade to LOS F during the AM peak hour and experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more during the PM peak hour under 2030 Project conditions. This constitutes a significant impact by City of Santa Clara standards.</p>	S	<p>Possible improvements include the addition of exclusive northbound and southbound right-turn lanes on Monroe Street. This improvement may be challenging due to right-of-way constraints along Monroe Street, but it is included as possible improvement. Although intersection operation levels will improve with the implementation of these improvements to conditions better than Without Project, the intersection level of service would remain at an unacceptable LOS F during the PM peak hour. Because the Project would contribute to traffic congestion at this intersection, the Project will contribute a "fair share" amount</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
Monroe Street and Benton Street <i>(continued)</i>		toward the implementation of these traffic improvements. With the implementation of the above traffic improvement, the Project would result in a less-than-significant impact.	
De La Cruz Boulevard and Martin Avenue The level of service would be an unacceptable LOS E during the PM peak hour under 2030 Without Project with Improvements conditions, and the intersection would experience an increase in critical-movement delay of 4 or more seconds and an increase in the V/C of .01 or more under 2030 Project conditions. This constitutes a significant impact by City of Santa Clara standards.	S	No other cost-effective feasible improvements can be made at this intersection beyond those identified under the 2030 Without Project conditions. Because the Project would contribute to the need for improvements at this intersection, the Project will contribute a "fair share" amount toward the implementation of traffic improvements. The Project would cause a significant unavoidable impact at this intersection.	SU
4.3 AIR QUALITY			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.4 BIOLOGICAL RESOURCES AND WETLANDS			
Impacts to Congdon's tarplant may be greater than that described in the FEIR due to the difference in the number of living plants identified in the 2002 and 2005 surveys (12 and 100, respectively). Mitigation will be implemented to reduce any temporary or permanent impacts to Congdon's tarplant.	S	VTA will design all facilities to avoid temporary and permanent impacts to Congdon's tarplant to the maximum extent practicable. If avoidance is not feasible, a focused botanical survey will be conducted by a qualified plant biologist to ascertain the presence or absence of the species in the Project area during the initial blooming period (August) that occurs prior to the construction. VTA will mitigate the permanent loss of Congdon's tarplants at a minimum ratio of 1:1 (replacement plants: lost plants), or at a ratio determined in consultation with resource agency personnel. VTA will also mitigate in accordance with the California Native Plant Society's recommended measures for mitigating impacts to Congdon's tarplant.	LS
The revised wetland delineation completed in the fall 2006 identified an additional 2.79 acres of wetlands and waters of the United States compared to the information presented in the FEIR (Table 4.4.2-2). Of this additional acreage, 0.92 acres is attributed to drainage ditches running along the railroad corridor that were not previously identified (see photo). An additional 0.76 acres is attributed to the design change at Berryessa Creek where a larger area would be impacted by construction of a multi-cell box culvert (see below). Confirmation of the revised delineation by the Army Corps of Engineers is pending. Mitigation is proposed that replaces the information in the FEIR.	S	VTA will design all Project facilities to avoid temporary and permanent impacts to wetlands and waters of the United States to the maximum extent practicable. If avoidance is not feasible, VTA will mitigate the permanent loss of wetlands at a minimum 2:1 ratio (replacement area: loss area) and the temporary loss of wetlands at a minimum 1:1 ratio, or at higher ratios determined in consultation with resource agency personnel. Permanent and temporary impacts to waters of the United States will be mitigated at minimum 1:1 ratio, or at a higher ratio determined in consultation with resource agency personnel. Mitigation will be on-site and in-kind to the maximum extent practicable. If mitigation cannot be accommodated entirely on-site, VTA will investigate other mitigation opportunities in coordination with resource agency personnel within the impacted watershed, if possible. A qualified biologist, in coordination with resource agency personnel, will prepare a mitigation and monitoring plan for impacts to wetlands and waters of the United States due to the Project. Alternatively, VTA may purchase credits in an approved mitigation bank.	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Design Change 9. Berryessa Creek.</p> <p>The FEIR includes an access road from Berryessa Road to the Berryessa Station area west of railroad ROW. During Preliminary Engineering, this road was relocated to the east of the railroad ROW. Under both configurations the road breaches the 150 foot riparian setback from Upper Penitencia Creek. Impacts to Upper Penitencia Creek associated with the access road discussed previously in the FEIR remain applicable in the SEIR, as the road would still cross the creek and affect the same types of biological resources, although approximately 650 feet farther east. Mitigation is proposed to replace riparian habitat, which supplements the information in the FEIR.</p>	S	<p>VTA will design all Project facilities to avoid temporary and permanent impacts to riparian habitat to the maximum extent practicable. If avoidance is not feasible, impacts to the riparian habitat will be mitigated at ratios based on the quality of habitat to be impacted. Impact ratios of 3:1, 2:1, and 1:1 (replacement area: loss area) will be applied for impacts to high-quality, medium-quality, and lower-quality habitats, respectively. Mitigation for impacts to riparian habitat will be in-kind, except that non-native species will be replaced with commercially available native species common to the planting area, and on-site to the maximum extent practicable. If mitigation cannot be accommodated entirely on-site, VTA will coordinate with resource agency personnel to identify other potential riparian mitigation sites within the impacted watershed, if possible. A qualified biologist, in coordination with resource agency personnel, will prepare a mitigation and monitoring plan for impacts to riparian habitat due to the Project.</p>	LS
4.5 COMMUNITY SERVICES AND FACILITIES			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.6 CULTURAL AND HISTORIC RESOURCES			
<p>ARCHAEOLOGICAL RESOURCES Archaeological resources are expected to occur within the revised APE.</p> <p>ARCHITECTURAL RESOURCES Design Change 40. Downtown San Jose Station</p> <p>Three new impacts to historic or architectural resources would result from the station entrance options for the Downtown San Jose Station: Station entrance options M-1A, M-1B, and M-1C would be constructed on historic properties, the Ravioli Building at 28 East Santa Clara Street; the Bank of America Building at 8-14 South First Street; and the Western Dental Building at 42-48 East Santa Clara Street, respectively, buildings listed on the NRHP as contributors to a historic district, the San Jose Downtown Commercial Historic District.</p> <p>Construction of any station entrance may require the substantial alteration of a historic property which would constitute a substantial adverse change to a component of the historic district as it would change the physical features within the setting and visual linkage to the District and possibly diminish the integrity of the District.</p>	S	<p>ARCHAEOLOGICAL RESOURCES A Memorandum of Agreement (MOA) and supporting Cultural Resources Treatment Plan (CRTP) will be developed for the archaeological sites in consultation with the Native American community, Hispanic historical organizations, appropriate city and county historic preservation bodies, SHPO, and ACHP. Mitigation measures may include subsurface excavations, focused archival research, site protection, on-site monitoring, following procedures in CRTP, curation, and public interpretation.</p> <p>ARCHITECTURAL RESOURCES Mitigation measures for the historic properties will be set forth in a MOA to be executed by appropriate government and historic preservation bodies. Other elements of the mitigation measures and MOA described in the FEIR are applicable.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
4.7 ELECTROMAGNETIC FIELDS			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.8 ENERGY			
The demand for electricity by the Project can not be accommodated during peak periods without potential disruptions recognizing the deficiencies in the statewide transmission infrastructure.	S	No cost effective feasible mitigation.	SU
4.9 GEOLOGY, SOILS, AND SEISMICITY			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.10 HAZARDOUS MATERIALS			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.11 LAND USE			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.12 NOISE			
<p>LINE PORTION For baseline conditions the first floor of 132 residences would be impacted under the FTA criteria. The second floor and higher floors of 425 residences would be impacted under the FTA criteria.</p> <p>Design Change 4. Crossover Tracks near Kato Road.</p> <p>This design change would result in four residences impacted at the Castilleja Subdivision. In addition, the second floor of 9 residences would be impacted. For comparison, the baseline did not have any noise impacts.</p> <p>Design Change 8. Dixon Landing Road Alignment.</p> <p>This design change with the Retained Cut Option would result in 14 residences impacted at the ground floor and 57 residences with second and higher floors. For comparison, the At Grade Option has 16 residences impacted at the ground floor and 114 residences with second and higher floors.</p>	S	Approximately 9,100 linear feet of sound walls, 10-13 feet high, and 2,850 linear feet of sound absorptive material on retaining walls will reduce noise impacts to less than significant levels.	LS
	S	Approximately 340 feet of 14-foot high sound walls and noise insulation for the second and higher floors will reduce noise impacts to less than significant levels.	LS
	S	The Retained Cut Option requires approximately 350 linear feet of 8-foot high sound walls and noise insulation for the second and higher floors. The At Grade Option requires approximately 720 linear feet of 7- to 8-foot high sound walls and noise insulation for the second and higher floors. These mitigation measures will reduce noise to less than significant levels.	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Design Change 14. Curtis Avenue to Trade Zone Boulevard.</p> <p>This design change and options would result in the following impacts: Retained Cut Long Option - 19 residences; Retained Cut Short Option - 19 residences; Aerial Long Option - 68 residences; and Aerial Short Option - 70 residences. Residences with second and higher floors would also be impacted.</p> <p>TUNNEL PORTION For the baseline conditions 133 residences would be impacted by groundborne noise under the FTA criteria.</p>	<p>S</p> <p>S</p>	<p>The Retained Cut Long Option requires approximately 1,150 linear feet of 13- to 16-foot high sound walls. The Retained Cut Short Option requires approximately 1,850 linear feet of 10- to 16-foot high sound walls. The Aerial Long Option requires approximately 3,120 linear feet of 10- to 16-foot high sound walls. The Aerial Short Option requires approximately 3,040 linear feet of 10- to 16-foot high sound walls. All of these options require noise insulation for the second and higher floors. These mitigation measures will reduce noise to less than significant levels.</p> <p>Approximately 5,500 linear feet of highly resilient direct fixation fasteners and 10,500 linear feet of rail suspension fasteners or equivalent measures will reduce groundborne noise impacts to less than significant levels.</p>	<p>1S</p> <p>1S</p>
VIBRATION			
<p>LINE PORTION Approximately 172 single family and 171 multi-family residences would be impacted under the FTA criteria.</p> <p>Design Change 4. Crossover Tracks near Kato Road.</p> <p>This design change would result in 29 residences impacted under the FTA criteria compared to 25 residences without crossover tracks.</p> <p>Design Change 8. Dixon Landing Road Alignment.</p> <p>This design change with the Retained Cut Option would result in 24 residences impacted under the FTA criteria compared to 59 residences with the At Grade Option.</p> <p>Design Change 14. Curtis Avenue to Trade Zone Boulevard.</p> <p>This design change with the Retained Cut Long, Retained Cut Short, Aerial Long, and Aerial Short options all result in vibration impacts to 32 residences.</p>	<p>S</p> <p>S</p> <p>S</p> <p>S</p>	<p>Approximately 6,260 linear feet of tire derived aggregate and 8,225 linear feet of 8 Hz floating slab or equivalent measures will reduce vibration impacts to less than significant levels</p> <p>Approximately 700 linear feet of tire derived aggregate and 300 feet of 8 Hz floating slab or equivalent measures compared to approximately 1,000 linear feet of tire derived aggregate without the crossover tracks will reduce vibration impacts to less than significant levels.</p> <p>The Retained Cut Option will require approximately 480 linear feet of tire derived aggregate and 880 feet of 8 Hz floating slab or equivalent measures. The At-Grade Option at Dixon Landing Road will require approximately 2,030 linear feet of tire derived aggregate and 560 feet of 8 Hz floating slab or equivalent measures. These mitigation measures will reduce vibration impacts to less than significant levels.</p> <p>The Retained Cut Long Option will require 575 linear feet of 8 Hz floating slab or equivalent measure. The Retained Cut Short Option will require 590 linear feet of 8 Hz floating slab or equivalent measure. The Aerial Long Option will require 630 linear feet of 8 Hz floating slab or equivalent measure. The Aerial Short Option will require 590 linear feet of 8 Hz floating slab or equivalent measure.</p> <p>With mitigation, all of the options result in two residences at the Terrace Gardens Senior Housing complex continuing to have vibration impacts that would exceed the FTA criteria by 1 VdB.</p>	<p>1S</p> <p>1S</p> <p>1S</p> <p>1S</p>

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
TUNNEL PORTION The tunnel portion would not result in any vibration impacts under the FTA criteria.	N	No new mitigation is necessary.	N
4.13 SECURITY AND SYSTEM SAFETY			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.14 SOCIOECONOMICS			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.15 UTILITIES			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.16 VISUAL QUALITY AND AESTHETICS			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.17 WATER RESOURCES, WATER QUALITY, AND FLOODPLAINS			
No new significant impacts would result.	N	No new mitigation is necessary.	N
4.18 CONSTRUCTION			
TRANSPORTATION AND TRANSIT			
VEHICULAR TRAFFIC Design Change 5. Kato Road Underpass. Construction of the Kato Road underpass would cause full closure of Kato Road for approximately 6 months in the area near the BART alignment. Increased traffic congestion would result from both the diversion of east-west traffic from the Kato Road/Milmont Drive intersection and the inability of existing regional commute cut-through traffic to use the Kato Road-Milmont Drive path. The full closure would impact traffic at the following two intersections: <i>Dixon Landing Road/North Milpitas Boulevard.</i> Currently, the southbound right-turn volume increases considerably in the morning peak and the eastbound left turn volume increases in the evening peak. The southbound approach (north leg) is currently striped with a wide shoulder that is used as a bike lane and right turn lane, two through lanes, and one left turn lane. The eastbound approach (west leg) is currently striped with one left-turn lane, one through lane, and one shared through-right lane.	S	Mitigation measures to reduce impacts to less than significant levels are not feasible due to ROW constraints and additional project cost. Therefore, construction at this location would result in a significant unavoidable impact. During construction, the southbound approach will be modified to two right turn lanes, a bike pocket, one through lane, and one left turn lane. Temporary warning signs will be provided for bicyclists entering the bike pocket and southbound drivers turning right to yield to pedestrians. The eastbound approach will be modified to one left-turn lane, one shared left-through lane, and one through-right lane, and the traffic signal phasing will be modified to an east/west "split" phasing to accommodate the shared left-through lane. The combined effect of re-striping and traffic signal phase sequence modifications results in an LOS E operation. To achieve LOS D, road widening would be required, which is not feasible since it would add additional project cost and impact adjacent private property.	SU

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p><i>Kato Road-Scott Creek Road/Warm Springs Boulevard.</i> Currently, the northbound right-turn volume and the westbound left-turn volumes increase considerably in the morning peak. The northbound approach (south leg) is currently striped for two left-turn lanes, two through lanes, and one right-turn lane. The westbound approach (east leg) is currently striped for one left-turn lane, two through lanes, and one right-turn lane. The combined effect of re-striping results in an LOS E operation. Both measures can be implemented within the existing street ROW.</p> <p>Design Change 8. Dixon Landing Road Alignment.</p> <p>Construction of the Dixon Landing Road crossing would require full closure of Dixon Landing Road for approximately 6 months in the area near the BART alignment. Increased traffic congestion would result from the diversion of east-west traffic from Dixon Landing Road onto Kato Road. The full closure at Dixon Landing Road would impact traffic at the following three intersections:</p> <p><i>Dixon Landing Road/Milmont Drive.</i> Under the Retained Cut option, the closure of the east leg of this intersection would improve intersection LOS by eliminating conflicting movements.</p> <p>Under the At-Grade Option, roadway excavation at this intersection would allow for only one northbound and one southbound lane on Milmont Drive. Adequate intersection levels of service would not be provided given the traffic levels and roadway constraints.</p> <p><i>Kato Road/Milmont Drive.</i> Under both options, the northbound right-turn volume increases considerably in both the morning and evening peaks. The northbound approach (south leg) is currently striped for one left turn lane and one shared through-right lane.</p> <p><i>Kato Road-Scott Creek Road/Warm Springs Boulevard.</i> Under both options, the eastbound right-turn volume increases considerably in both the morning and evening peaks. The eastbound approach (west leg) is currently striped for one left-turn lane, two through lanes, and one shared through right-turn lane.</p>	<p>S</p>	<p>During construction, the northbound approach will be modified to one left-turn lane, two through lanes, and two right-turn lanes. During construction, the westbound approach will be modified to two left-turn lanes, one through lane, and one right-turn lane. The combined effect of re-striping and traffic signal phase sequence modifications results in an LOS E operation. To achieve LOS D, road widening would be required, which is not feasible since it would add additional project cost and impact adjacent private property.</p> <p>Mitigation measures to reduce impacts to less than significant levels are not feasible due to ROW constraints and additional project cost. Therefore, construction at this location would result in a significant unavoidable impact.</p> <p>No mitigation is necessary.</p> <p>The necessary improvements to provide acceptable levels of service for the At Grade Option consist of road widening, which is not feasible since it would add additional project cost and impact adjacent private property.</p> <p>During the construction of both options, the northbound approach will be modified to one shared through-left lane and one right turn lane. The southbound approach will be modified to one shared left-through-right lane. In addition, traffic signal phasing will be modified to allow the northbound right-turn movement to overlap with the westbound left turn movement. This will be implemented within existing street ROW to avoid impacts to adjacent properties.</p> <p>During the construction of both options, the eastbound approach will be modified to one left turn lane, one through lane, one shared through right-turn lane, and one right turn lane. This will be implemented within existing street ROW to avoid impacts to adjacent properties.</p>	<p>SU</p>

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Design Change 14. Curtis Avenue to Trade Zone Boulevard.</p> <p>The construction of either aerial option at the Capitol Avenue crossing would close all northbound lanes along Capitol Avenue for a period of 9 months during the construction of the lowered Capitol Avenue alignment. Once construction of the depressed northbound Capitol Avenue has been completed, the northbound lanes would re-open and all southbound lanes on Capitol Avenue would be closed for 9 months.</p>	S	<p>The necessary improvement to provide acceptable levels of service for the Aerial Option consists of widening Capitol Avenue; however, the widening of Capitol Avenue is not feasible due to right-of-way constraints and additional project cost. Therefore, construction at this location would cause a significant unavoidable impact.</p>	SU
<p>Design Change 40. Downtown San Jose Station.</p> <p>The construction of the Downtown San Jose Station would require long-term lane or street closures on East Santa Clara Street between 4th Street and San Pedro Street over the planned 4-year construction period.</p> <p>Construction of the Downtown San Jose Stations would cause the degradation of the following intersections to below LOS D during construction:</p> <ul style="list-style-type: none"> • Santa Clara Street and 3rd Street • Santa Clara Street and 4th Street • Saint James Street and 5th Street <p>The construction of the Downtown Station would cause a significant unavoidable impact to vehicular traffic due to long-term lane or street closures and degradation of the above intersections to below LOS D.</p>	S	<p>The necessary improvements to reduce impacts to less than significant levels are not feasible due to ROW constraints and additional project cost; therefore, construction of the Downtown San Jose Station would result in a significant unavoidable impact.</p>	SU
<p>Design Change 42. Diridon/Arena Station.</p> <p>The construction of the Diridon/Arena Station would require the long-term street closures of Autumn and Montgomery streets. Autumn Street south of Santa Clara Street around the station footprint would be closed for less than 1 month, while Montgomery Street would be closed for about 2 months.</p>	S	<p>The necessary improvements to reduce impacts to less than significant levels are not feasible due to ROW constraints and additional project cost; therefore, construction of the Diridon/Arena Station would result in a significant unavoidable impact.</p>	SU

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>Construction of the Diridon/Arena Station would cause the degradation of the following intersection to below LOS D during construction:</p> <ul style="list-style-type: none"> • West Santa Clara Street and Autumn Street <p>The construction of the Diridon/Arena Station would cause a significant unavoidable impact to vehicular traffic due to long-term street closures and degradation of the above intersection to below LOS D.</p>			
PARKING			
<p>Twenty-five to 30 percent of the parking for one office located south of Trade Zone Boulevard and east of the railroad ROW would be displaced for two to three years due to the Trade Zone Boulevard construction staging area. No readily available feasible alternate parking sites are in the vicinity.</p>	S	VTA will work with the business owner to minimize parking impacts to the extent feasible. However, the temporary loss of parking for the office would cause a significant unavoidable impact.	SU
<p>Approximately 400 off-street parking spaces would be displaced for more than three months due to the Downtown San Jose Station construction staging area. Parking spaces are very limited in this area and demand is high due to the use by local businesses. No readily available feasible alternate parking sites are in the vicinity.</p>	S	VTA will work with business owners to minimize parking impacts to the extent feasible. However, the temporary loss of approximately 400 parking spaces in the Downtown San Jose Station area would be considered a significant unavoidable impact.	SU
<p>Approximately 450 off-street parking spaces and up to 24 on-street parking spaces located south of West Santa Clara Street would be displaced for more than three months due construction of the Diridon/Arena Station and the construction staging area. If the Parking Structure Option were chosen, an additional 900 parking spaces would be displaced north of West Santa Clara Street. If the North Bus Transit Center Option were chosen, the property located north of San Fernando Street between Cahill and Montgomery streets (this is the proposed site for the South Bus Transit Center Option) would be used as a temporary bus transit center during construction of the permanent transit center, and would cause the displacement of approximately 90 parking spaces for more than three months. Parking demand is high from area uses such as the HP Pavilion, Caltrain, and other local businesses. No readily available feasible alternate parking sites are in the vicinity.</p>	S	VTA will continue to work with the City of San Jose, JPB, and HP Pavilion to minimize parking impacts, such as providing shuttles to remote parking lots. However, the temporary loss of parking spaces in the Diridon/Arena Station area would be considered a significant unavoidable impact.	SU

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
AIR QUALITY			
No new significant impacts would result.	N	No new mitigation is necessary.	N
BIOLOGICAL RESOURCES AND WETLANDS			
Fragments of nonnative grasslands and potential burrowing owl habitat exist along the alignment. Impacts to burrowing owls occur when construction activity is within 50 meters (approximately 165 feet) of an occupied burrow, destroys a natural or artificial burrow, or results in destruction or degradation of foraging habitat within 100 meters (approximately 330 feet) of an occupied burrow.	S	A preconstruction survey of suitable habitat within 250 feet of construction areas (access permitting) will be conducted per California Department of Fish and Game (CDFG) guidelines by a qualified biologist within 30 days prior to construction to determine the presence of burrowing owls. If burrowing owls are determined to be present, avoidance of occupied burrows is the preferred method of addressing potential impacts. If avoidance is not feasible, a qualified biologist, in consultation with CDFG, will use passive relocation techniques (e.g., installing one-way doors at burrow entrances) to displace burrowing owls from the construction area to avoid the loss of any individuals due to construction. If destruction of occupied burrows is unavoidable, the loss of foraging, nesting, and roosting habitat will be mitigated through habitat preservation at a ratio of 6.5 acres of foraging habitat permanently preserved for each pair or unpaired resident bird displaced due to the Project. Such mitigation will be provided via preservation of the appropriate acreage of occupied burrowing owl habitat with a conservation easement, or the purchase of credits in a CDFG-approved conservation bank.	LS
Construction activities may impact nesting raptors in nonnative grassland and riparian areas. In addition, the removal of trees anywhere along the alignment may impact nesting raptors.	S	<p>To the extent feasible, construction activities, including tree and shrub removal, will be scheduled between September and December to avoid the nesting season for most raptors, as well as other bird species.</p> <p>If construction can not be scheduled between September and December, preconstruction surveys for nesting raptors will be conducted by a qualified ornithologist during the nesting season (January through August) to ensure that no raptor nests will be disturbed during construction. The Surveys will be conducted no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist will inspect all trees and electrical towers in, and immediately adjacent to, the impact area for raptor nests. If an active raptor nest is found close enough to the construction area to be disturbed by these activities, the ornithologist, in consultation with CDFG, will determine the extent of a construction-free buffer zone, typically 250 feet, to be established around the nest until the chicks have fledged.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
<p>The FEIR includes the development of stream diversion plans in accordance with VTA's Fish Friendly Channel Design Guidelines (March 2000). In the SEIR, this requirement extends to construction of the multi-cell box culvert at Berryessa Creek (Design Change # 9). The requirement also extends to Upper Penitencia Creek where, with implementation the Army Corps of Engineer's Upper Penitencia Creek Flood Control Project, which will widen the creek near the Berryessa Station, it would be necessary to construct columns within the channel to support both the BART aerial structure and roadway overpass at the station.</p>	S	<p>Construction within the channels that cross the Project alignment, including installation of temporary stream diversion structures, will be restricted to the dry season, which generally extends from June 1 to October 15 depending on the species present. In some cases, construction may begin earlier than June 15 or continue past October 15, as specified in regulatory agency permits and agreements or any authorized extensions.</p>	LS
CULTURAL AND HISTORIC RESOURCES			
No new significant impacts would result.	N	No new mitigation is necessary.	N
GEOLOGY, SOILS AND SEISMICITY			
<p>Surface settlements and ground movements may cause damage to structures, facilities, and utilities. However, the occurrence of settlement does not necessarily result in damage. Depending on the predicted degree of impact, probability of exceedance, structural sensitivity to movement, the Project 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 Project also would employ earth pressure balance tunnel boring machines to minimize the risk of surface settlements and lateral ground movements. In addition to these design requirements, mitigation can be implemented to reduce the magnitude and likelihood of surface settlements and ground movements, physical damage, or functional impacts.</p>	S	<p>Pre-construction condition surveys of the interiors and exteriors of select structures within the settlement trough along the tunnel alignment and within the limit of influence around the cut and cover excavations will be conducted by independent surveyors to assess the condition of each property. These surveys will include written and photographic (video and still) records. The results of these surveys will be compared with post-construction condition surveys so that any effects of tunneling and cut and cover construction on structures can be assessed. For the tunnel activity, surveys will occur as close to the planned dates of tunneling as possible so that the results are as current as possible. Therefore, surveys will be performed prior to passage of the tunnel boring machines with some surveys conducted once tunneling has commenced.</p> <p>For the tunneling activity, ground surface monitoring will be performed prior to and during construction. Instrumentation will be installed to monitor ground movements and effects of tunnel boring on structures and utilities. Monitoring can be used to direct real-time modifications, as appropriate, to tunneling practices and procedures to assist in minimizing impacts along the tunnel alignment.</p> <p>Monitoring points will be mounted on select structures within the settlement trough along the tunnel alignment and within the limit of influence around the cut and cover excavations to monitor any effects of settlement.</p> <p>A pre-construction condition survey will be conducted of utilities deemed to be potentially at risk due to surface settlement or ground movement. Major utilities deemed to be at risk will be monitored during construction. Coordination with utility providers will be conducted prior to installation of utility monitoring points.</p>	LS

IMPACT	SIGNIFICANCE	MITIGATION	SIGNIFICANCE AFTER MITIGATION
[Geology, Soils and Seismicity, cont'.]		The option of post construction repair is based on the probability of damage, predicted degree of damage, sensitivity of the structure or facility, and cost and ease of repair. If repair is not feasible, compensation may be necessary.	
HAZARDOUS MATERIALS			
No new significant impacts would result.	N	No new mitigation is necessary.	N
LAND USE			
No new significant impacts would result.	N	No new mitigation is necessary.	
NOISE AND VIBRATION			
Construction noise impacts would occur during site clearing, preparation of subgrade, retaining wall and aerial construction, layout of sub-ballast, and track installation for the line portion and during tunnel portal, station vent shaft and auxiliary facility construction.	S	A combination of temporary sound walls, noise control curtains, restrictions on work hours, or temporary relocation of impacted residents have been identified to achieve the construction noise criteria. Similar measures are identified to minimize noise impacts where it may not be feasible to reduce noise impacts to acceptable levels.	SU
Construction vibration impacts would occur from the use of vibratory pile drivers, large tracked dozers, compactors and other heavy equipment. Vibration impacts are a major concern for the construction of the Downtown San Jose Station because of the adjacent buildings. Vibration impacts are not anticipated from the tunnel boring machines.	S	The use of "resonant-free pile drivers" or other measures will be required if vibration levels exceed the criteria. Vibration monitoring during construction is proposed to ensure compliance.	LS
SECURITY AND SYSTEM SAFETY			
No new significant impacts would result.	N	No new mitigation is necessary.	N
SOCIOECONOMICS			
No new significant impacts would result.	N	No new mitigation is necessary.	N
UTILITIES			
No new significant impacts would result.	N	No new mitigation is necessary.	N
VISUAL QUALITY AND AESTHETICS			
No new significant impacts would result.	N	No new mitigation is necessary.	N
WATER RESOURCES, WATER QUALITY AND FLOODPLAINS			
No new significant impacts would result.	N	No new mitigation is necessary.	N



1.6

PUBLIC AND AGENCY INVOLVEMENT

VTA issued the Notice of Preparation (NOP) for the SEIR in July 2006 in accordance with CEQA. Public scoping meetings were held as follows:

August 8, 2006
Milpitas Community Center
457 E. Calaveras Boulevard, Milpitas

August 14, 2006
City of Santa Clara Police Department
601 El Camino Real, Santa Clara

August 15, 2006
Portuguese Community Center
1115 E. Santa Clara Street, San Jose

August 21, 2006
City of San Jose City Hall
200 East Santa Clara Street, San Jose

These public meetings were preceded by Community Working Group meetings, established during the early planning stages for the Silicon Valley Rapid Transit Corridor project. In addition, other meetings were held with the Policy Advisory Board (PAB), Technical Advisory Committee (TAC), and Project Development Teams (PDTs) to address issues related to the SEIR and Preliminary Engineering design phase. These various groups are described in the FEIR. Details of the meetings are given in Chapter 6.

1.7

PUBLIC CIRCULATION OF THE DRAFT SEIR



The Draft SEIR was circulated for public comments for a period of over 45 days beginning in January, 2007. Public hearings will be held to receive comments on the design changes, environmental impacts, and proposed mitigation measures. The times and locations of the public hearings will be announced

in direct mailings, in display advertisements in local newspapers of general circulation and noted in the Project web site. The VTA Board of Directors will consider the public comments along with the information presented in this document prior to a decision on the Project.



1.8

ISSUES TO BE RESOLVED

Several design options are presented in the SEIR for the BART Extension Project. Decisions would need to be made on which options are to be carried through into subsequent engineering phases. These options include:

- ❑ Mission Boulevard/East Warren Avenue Alignment (Design Change 1)
 - ❑ At Grade Option
 - ❑ Aerial Option
 - ❑ Aerial East Option
- ❑ Dixon Landing Road (Design Change 8)
 - ❑ Retained Cut Option
 - ❑ At Grade Option
- ❑ Locomotive Wye (Milpitas Option) (Design Change 13)
 - ❑ Relocated Milpitas Wye Option
 - ❑ No Wye Option
- ❑ Curtis Avenue to Trade Zone Boulevard (Design Change 14)
 - ❑ Retained Cut Long Option
 - ❑ Retained Cut Short Option
 - ❑ Aerial Long Option
 - ❑ Aerial Short Option
- ❑ Montague/Capitol Station (Design Change 17)
 - ❑ Parking Structure Option with Surface Parking Option
 - ❑ Surface Parking Option
- ❑ Berryessa Station (Design Change 23)
 - ❑ Parking Structure with Surface Parking Option
 - ❑ Surface Parking Option
- ❑ Electrical and Communication Facilities Near Mabury Road (Design Change 25)
 - ❑ Mabury Underground Option (for the high voltage line)
 - ❑ Las Plumas Overhead Option (for the high voltage line)
- ❑ Diridon/Arena Station Parking (Design Change 42)
 - ❑ Parking Structure Option
 - ❑ No Parking Option
- ❑ Diridon/Arena Station Bus Transit Center (Design Change 42)
 - ❑ North Bus Transit Center Option
 - ❑ South Bus Transit Center Option

In addition, future decisions will be required on the provision of BART core system parking to accommodate Project demand north of the BART Extension Project limits.