S. SUMMARY

NEED FOR ACTION

Improved transit services are needed in southern Alameda County to better balance current local and regional transportation demand, and to provide increased transportation capacity for future growth in areawide employment and population.

As an alternative to automobile travel, the BART Warm Springs Extension project would help relieve increasing congestion on areawide highways and local streets by providing additional capacity for people traveling between home and work and other significant locations and activity centers. Additionally, the proposed extension supports the region's efforts to meet state and federal air quality standards.

THE PROPOSED PROJECT AND ALTERNATIVES

BART is proposing a 7.8-mile extension of the existing Fremont line. Figure S-1 is a map of the extension corridor, showing the alignments of the Proposed Project and the Central Park design options involving BART's proposed Warm Springs Extension. The potential environmental impacts of the Proposed Project and eight alternative alignments for a BART line plus three "non-BART" alternatives are analyzed in this Environmental Impact Report. Table S-1 summarizes the characteristics of the Proposed Project and the alternatives.

Proposed Project

The proposed BART extension would begin at the existing elevated Fremont BART Station and extends southeasterly through Fremont Central Park, crossing the eastern arm of Lake Elizabeth on an aerial structure. It would then run adjacent to the Southern Pacific Transportation Company (SPTCo) and Union Pacific Railroad (UPRR) tracks, and continue to the South Warm Springs area, ending near the Alameda/Santa Clara County line. The Proposed Project includes three stations: Irvington Station would be located south of Washington Boulevard in the Irvington District; Warm Springs Station would be located south of Grimmer Road in the Warm Springs District, and South Warm Springs Station would be located north of Kato Road in south Fremont.

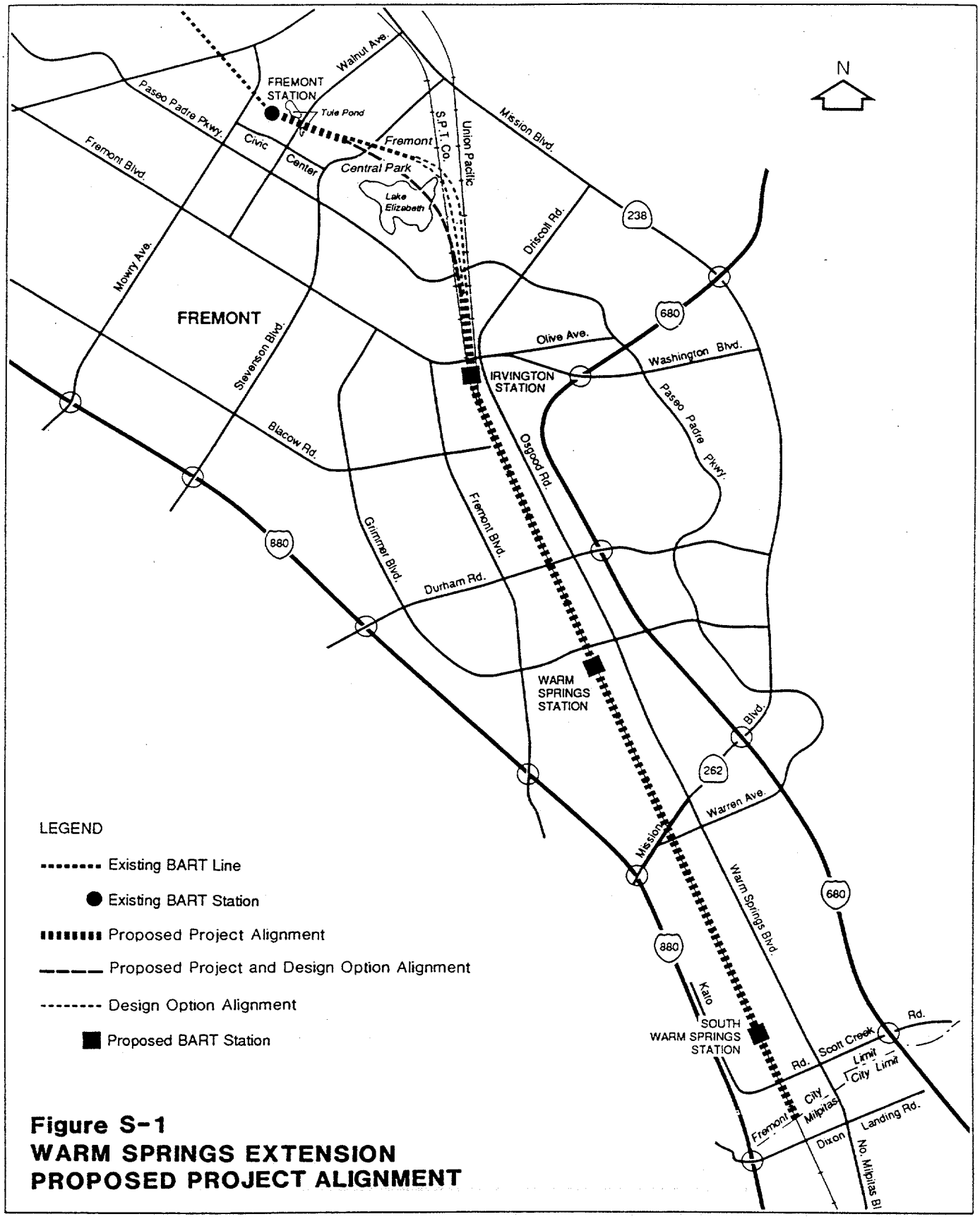

Figure S-1
WARM SPRINGS EXTENSION
PROPOSED PROJECT ALIGNMENT

SOURCE: DKS Associates, 1991

Not to Scale

Table S-1
Summary of Proposed Project and Alternative Characteristics

	Proposed Project	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7	Alt 8	Alt 9	Alt 10	Alt 11
ROUTE CHARACTERISTICS												
Length (miles)	7.8	n/a	n/a	n/a	5.4	5.4	7.8	7.8	7.8	5.4	7.8	7.8
Number of Stations	3	n/a	n/a	n/a	2	2	2	2	2	1	1	2
DISPLACEMENT EFFECTS												
Residential Properties	17	n/a	n/a	n/a	17	17	3	5	39	3	3	17
Business Properties	83	n/a	n/a	n/a	43	43	80	121	83	40	80	83
RIDERSHIP (Daily Entries & Exits)[1] (Year 2010)												
Daily Boardings	21,900	11,200	12,300	11,500	17,000	17,000	20,700	20,700	20,700	16,100	19,200	21,100
CAPITAL COST (1991 $ Millions)												
Project (w/out vehicles) - Aerial in Park	$610	n/a	n/a	n/a	$470	$440	$490	$530	$740	$320	$440	$560
Project (w/out vehicles) - Subway in Park	$670	n/a	n/a	n/a	$510	$500	$550	$570	$780	$380	$500	$620
Vehicles	$80	n/a	n/a	n/a	$55	$55	$80	$80	$80	$55	$80	$80
Mitigations	$32	n/a	n/a	n/a	$29	$29	$31	$27	$46	$29	$32	$32
ANNUAL OPERATING AND MAINTENANCE COSTS (1991 $ Millions)	$16.76	n/a	n/a	n/a	$10.34	$10.34	$15.63	$15.63	$15.63	$9.00	$11.55	$15.63

1. Includes Fremont BART Station plus proposed stations (if applicable)

Source: DKS Associates, 1991

There are several design options through Central Park. Design Option 1 calls for placing BART in a subway structure beneath Central Park, following the same alignment as the Proposed Project. Design Option 2A provides for aerial structures through Central Park but on an alignment slightly to the east of Lake Elizabeth. Design Option 2S calls for placing BART in a subway along the same alignment as Design Option 2A. Design Option 3 would move the aerial alignment farther to the east than Design Option 2A in Central Park, adjacent to the UPRR right-of-way.

Other design options studied in the report include at-grade or subway crossings at Paseo Padre Parkway, aerial design options at Washington Boulevard and Warren Avenue, and an optional alignment at the southern end of the corridor.

"Non-BART" Alternatives

Three of the alternatives addressed in this EIR are non-BART alternatives:

Alternative 1. This alternative assumes "no action"; or the *status quo*. The current transit and highway system would be left unchanged.

Alternative 2. This "no-build" alternative would include existing and programmed transit and highway system improvements, but does not include the BART Warm Springs extension.

Alternative 3. This alternative involves Transportation Systems Management (TSM), incorporating certain freeway widenings and the introduction of a high occupancy vehicle (HOV) lanes on I-880 in Alameda County.

BART Alternatives

In addition to the Proposed Project, the following eight additional BART extension alternatives are addressed in this EIR. The design options discussed above for the Proposed Project are also applicable to these alternatives:

Alternative 4. A 5.4-mile BART extension with two stations, at Irvington and Warm Springs. It parallels and relocates the SPTCo and UPRR railroad tracks.

Alternative 5. A 5.4-mile BART extension with two stations, at Irvington and Warm Springs. It has the same alignment as the Proposed Project but is shorter in length.

Alternative 6. A 7.8-mile BART extension with two stations, at Warm Springs and South Warm Springs. It would follow the same alignment as the Proposed Project, but without the Irvington Station.

Alternative 7. A 7.8-mile BART extension with two stations, at Warm Springs and South Warm Springs. It would be on an aerial structure through the Irvington District and would not have an Irvington Station.

Alternative 8. A 7.8-mile BART extension with two stations, at Warm Springs and South Warm Springs. South of Washington Boulevard it would be constructed in the median of Osgood Road and Warm Springs Boulevard on an aerial structure.

Alternative 9. A 5.4-mile BART extension with one station at Warm Springs. It has the same alignment as the Proposed Project but is shorter in length.

Alternative 10. A 7.8-mile BART extension with one station at South Warm Springs. It has the same alignment as the Proposed Project.

Alternative 11. A 7.8-mile BART extension with two stations, at Irvington and South Warm Springs. It has the same alignment as the Proposed Project.

AREAS OF CONTROVERSY

Areas of controversy for the proposed Warm Springs Extension include but are not limited to the following:

- Selection of the project to be implemented. This will include a specific route and alignment, including the length and number of stations to be built.

- Selection of one or more design options, if required, including both the aerial or subway alignments through Central Park, street crossings for Paseo Padre Parkway, Washington Boulevard and Warren Avenue and/or realignment of the railroads at the end of the line.

- Funding for the design options.

ISSUES TO BE RESOLVED

The following issues must be resolved prior to the project's implementation:

- Selection and approval of a project: The BART Board could take no action (Alternatives 1, 2 or 3), or they could select the Proposed Project or any of the alternatives involving a BART Warm Springs Extension (Alternatives 4 through 11). These decisions will entail a selection of the length of the Warm Springs Extension (5.4 or 7.8 miles), the number and location of stations (Irvington, Warm Springs, South Warm Springs), and the specific alignment (along the railroad corridor or along Osgood/Warm Springs Boulevard).

- Selection of design options, if applicable: The BART Board, if they find one or more design options necessary, will have to select among the design options for vertical and horizontal alignments through Central Park, for aerial or at-grade options for the crossing of Paseo Padre Parkway, Washington Boulevard and Warren Avenue, and/or for relocation of the railroad at the end of the line in the Warm Springs area.

- Adoption of appropriate mitigation measures to lessen significant impacts. Mitigation measures have been developed to reduce or eliminate impacts in all areas of environmental analysis included in this EIR. The BART Board will have to identify measures to be incorporated into the selected project alternative for implementation so as to eliminate or reduce impacts to a less than significant level. Specific findings on mitigation measures to be rejected also will have to be made.

- Completion of a Mitigation Monitoring Plan. This reporting program/monitoring plan must be prepared so as to assure the implementation of mitigation measures chosen by the BART Board to mitigate or avoid significant impacts.

ENVIRONMENTAL IMPACTS

The analysis in Chapter 3 indicates that extending BART from the Fremont Station to the South Warm Springs area would have a number of environmental effects. The impacts of the Proposed Project, Design Options and the alternatives are summarized in Table S-2.

Most of the significant effects identified in this EIR, and summarized in Table S-2, can be mitigated to less than significant levels with the mitigation measures identified in the report. However, in some environmental categories effects would occur that, even with mitigation, would still have the potential for significant adverse impacts. These effects are:

- Risks of harm to people and property in the event of ground rupture during a major earthquake. These risks can be reduced but not eliminated.

- The fragmentation of ruderal forb-grassland along the project corridor would be a significant adverse effect of the Proposed Project and all alternatives.

- The temporary removal of the riparian forest area east of Lake Elizabeth would be an unavoidable adverse effect of the Proposed Project and Design Option 1.

- The effect of construction activities in deterring wildlife use in the open water habitats during construction cannot be mitigated.

- Displacement of people from familiar settings due to relocation activities (up to 39 residences and 121 businesses) would be an unavoidable adverse effect.

- The aerial structure passing through Fremont Central Park (Proposed Project, Design Options 2A and 3) would not conform with the specific, applicable policies for undergrounding the BART extension in the Fremont General Plan. This is considered a significant unavoidable adverse land use effect.

- The aerial structure and embankments with the Proposed Project and Design Options 2A and 3 would have unavoidable adverse visual effects on the Fremont Villas condominium complex and adjacent parcels, and near Paseo Padre Parkway.

- The aerial structure with the Proposed Project would have unavoidable adverse visual effects at the crossing of Lake Elizabeth and in the riparian forest area east of the Lake.

- Design Option 3 would have unavoidable adverse visual impacts along portions of Valdez Way, Vaca Drive and Valero Way.

- The aerial structure in Alternative 8 would have unavoidable adverse visual impacts in the Mission Boulevard/Warm Springs Boulevard area and along Warm Springs Boulevard.

- Alternative 4 would create additional visual impacts near Driscoll Road.

- Alternative 7 and the Washington Boulevard Design Option (which applies to Alternatives 6, 9 and 10) would create additional visual impacts at Washington Boulevard.

- The Warren Avenue Design Option would have a significant visual effect at Mission Boulevard and Warren, in comparison to the Proposed Project (or Alternatives 6, 7 and 10) at that location.

- The Fremont Boulevard/Bay Street/Washington Boulevard intersection would operate at LOS F with or without the BART Extension (the Proposed Project or alternatives 4 and 5), although the extension would contribute to traffic congestion at the intersection. No mitigation is feasible, therefore this would be an unavoidable adverse effect.

- With the Proposed Project significant noise impacts would remain after mitigation in Central Park affecting approximately 33 acres or 7.5 percent of the park. With Design Options 2A and 3 residual noise impacts would affect approximately 3 acres or 0.7 percent of the Park.

- Residual vibration impacts would affect several residences near the crossover switches lose to Blacow Road (Proposed Project and all alternatives except Alternatives 7 and 8).

- Residual noise impacts would remain at several residences and Warm Springs Elementary School along Warm Springs Boulevard with Alternative 8.

- Consumption of non-renewable energy resources for project construction and operations.

The following significant cumulative impacts, summarized below, have been identified in this Draft EIR:

- **Soils, Geology and Seismicity.** Increased exposure of people and structures to the seismic hazards associated with the Hayward Fault Zone.

- **Hazardous Materials.** No significant adverse cumulative impacts. The cumulative impacts of increased storage and handling of hazardous materials within the vicinity of the project would be mitigated by compliance with federal, state, and local laws and regulations pertaining to the storage and handling of hazardous materials and investigation and remediation of identified releases.

- **Hydrology.** Increased stormwater discharges and urban runoff could contribute to existing flood problems and increased surface water pollution.

- **Ecosystems.** Riparian forest, oak woodlands, grasslands and seasonal wetlands habitats would continue to be fragmented and lost.

- **Land Use.** Irrevocable commitment of land to increased development.

- **Central Park.** No significant adverse cumulative impacts. The Warm Springs Extension Project is the only planned or foreseeable project with the potential to be inconsistent with the City of Fremont's plans for future development of Central Park. Therefore, no cumulative impacts on Central Park uses as a result of potential aggregate effects of this and other projects are expected.

- **Visual Quality.** Additional development will create an environment that is more built up which would allow the BART aerial structures less likely to contrast with or dominate their surroundings. Development and the maturation of plantings around Central Park will contribute to a visually complex environment capable of visually absorbing the BART structures.

- **Cultural Resources.** Increase in residential and commercial development may follow the Proposed Project bringing threats to archaeological sites.

- **Utilities.** No significant adverse cumulative impacts. Although there would be increasing demands of utility services, the utility providers, with planned improvement and conservation, expect to meet demands.

- **Safety and Security.** No significant adverse cumulative impacts. BART's *System Safety Plan* and *Emergency Plan* would be applicable to the Warm Springs Extension and

other proposed extensions in the same manner that they apply to existing BART operations. There are no anticipated projects by other agencies which would create additional safety risks or emergency preparedness requirements beyond those addressed in the plans.

- **Transportation.** Traffic from the project along with traffic from the increase in future development would result in cumulative traffic impacts in the vicinity of the proposed stations.

- **Noise and Vibration.** Increase in noise associated with greater motor vehicle traffic in conjunction with operational transit noise.

- **Air Quality.** No significant adverse cumulative impacts. Predicted carbon monoxide concentrations due to cumulative traffic are expected to be below the state and federal ambient standards. Current projections are that emissions of regional pollutants will decrease in the future due to regional programs for reducing emissions that are in place or currently being considered.

- **Energy.** Potential cumulative impacts could occur if the project, in combination with other future development were to result in the requirements for additional power generating capacity. Increasing demands for Pacific Gas and Electric (PG&E) services will require the utility to increase its dependable capacity. PG&E expects to meet the demands primarily through conservation and energy efficiency programs. Future demands, including the project, have been anticipated and are included in planning for commensurate increases in supply. There are no expected adverse cumulative effects on energy supplies.

TABLE S-2: SUMMARY OF PROJECT IMPACTS

The following summary of project impacts outlines: 1) anticipated impacts in each environmental category, 2) the project or alternative or design option to which the impact applies, 3) a brief description of the impact, 4) mitigation suggested to reduce the significance of the impact, and 5) a determination of whether the net remaining impact would be significantly adverse. The evaluations presented in this summary are abbreviated. The reader should refer to the text of the Draft EIR for full explanations of the environmental setting and impacts in each of the analytical categories.

Table S-2
Summary of Impacts

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
SOILS, GEOLOGY, SEISMICITY			
Proposed Project, Alternatives 4 thru 11	*Direct:* Ground surface rupture during a major earthquake on the Hayward Fault Zone could harm people and property on or near the Warm Springs Extension. Significant impact.	Follow BART seismic design criteria at all fault crossings. Place support structure on embankments at fault crossings, if possible. Design of Irvington Station (if included in the Warm Springs Extension) would follow Alquist-Priolo Act and Division of Mines and Geology guidelines. BART's earthquake alarm system and Emergency Plan procedures would reduce risks in the event of a major earthquake.	Mitigation can reduce but not eliminate risks from ground rupture due to a major earthquake; this is an unavoidable significant impact.
Proposed Project, Alternatives 4 thru 11	*Direct:* Fault creep along Hayward Fault could displace rails and create adverse track conditions. Potentially significant impact.	Monitor fault creep and conduct periodic track surveys and realign track as necessary.	Not significant.
Proposed Project, Alternatives 4 thru 11, All Central Park Design Options	*Direct:* Severe to violent groundshaking will occur in the event of a major earthquake. Underlying soils in some locations have a moderate-to-high potential for liquefaction or a moderate susceptibility to ground failure. Significantly increased exposure to risk of personal injury during a major earthquake.	All BART structures would be designed in accordance with specific seismic design criteria. Aerial structures would be supported on piles driven into dense older alluvium. BART's emergency procedures and training programs establish response protocols to an earthquake emergency.	Compared to the "No Project" Alternatives 1-3, the increased risks of injury to people from groundshaking, is not significant.
Proposed Project, Alternatives 4 thru 11, Design Options 1 thru 3	*Direct:* Expansive soils occur along the alignments, creating a potential risk of damage to structures from changing soil pressures. Significant impact.	Treat or replace expansive soils in localized areas.	Not significant.
Proposed Project, Alternatives 4 thru 11, All Central Park Design Options	*Cumulative:* Increased or higher-density population near transit facilities may increase exposure to seismic hazards related to Hayward Fault Zone. Significant impact.	Compliance with Alquist-Priolo Act provisions and building codes for seismically active areas.	Mitigation can reduce but not eliminate risks from seismic hazards; this is an unavoidable significant impact.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
SOILS, GEOLOGY & SEISMICITY *(continued)*			
Proposed Project, Alternatives 4 thru 11, All Central Park Design Options	*Construction:* Potential slope instability in moderately deep excavations and during construction of embankments; potential erosion of cut-slopes, particularly significant if heavy rainfall occurs.	Excavation and fills should be undertaken in accordance with Uniform Building Code and BART design criteria. Dewater to control groundwater seepage. Shore trenches as per CAL/OSHA requirements. Control erosion in accordance with Alameda Co. grading ordinance. Inspect slopes after rainfall, repair gullies and revegetate as soon as possible.	Not significant.
HAZARDOUS MATERIALS			
Proposed Project, Alternatives 4 thru 11, Design Options 1 thru 3	*Direct:* Project operation would not involve the use or storage of hazardous materials. Employees and passengers could be exposed in the event of accidents involving fuel pipelines along the alignment or railcars transporting hazardous materials. Impact is of minor significance.	The procedures set forth in BART's Emergency Plan would be implemented in the event of a release of hazardous materials.	Not significant.
Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct:* Project implementation and operation could interfere or delay investigation and clean-up efforts, resulting in potential increased exposure of people to contaminants. Significant impact.	BART would cooperate with investigation and clean-up and provide access as necessary for collection of soil samples, and management of contaminated soils or groundwater, provided all regulatory and BART safety and emergency programs are complied with.	Not significant.
Proposed Project, Alternatives 4 thru 11, Design Options 1 thru 3	*Construction:* Risks to workers/public could occur from exposure to contaminated soils or groundwater encountered during construction activities. Potential for significant impacts exists along the entire project corridor.	Site characterization and remediation activities should be conducted along portions of the project alignment where grading, excavation and dewatering is likely to occur. All construction work should be conducted in accordance with a site-specific health and safety plan.	Not significant.
HYDROLOGY			
Proposed Project, Alternatives. 4 thru 11	*Direct/Construction:* Loss of stormwater storage capacity at Tule Pond south of Walnut Avenue could cause localized flooding. Moderately significant.	Replace lost storage capacity by constructing a narrow reservoir south along the BART alignment.	Not significant.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
HYDROLOGY *(continued)*			
Proposed Project, Alternatives 4 thru 11, Central Park Design Options 2A and 3	*Direct:* Placement of aerial structures within 100-year or 500-year flood zones, creating small incremental losses in flood storage capacity. Insignificant impact.	None required.	Not significant.
Proposed Project, Alternatives 6, 7, 8, 10, and 11	*Direct:* Parking area for South Warm Springs Station could reduce flood storage capacity and cause flooding elsewhere. Significant in the event of severe rainstorms.	Improve drainage structures in station area.	Not significant.
Proposed Project, Alternatives 4 thru 11,	*Direct:* Increased surface runoff from rainstorms would reduce groundwater infiltration and increase flooding potential. Moderately significant.	Design and install appropriate drainage systems at station sites and increase capacity of existing drainage facilities as necessary.	Not significant.
Proposed Project, Alternatives 4 thru 11, All Central Park Design Options	*Direct:* Poor surface drainage and high groundwater occurs at several locations. Localized ponding of stormwater could occur, affecting foundations of structures. Moderately significant.	Design swales and drainage systems to drain away from structures.	Not significant.
Central Park Design Options 1 and 2S	*Direct:* The subway structure beneath Central Park could inhibit westward flow of groundwater, and change direction of groundwater flow in local area. Minor significance.	Design subway to resist hydrostatic forces and resist buoyancy; design provisions should also mitigate impact on groundwater flow.	Not significant.
Proposed Project, Alternatives 4 thru 11	*Direct:* Station parking facilities would add to pollutant loads in urban runoff. Moderately significant.	BART would comply with management practices for impermeable surfaces required by Alameda County in accordance with state and federal laws.	Not significant.
Proposed Project, Alternatives 4 thru 11, All Design Options	*Cumulative:* Increased stormwater discharge from future urban development could potentially contribute to flooding problems and increased surface water pollution. Potentially significant.	Implementation of management programs of the public works departments of Alameda County and City of Fremont, in accordance with state and federal laws.	Not significant.
Proposed Project, Alternatives 4 thru 11, All Design Options	*Construction:* Construction of major earthworks and stockpiled materials could produce erosion and sedimentation impacts. Potential for significance.	Develop an erosion and sediment control plan meeting the requirements of Alameda County's and the City of Fremont's public works departments. Implement approved plan.	Not significant.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
HYDROLOGY *(continued)*			
Proposed Project, Alternatives 4 and 5, Central Park Design Options 1 and 2S	*Construction:* Dewatering during construction of subway and below-grade Irvington Station could affect groundwater levels and flows, and impact water supply wells.	BART should conduct aquifer pump tests and develop a dewatering plan prior to construction to manage groundwater impacts.	Not significant.
Proposed Project, Alternatives 4 thru 11, Central Park Design Option 1	*Construction:* Construction of an aerial or subway structure across Lake Elizabeth would temporarily reduce the capacity of the lake and block inflow channels. Potentially significant.	The construction contractor would stage the work so the existing flows and storage capacities would be maintained.	Not significant.
ECOSYSTEMS			
Proposed Project, Alternatives 4 thru 11, Central Park Design Option 1	*Direct/Construction:* Construction activities and noise and vibration from operation would affect ruderal forb-grassland habitats along corridor support active fox dens, burrowing owl nesting areas and forage for Cooper's Hawks, Black Shouldered Kites and Northern Harriers. Burrowing owls and fox dens may be directly affected. Significant.	Relocate grey foxes and burrowing owls, in advance of construction. Replant grassland habitat disturbed during construction and retain wildlife corridors between fields.	Significant fragmentation and loss of habitat.
Proposed Project, Alternatives 4 thru 11, Central Park Design Option 1	*Construction:* Loss of some open water areas of Lake Elizabeth during construction would result in lost fish and aquatic animals and reduced waterbird habitat. Short-term significant impact.	Replace fish and aquatic vegetation in lake following construction. Maintain water flows through drainage channels. Replace vegetation destroyed during construction. Store construction equipment away from open water areas. Take measures to keep solvents and grease out of water.	Significant short term impact.
Proposed Project, Alternatives 4 thru 11, Central Park Design Option 1	*Direct:* Removal or cutting of portion of the riparian forest areas, and increased noise and frequent train passages, could deter roosting and foraging in the riparian forest. A significant impact, given the rarity of this habitat.	Replant riparian forest lost during construction and replace forest lost to structures and associated envelope along flood control channels in Central Park. Install sound walls on aerial structures.	Not significant.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
ECOSYSTEMS *(continued)*			
Proposed Project, Alternatives 4 thru 11, Central Park Design Option 1	*Construction:* Removal of portion of the riparian forest area would reduce biological diversity. Construction of embankment in southern portions of Tule Pond would remove a seasonal wetland. Significant short term impact.	Minimize construction activities in riparian forest area. Remove as little forest vegetation as possible. Replant the area and replace any permanent losses nearby. Obtain Corps of Engineers Permit for fill of jurisdictional wetlands. Mitigate as required on one-for-one replacement basis.	Significant short term impact.
Central Park Design Options 2A, 2S and 3	*Direct/Construction:* Same as Proposed Project, except no impacts on riparian forest.	None needed in Riparian Forest area.	Significant fragmentation and loss of ruderal-grassland habitat.
Proposed Project, Alternatives 4 thru 11, All Central Park Design Options	*Cumulative:* Project would continue fragmentation of oak woodland, riparian forest and seasonal wetland habitats. Significant.	See above.	Significant.
LAND USE and ECONOMIC ACTIVITY			
Employment Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct/Construction:* Beneficial impact on employment. Between 1,393 to 3,588 construction jobs would be created, depending on the project adopted. Indirectly, an additional 2,006 to 5,166 jobs would be created. Operation of the extension would create 90 to 165 new jobs, and would indirectly generate an additional 113 to 206 new jobs.	None necessary.	Beneficial.
Land Use Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct:* The Warm Springs Extension could increase the pace of development around the Irvington and Warm Springs station sites.	None necessary. Local land use policies which facilitate increased density of development around station sites have been suggested by the City of Fremont.	Beneficial.
Real Estate Development Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct:* Adopted project would facilitate development and redevelopment as detailed in the Fremont General Plan, with potential clustering around station sites. Beneficial.	None necessary. Local land use policies which facilitate increased density of development near station sites are suggested.	Beneficial.
Revenue Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct:* Minor long term increases in sales and property taxes could occur. Beneficial.	None necessary.	Beneficial.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
LAND USE and ECONOMIC *(continued)*			
Neighborhoods Proposed Project, Alternatives 4 thru 11, All Design Options	*Construction:* Impacts could affect residences in Paso Padre Parkway area and west of Central Park. Businesses near construction areas could suffer short-term declines due to reduced access and parking.	BART, in consultation with local business associations and its construction contractors should minimize impacts on access and parking due to construction.	Less than significant.
Relocation: Proposed Project, Alternatives 4 thru 11, All Design Options	*Construction:* Depending on the project adopted, between 40 and 121 businesses would be displaced. Alternative 9 would have the lowest number of displacements, and Alternative 7 would have the most.	BART's displacement program would meet the requirements of state and federal relocation laws and regulations.	Financial impacts to displaced businesses would be reduced below significant levels. Displacement of people from familiar settings is an unavoidable adverse effect.
	Construction: Depending on the project adopted, from 3 to 39 residences would be acquired. Alternative 8 would displace the most residences, and Alternatives 6, 7, 9, 10, and 11 the least.	BART's displacement program would meet the requirements of state and federal relocation laws and regulations.	Financial impacts to displaced residents would be reduced below significant levels. Displacement of people from familiar settings is an unavoidable adverse effect.
FREMONT CENTRAL PARK: Land Use/Recreation			
Proposed Project, Alternatives 4 thru 11	*Direct:* The aerial structure passing through Central Park would require removal or relocation of 2 softball fields and disruption of some sailing activities in Lake Elizabeth. BART train passbys would change the pedestrian experiences on pathways around Lake Elizabeth. The aerial structure would not conform with the Fremont General Plan. This is a significant land use impact. *(see Hydrology, Ecosystems, Noise and Visual sections.)*	Replace the two softball fields: Establish new sailing courses on Lake Elizabeth. Construct aerial structures with noise barriers.	Non-conformance with General Plan is a significant effect.
Proposed Project, Alternatives 4 thru 11	*Construction:* Temporary loss of the softball fields, a portion of Lake Elizabeth and disruption of walking paths. Significant short term impacts.	Replace softball fields in advance of construction. Establish temporary sailing courses on Lake Elizabeth. Maintain temporary walking paths around Lake Elizabeth. Maintain access across construction zone in specified locations.	Less than significant short term impacts.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
FREMONT CENTRAL PARK *(continued)*			
Design Options 1 and 2S	*Construction:* Similar impacts to Proposed Project but with more intensive construction activities. Impacts on softball fields and Lake Elizabeth would be less with Design Options 2S than with Design Option 1. Significant short term impacts.	For construction impacts, mitigations are the same as for Proposed Project, with existing ground and landscaping to be replaced following construction.	Less than significant short term impacts due to construction.
Central Park Design Options 2A and 3	*Direct:* Moderate impacts on three softball fields. Aerial structures through Central Park do not conform with the Fremont General Plan, and would be a significant adverse effect. (See Visual and Noise sections.)	Modify fencing and lighting systems of affected softball fields.	Non-conformance with General Plan is a significant effect.
Central Park Design Options 2A and 3	*Construction:* Significant short term impacts include loss of parking near ballfields, and temporary disruption of walking paths around Lake Elizabeth.	Modify ballfields in advance of construction. Provide for temporary replacement parking and walking paths. Maintain access from neighborhoods to the east.	Less than significant.
VISUAL AND AESTHETIC QUALITY			
Proposed Project, Alternatives 9, 10 and 11	*Direct:* Aerial structures and embankments would create significant visual impacts between Fremont Station and Paseo Padre Parkway, including portions of Fremont Villas, along Stevenson Boulevard, and portions of Central Park including Lake Elizabeth. South of Paseo Padre Parkway, minor visual impacts would occur along the alignments and at proposed station sites.	Landscape plantings are suggested at key locations to limit views of the structures from key locations. Add plantings to screen views from residential areas. Collaborate with City of Fremont in design of Irvington Station.	Significant visual impacts would remain at Fremont Villas, Lake Elizabeth and Paseo Padre Parkway. No significant impacts south of Paseo Padre Parkway.
Proposed Project, Alternatives 4 thru 11	*Construction:* Significant short term impacts would occur in the Central Park and Irvington areas.	None proposed.	Short term significant impacts.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
VISUAL AND AESTHETIC QUALITY *(continued)*			
Central Park Design Options 1 and 2S	*Direct/Construction:* No direct impacts, but moderate construction impacts would occur in the Fremont Villas area. With Design Option 1, significant impacts in Central Park would occur in the area of riparian vegetation east of Lake Elizabeth.	Minimize vegetation removal in the riparian forest area. Replant after construction.	Not significant.
Central Park Design Option 2A	*Direct:* Aerial structures and embankments would cause significant impacts at Fremont Villas, Stevenson Boulevard, Paseo Padre Parkway and in Central Park. Relative to the Proposed Project, impacts at Lake Elizabeth would be reduced and impacts to the riparian area would be avoided.	Groups of strategically placed landscape plantings in Central Park would reduce structure's visibility.	Significant visual impacts would remain at Fremont Villas, Lake Elizabeth and Paseo Padre Parkway.
Central Park Design Option 3	*Direct:* Aerial structures and embankments would cause significant impacts at Fremont Villas, Stevenson Boulevard, Paseo Padre Parkway and moderate impacts in Central Park. Significant impacts on views from homes on western side of Valdez Way, Vaca Dr. and Valero Way.	Same as for Design Option 2A.	Significant visual impacts would remain at Fremont Villas, along Valdez Way, Vaca Drive and Valero Way and at the Paseo Padre Parkway overcrossing.
Paseo Padre Design Option	*Direct:* The optional vehicular overpass at Paseo Padre Parkway would have significant visual impacts.	None feasible.	Significant visual effect.
Warren Avenue Design Option	*Direct:* The aerial structure over Mission Boulevard and Warren Avenue would be highly visible to travellers on both streets.	None feasible.	Significant visual effect.
Alternative 4	*Direct:* Same as Proposed Project, except significant impacts near Driscoll Road from the depressed right-of-way.	Same as Proposed Project plus screening fences and trees along Driscoll Road.	Same as Proposed Project, with additional significant impacts near Driscoll Road.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
VISUAL AND AESTHETIC QUALITY *(continued)*			
Alternatives 6, 9 and 10 (with and without Washington Boulevard Design Option)	*Direct:* Same as Proposed Project, with none of the visual impacts related to an Irvington Station. Creates an open trench for depressed UPRR, SPTCo and BART crossing beneath Washington Boulevard. The Washington Blvd. Design Option would significantly affect views from nearby areas.	Same as Proposed Project. For the Washington Boulevard Design Option, landscape the alignment to screen views from Washington Blvd., and Driscoll and Osgood Roads.	Same as the Proposed Project. The Washington Boulevard Design Option would create significant impacts.
Alternative 7	*Direct:* Same as Proposed Project, with additional significant impacts from aerial structure over Washington Blvd.	Plant vegetation along aerial structure in vicinity of Washington Blvd.	Same as Proposed Project, with additional significant impacts at aerial crossing of Washington Boulevard.
Alternative 8	*Direct:* North of Washington Boulevard, impacts are the same as Proposed Project. Significant impacts related to aerial crossing of Washington Blvd. Significant impacts related to aerial structure in the median of Osgood Road, at Mission Blvd/Warm Springs Blvd and along Warm Springs Boulevard. Along Osgood Rd and Warm Springs Blvd, significant impacts would occur if PG&E transmission towers were raised to provide clearance over BART structure.	Along Osgood Road and Warm Springs Blvd, landscape median where aerial structure is located. Underground overhead utilities along Osgood Road and Warm Springs Blvd, and investigate undergrounding transmission lines rather than raising the towers. Carefully design and detail the crossing structure at Mission Blvd.	Same as Proposed Project above Washington Boulevard. Additional significant impacts at Washington Boulevard and south along Osgood Road and Warm Springs Boulevard.
CULTURAL AND HISTORIC RESOURCES			
Proposed Project, Alternatives 4 thru 11, Central Park Design Options	*Construction:* Prehistoric site CA-Ala-343 could be affected by excavation.	Complete protective measures or data recovery for site CA-Ala-343.	Not significant.
Proposed Project, Alternatives 4, 5 and 11	*Construction:* The Gallegos Winery ruins could be affected by parking lot construction for Irvington Station.	Stabilize the winery ruins in advance of construction.	Not significant.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
UTILITIES AND PUBLIC SERVICES			
Hetch Hetchy: Proposed Project, Alternatives 4 thru 11, Central Park Design Options	*Construction:* Pipelines and electrical transmission lines may be affected. Potential impacts from removal of ground cover. Potential need to raise transmission lines to maintain clearance (aerial options only).	Coordinate with San Francisco Water Department. Provide protection for stray electrical currents. Maintain clearance beneath transmission lines. Provide access during BART construction.	Not significant.
PG&E: Proposed Project, Alternatives 4 thru 11, All Design Options	*Construction:* Potential conflicts with natural gas lines and electrical transmission facilities.	Coordinate with PG&E for utility line relocation and follow their regulations. Maintain clearance beneath transmission lines.	Not significant.
Communication Utilities Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct/Construction:* Potential conflicts with some underground conduits and fiber optic lines belong to communications utilities.	Coordinate with affected companies to arrange necessary relocation and protection of existing lines. Provide access during construction. Provide protection from stray currents for metal conduits.	Not significant.
Petroleum Pipelines Proposed Project, Alternatives 4 thru 11, Central Park Design Options	*Direct/Construction:* Potential conflicts with petroleum pipelines operating along the project corridor.	Relocate or adjust grades where determined necessary by the pipeline operator. Provide protection from stray electrical currents.	Not significant.
Sewer Proposed Project, Alternatives 4 thru 11, Central Park Design Options	*Construction:* Potential minor impacts on feeder lines during construction.	Coordinate with Sanitary District for sewer line relocations, and follow District policies. Provide access during construction.	Not significant.
Water Proposed Project, Alternatives 4 thru 11, Central Park Design Options	*Direct/Construction:* Potential conflicts with water pipelines at many locations. Water consumption of 26.5 units per day, depending on the number of stations. (1 unit = 750 gallons)	Coordinate with Water District to identify specific relocation and grade adjustment requirements. Provide protection from stray electrical currents for metal pipes.	Not significant.
Storm Drains Proposed Project, Alternatives 4 thru 11, Central Park Design Options	*Direct/Construction:* Potential impacts on basin drainage demands. Construction work could temporarily reduce storage capacity of some retention areas.	Coordinate with ACFC & WCD to engineer any needed upgrades. Provide interim storage areas to avoid flooding during construction.	Not significant.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
SAFETY AND SECURITY			
Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct:* Increased demands on BART Safety Department and BART Police from operating a longer system. Increased demands on the Fremont Fire Department from the extended BART system within their jurisdiction.	Apply provisions of BART's System Safety Plan and Emergency Plan. Expand BART Police force and Safety Department staff, as necessary. Provide additional training and coordination with Fremont Fire Department.	Not significant.
TRANSPORTATION			
Traffic, Irvington Station Area: Proposed Project, All Design Options	*Direct:* Intersection of Driscoll Road/Osgood Blvd would operate at poor level of service, with or without project in 1998 and 2010. In 2010, I-680 southbound ramps/ Washington Blvd intersection would operate at LOS F.	BART should contribute to improvements at these intersections in proportion to the Warm Springs Extension's impacts. Signalization at I-680 SB ramps/Washington Blvd not feasible.	Significant at I-680 SB ramps/Washington Blvd.
	Direct: Pedestrian and bicycle access would be difficult.	Install sidewalks along Roberts Avenue. Design Blacow Road extension to accommodate bicycles and pedestrians.	Not significant.
	Direct: Fremont/Bay Washington Intersection would operate at LOS F in year 2010, with or without a Warm Springs Extension.	No mitigation developed.	Significant impact.
Traffic, Warm Springs Station Area: Proposed Project, All Design Options	*Direct:* Poor levels of service at five intersections in 1998, and six intersections in 2010. Significant impacts. Pedestrian and bicycle access would be adequate.	BART should contribute to improvements at these intersections in proportion to the Warm Springs Extension's impacts. In some locations, full mitigation is not feasible.	Significant impact at two intersections in 1998. Significant impact at four intersections in 2010.
Traffic, South Warm Springs Station Area: Proposed Project, All Design Options	*Direct:* Five intersections serving this area would operate at poor levels of service in 1998, and four intersections in 2010. Significant impacts. Pedestrian and bicycle access would be adequate.	BART should contribute to improvements at these intersections in proportion to the Warm Springs Extension's impacts.	Not significant.
Transit: Proposed Project, All Design Options	*Direct:* AC Transit's Comprehensive Service Plan would provide good service to the Irvington Station site, but minimal service to the Warm Springs and South Warm Spring Station Sites. Moderate impact. SCCTD would provide good service to South Warm Springs Station.	AC Transit could modify routes to improve service subsequent to project approval.	Not significant.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
TRANSPORTATION *(continued)*			
Freight Rail Proposed Project, All Design Options	*Direct/Construction:* No significant impacts on Southern Pacific Transportation Co. or Union Pacific operations projected.	None.	Not significant.
Parking Proposed Project, All Design Options	*Direct:* Parking at all stations would be provided in accordance with forecasted demands. No adverse impact.	None.	Not significant.
Traffic, Transit Alternatives 4 and 5	*Direct:* Similar to Proposed Project; BART would not affect congested intersections in the South Warm Springs station. SCCTD buses would have to travel farther to connect with BART.	Same as Proposed Project; no mitigations required in South Warm Springs Station area.	Same as Proposed Project; with none of the net impacts found in the South Warm Springs Station area.
Alternatives 6, 7 and 8.	*Direct:* Similar to Proposed Project; none of the impacts related to the Irvington Station area.	Same as Proposed Project; no mitigations required in the Irvington Station area.	Same as Proposed Project; none of the net impacts found in the Irvington Station area.
Alternative 9	*Direct:* Similar to Proposed Project; no impact in the Irvington or South Warm Springs station areas. SCCTD buses would have to travel farther to connect with BART.	Same as Proposed Project for the Warm Springs Station area; no mitigations required in the Irvington and South Warm Springs station areas.	Same as Proposed Project; none of the net impacts found in the Irvington and South Warm Springs station areas.
Alternative 10	*Direct:* Similar to Proposed Project; no impact in the Irvington or Warm Springs station areas.	Same as the Proposed Project for the South Warm Springs Station area. No mitigations required in the Irvington and Warm Springs station areas.	Same as Proposed Project; none of the net impacts found in the Irvington and Warm Springs station areas.
Alternative 11	*Direct:* Similar to Proposed Project; no impact in the Warm Springs Station area.	Same as the Proposed Project for the Irvington and South Warm Springs station areas. No mitigations required for the Warm Springs Station area.	Same as Proposed Project; none of the net impacts found in the Warm Springs Station area.
NOISE AND VIBRATION			
Noise Proposed Project	*Direct:* Significant impacts projected at approximately 106 sensitive receptors along the corridor.	Install sound walls to protect sensitive receptors.	Significant adverse noise impacts in northeastern Central Park and near Lake Elizabeth.
Central Park Design Options 1 and 2S	*Direct:* Design Options 1 and 2S would eliminate impacts on 25 sensitive receptors compared to the Proposed Project.	Install sound walls to protect sensitive receptors.	Not significant.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
NOISE AND VIBRATION (continued)			
Noise Central Park Design Option 2A	*Direct:* Option 2A would have 9 more sensitive receptors with significant impacts than the Proposed Project.	Install sound walls to protect sensitive receptors.	Significant residual impact on a small portion of Central Park and Lake Elizabeth.
Central Park Design Option 3	*Direct:* Thirty-nine (39) more sensitive receptors with significant impacts than the Proposed Project.	Install sound walls to protect sensitive receptors.	Significant residual impact on a small portion of Central Park.
Alternatives 4 thru 11 (except Alternative 8)	*Direct:* Alternative 4 would have significant impacts on 42 sensitive receptors, Alt 5 impacts 98, Alt 6 impacts 148, Alt 7 impacts 145, Alt 9 impacts 132, Alt 10 impacts 149, Alt 11 impacts 107.	Install sound walls to protect sensitive receptors.	Same residual impacts as Proposed Project.
Alternative 8	*Direct:* Alternative 8 significantly impacts 537 sensitive receptors.	Install sound walls to protect sensitive receptors.	To Washington Blvd, same residual impacts as Proposed Project. South of Washington Blvd, Alternative 8 would have residual impacts on residences and a school.
Vibration Proposed Project, Alternatives 4 thru 11, All Central Park Design Options	*Direct:* A maximum of 103 sensitive receptors would be affected by groundborne vibration from passing trains.	Isolation of the tracks with special ties and/or trackbed construction.	Not significant, except under Alt 8, where some residences would have significant residual vibration impacts.
Noise and Vibration Proposed Project, Alternatives 4 thru 11, All Design Options	*Construction:* Construction equipment and activities could cause short term noise and vibration impacts along the project corridor.	Include noise and vibration limits in construction contracts.	Short term impacts, not significant.
AIR QUALITY			
Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct:* No violations of state or federal carbon monoxide standards are predicted. The project would reduce emissions of ozone precursors and particulates (PM10), pollutants of regional significance. This would be a beneficial effect.	None required.	Beneficial regional impacts.
	Direct: Freight trains in the subway under Washington Blvd could cause local diesel exhaust accumulations and odor problems.	Provide adequate ventilation in the subway segment to handle diesel exhaust from expected number of freight trains.	Not significant.

Table S-2
Summary of Impacts *(continued)*

Environmental Area/ Extension Scenario	Description of Impact	Mitigation Measures	Net Impact After Mitigation
AIR QUALITY *(continued)*			
	Construction: During construction, dust generation could cause local violations of PM10 standards.	Implement construction period dust control measures.	Not significant.
ENERGY			
Proposed Project, Alternatives 4 thru 11, All Design Options	*Direct/Construction:* Construction and operation of the Warm Springs Extension would consume energy in the form of electricity, petroleum-based fuels and lubricants, and natural gas. Significant impact.	BART should continue developing and implementing energy conservation programs for the entire system.	Significant.