SUMMARY

S.1 PURPOSE AND NEED FOR TRANSPORTATION IMPROVEMENTS

The primary purposes of the Transbay Terminal/Caltrain Downtown Extension/Redevelopment Project are to:

- Improve public access to bus and rail services;
- Modernize the Transbay Terminal and improve service;
- Reduce non-transit vehicle usage; and
- Alleviate blight and revitalize the Transbay Terminal area.

The project is needed because the present Transbay Terminal, which was built in 1939, does not meet current seismic safety or space utilization standards. The need to modernize the Transbay Terminal provides an opportunity to revitalize the surrounding area and to extend Caltrain service from its current terminus outside the downtown area into the San Francisco employment core. Figure S-1 shows the project's location.

Undertaking the project components would address the following associated needs:

- Provide a multi-modal transit facility that meets future transit needs;
- Alleviate the conditions of blight in the Transbay Terminal area;
- Revitalize the Transbay Terminal area with a more vibrant mix of land uses that includes both market-rate and affordable housing;
- Facilitate transit use by developing housing next to a major transit hub;
- Improve Caltrain service by providing direct access to downtown San Francisco;
- Enhance connectivity between Caltrain and other major transit systems;
- Enable direct access to downtown San Francisco for future intercity and/or high-speed rail service;
- Accommodate projected growth in travel demand in the San Jose – San Francisco corridor;
- Reduce traffic congestion on US Highway 101 and I-280 between San Jose and San Francisco and other routes;
- Reduce vehicle hours of delay on major freeways in the Peninsula corridor;
- Improve regional air quality by reducing auto emissions;
- Support local economic development goals; and
- Enhance accessibility to employment, retail, and entertainment opportunities.

Figure S-1: Project Location

The Metropolitan Transportation Commission, State of California, City and County of San Francisco, and area transit providers (AC Transit, Muni, Golden Gate, SamTrans, and JPB) have evaluated options for replacement of the 60-year-old Transbay Terminal facility, due to its age, need for seismic upgrade, and inadequate facility layout. A properly designed, new terminal would improve space utilization, passenger circulation, signage, security, safety, and the overall transit-rider experience.

A multi-modal transportation facility would provide a centralized location for public and private bus and rail services in San Francisco's growing Financial District/South of Market Area and would enhance transit access for passengers arriving in and departing San Francisco. With its location near housing and major retail and commercial opportunities, it would increase transit ridership, thus reducing the number of non-transit vehicles traveling on area streets, highways, and bridges. Reduction in automobile vehicle miles of travel would result in reduced vehicular air emissions and an improvement in air quality.

Extension of the Caltrain Commuter Rail system 1.3 miles to Downtown San Francisco would close the gap than now exists between the train's current terminus station at Fourth and Townsend the employment center of the region, providing a seamless transportation link between the Peninsula and the heart of San Francisco. It would be consistent with Proposition H passed by the voter of San Francisco resolving that Caltrain should be extended to the Transbay Terminal site, and it would enable provision of high-speed rail service for a proposed statewide system.

The Redevelopment Plan would include a new Transbay Terminal, portions of the Caltrain Downtown extension within the Project Area, and redevelopment of other underutilized property in the Transbay Terminal area. Redevelopment activities, including redevelopment of the Terminal, would benefit from utilization of tax increment financing and the ability to assemble properties, install public improvements, and provide office, retail/hotel, and residential development, including affordable housing.

S.2 ALTERNATIVES

A description of the three alternatives evaluated in this Draft EIS/EIR is provided below.

S.2.1 NO-PROJECT ALTERNATIVE

The No-Project Alternative consists of existing Caltrain service with funded improvements, other committed bus, rail, and roadway improvements, a BART extension to the San Francisco International Airport, and proposed development in downtown San Francisco in the 2020 horizon year. This is the No-Project Alternative under CEQA and the baseline alternative for purposes of NEPA.

Among the funded Caltrain service improvements are: service increases in daily trains between San Francisco and San Jose, and between San Jose and Gilroy; rehabilitation improvements, enhancements and additions to the existing Caltrain system; signal system modernization improvements; track improvements at the new Millbrae Intermodal facility that improve intermodal connections with BART; Electrification of the entire Caltrain line from Gilroy to its present San Francisco terminus at Fourth and Townsend Streets.

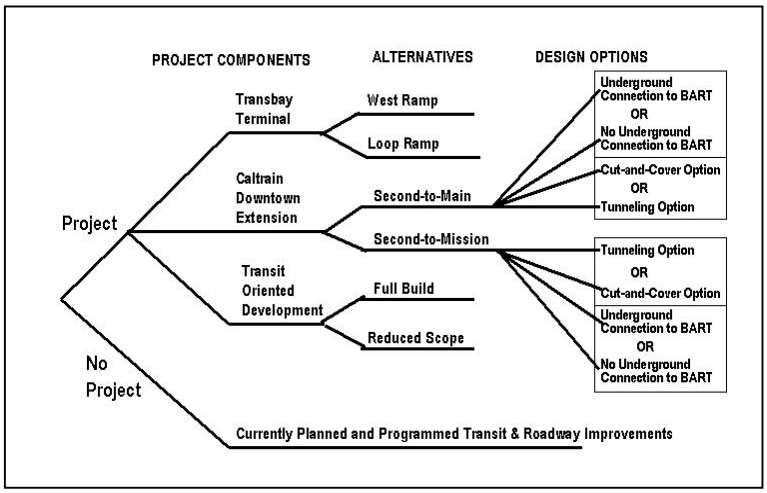
The No-Project Alternative includes all existing Muni service, plus major planned, ongoing, or constructed Muni projects, such as the S-Castro-Embarcadero Shuttle, the Third Street Light Rail project, and the Central Subway. Also included in the No-Project Alternative is existing BART service, plus the extension to the San Francisco International Airport, which will also interface with Caltrain and Samtrans bus services at the new Millbrae Intermodal Station. The No-Project Alternative further includes the changes to Samtrans bus service that were implemented in August 1999, the completion of Caltrans San Francisco Seismic Retrofit projects, and the completion of roadway and street improvements planned and programmed by the City and County of San Francisco's Department of Parking and Traffic or the Department of Public Works.

S.2.2 PROJECT COMPONENTS

The proposed project would be located in Downtown San Francisco (See Figure S-1) and has three major components:

- A new, multi-modal Transbay Terminal on the site of the present Transbay Terminal;
- Extension of Caltrain commuter rail service from its current San Francisco terminus at Fourth and Townsend Streets to a new underground terminus underneath the proposed new Transbay Terminal; and
- Establishment of a Redevelopment Area Plan with related development projects, including transit-oriented development on publicly owned land in the vicinity of the new multi-modal Transbay Terminal.

Two alternatives are under consideration for each of the major project components. Other components of the project include a temporary bus terminal facility to be used during construction, a new, permanent off-site bus storage/ layover facility, reconstructed bus ramps leading to the west end of the new Transbay Terminal, and a redesigned Caltrain storage yard.

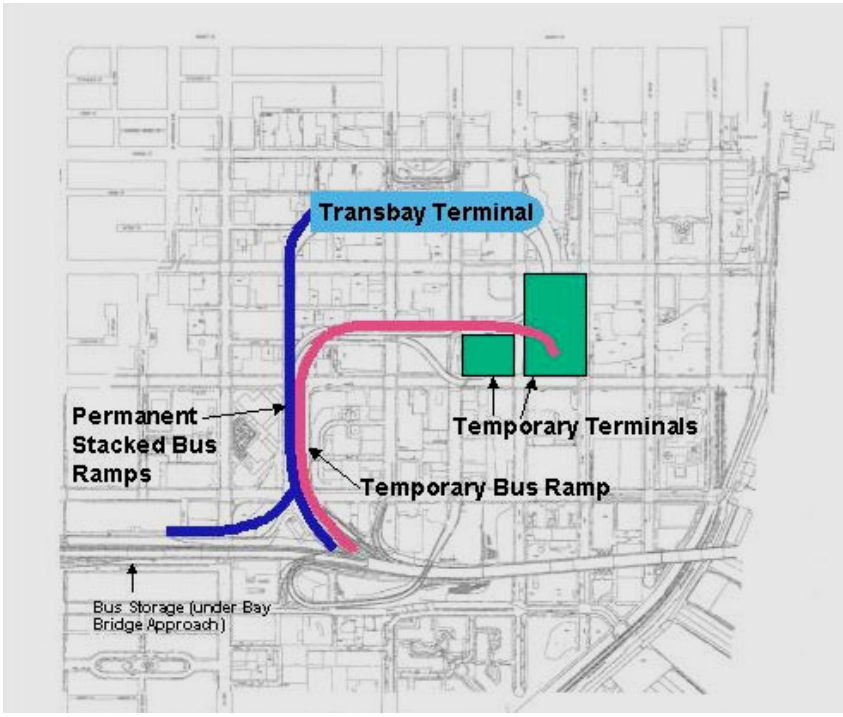


S.2.2.1 Transbay Terminal Alternatives

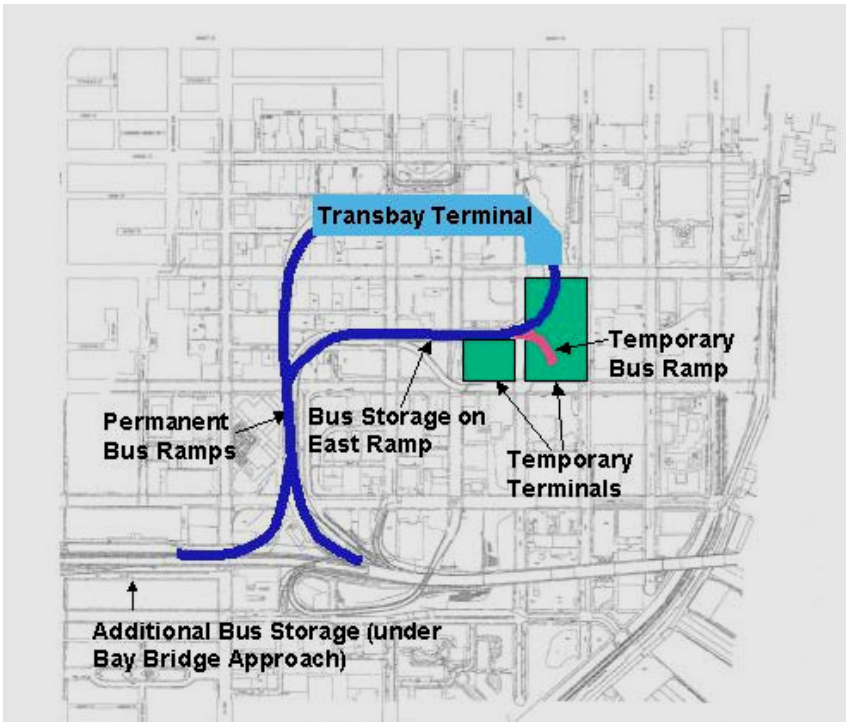
Two alternatives are being studied for a new Transbay Terminal. Under either alternative, a new multi-modal terminal would be located at the same site as the existing terminal at Mission and First Streets.

Bus ramps would connect directly from the terminal to the Bay Bridge, while an underground rail facility would allow the extension of Caltrain to downtown and provide space for potential future East Bay commuter rail and California's high-speed intercity rail.

West Loop Alternative. The existing western and eastern bus ramps between the Transbay Terminal and the Bay Bridge would be demolished, and new ramps would be constructed on the west side of the new Transbay Terminal, opening up additional space for development on the east side. The new bus ramps would be in approximately the same position as the existing ramps on the west side of the terminal and paralleling Essex Street. Bus turnaround loops would be provided on each bus level at the east end of the terminal. As the ramps approach the Bay Bridge, they would be stacked in a double-deck configuration. This alternative includes a terminal one block (165 feet) wide by three blocks (1,300 feet) long. It would include six levels, with four levels above ground and two below. Beginning at the lowest level, these include 1) a Train Level for Caltrain platforms, 2) Train Mezzanine Level for train passenger ticketing services, 3) Street Level for Muni vehicles and Golden Gate Transit buses, 4) Concourse Level for pedestrian circulation and substantial areas for joint development, 5) AC Transit Level, and 6) Upper Bus Level for other bus service (Muni service to Treasure Island, paratransit, Greyhound, and private operators).



Loop Ramp Alternative. This alternative would involve the demolition and reconstruction of both the existing western and eastern bus ramps between the Transbay Terminal and the Bay Bridge. The new Transbay Terminal would be one block wide and three and three-fourths blocks in length. It would include five levels, with two levels above ground and two below. The lower four levels (Train, Train Mezzanine, Street, and Concourse) would be very similar to the West Loop Alternative, although there would be less area available for joint development. The fifth level would be the Bus Level, which would accommodate AC Transit and all other bus operators.



S.2.2.2 Caltrain Downtown Extension Alternatives

The Caltrain Downtown Extension Component consists of an extension of Caltrain from the present San Francisco terminus at Fourth and Townsend Streets to an underground terminal on the site of the present San Francisco Transbay Terminal at First and Mission Streets, a distance of some 1.3 miles. The extension would include reconstruction of the current storage yard at Fourth and Townsend, with provision of three surface platforms and six tracks on the southern portion of the existing facility near Fourth and King Streets and the addition of a new underground Caltrain station on the northern portion near Townsend and Fourth Streets.

Caltrain Downtown Extension tracks would begin its descent at about Berry Street and would curve east to a new underground station with a center platform near Fourth and Townsend Streets. From there, the tracks would continue under Townsend Street near Fourth Street, and continue east under Townsend Street in a cut-and-cover tunnel configuration. It would then curve north at about Clarence Place just east of Third Street in a cut-and-cover configuration. Nine buildings would need to be acquired and demolished to accommodate cut-and-cover construction of the curve from Townsend to Second and Brannan Streets. The alignment would continue as a cut-and-cover section under Second Street to Howard Street.

Two alternatives are under consideration from Howard Street north: (1) Second-to-Main, and (2) Second-to-Mission.

Second-to-Main Caltrain Extension Alternative. As the alignment approaches Howard Street along Second Street, it would curve northeasterly, into the basement of the new Transbay Terminal. Eleven buildings would need to be acquired and demolished for this curve into the Terminal. The terminal station would have six tracks and three platforms and would include approximately 2,000 feet of additional tracks (called tail tracks) in a cut-and-cover section leading from the east end of the new Terminal. These tracks would curve south to Main Street and continue underneath Main Street to south of Folsom Street. The tail tacks could also be extended as a separate, independent project at some time in the future, to a San Francisco-to-Oakland cross-bay alignment for commuter rail and/or high-speed trains.

This alternative would include a design option for a pedestrian connection underneath Fremont Street to the BART Embarcadero Station.

Second-to-Mission Caltrain Extension Alternative. Up to Second and Howard Streets, this Alternative would follow the same alignment as the Second-to-Main Alternative, although it would have a deeper profile. At that point, it would provide a different configuration for the underground station in the Transbay Terminal and for the tail tracks leading out of the terminal.

As this alignment approaches Howard Street, rather than running parallel to the Terminal's long axis, this alignment would curve northeasterly at about Tehama Street, cutting diagonally under the new terminal and exiting out under Mission Street headed towards The Embarcadero. The southernmost track would branch into four tracks leading to and serving two center platforms directly under the Transbay Terminal.

The two northernmost tracks would continue on an angle to Mission Boulevard and would serve two 600-foot side platforms to the north of the Transbay Terminal. These two tracks would continue to two 1,400-foot tail tracks under Mission Street ending just east of The Embarcadero. Two additional buildings on Mission Street would need to be acquired north of the Terminal for this alternative. The tail tracks for this alignment would be used in a manner similar to the uses described above for the Second-to-Main Alternative.

This alternative also includes a design option for a pedestrian connection underneath Fremont Street to the BART Embarcadero Station.

S.2.2.3 Proposed Transbay Redevelopment Plan Area

The Redevelopment Component includes two alternatives: the Full Build Alternative and the Reduced Scope Alternative. Either of these alternatives would include redevelopment on the parcels shown in Figure S-2.

Full Build Alternative. This alternative assumes about 7.6 million square feet (sq. ft.) of residential/office/retail/hotel development, including approximately 5.6 million sq. ft. of residential development (4,700 residential units including affordable housing), 1.2 million sq. ft. of office development, 475,000 sq. ft. of hotel development, and 355,000 sq. ft. of retail development.

Reduced Scope Alternative. This alternative assumes a lesser amount of commercial and retail development and is weighted more toward housing. It assumes approximately 4.7 million sq. ft. of residential/office/retail/hotel development, including 4.1 million sq. ft. of residential (about 3,400 dwelling units), 350,000 sq. ft. of hotel development, and 260,000 sq. ft. of retail development. No office development is assumed for this Alternative.

S.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

Long-term environmental impacts and proposed mitigation measures are summarized in Table S-1. Short-term construction-related impacts and proposed mitigation are summarized in Table S-2. Because the Redevelopment Component of the project would involve separate future projects, each of which require separate environmental review, construction impacts for the Redevelopment Component are not included in Table S-2. For a full description of impacts and mitigation, see Chapter 5.

Figure S-2 Development Levels Assumed for Full Build and Reduced Scope Alternatives & Proposed Redevelopment Area Boundary

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
Land Use	Opportunities for revitalization in Transbay area would be lesser than under either of Redevelopment Alternatives.	For both alternatives: Parking lot on Harrison Street between 2nd and 4th streets displaced by bus storage. Mitigation: construct a parking deck under the freeway between 3rd and 4th Streets.	For both alternatives (2nd Street Cut-and Cover Option): loss of historic buildings would result in some change in character. Building would remain for under tunneling option	Full Build includes 7.6 million sq. ft. of development (5.6 million residential, 1.2 million office, 475,600 hotel, 355,400 retail). Reduced Scope includes 5.4 million sq. ft. of development (4.7 million residential, 350,000 hotel, 200,000 each office and retail).
Wind	No impact	No impact	No impact	Full Build: 9 exceedences of San Francisco Planning Code pedestrian comfort criterion and 1 hazard criterion exceedence. Reduced Scope: 8 pedestrian comfort criterion exceedences; 1 hazard criterion exceedence. Case-by-case mitigation for future redevelopment projects.
Shadow	No impact	No impact	No impact	For both alternatives: some publicly accessible, open spaces would be expected to see a diminution in sunlight during certain periods of the day and the year. No mitigation is indicated.

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
Displacements and Relocation	No impact	Both alternatives would take 4 buildings/displace 2 non-residential units, other currently vacant. Mitigation would be relocation in accordance with the federal and state relocation acts.	2nd-to-Main Alternative Cut-and-cover Option would displace 60 residential units (120 residents) & 48 businesses (1,084 employees). 2nd-to-Mission Alternative Cut-and-cover Option would displace 60 residential units (120 residents) & 58 businesses (1,422 employees). Second-to-Main Tunneling Option would displace would displace 23 residential units (46 residents) & 40 businesses (425 employees). Second-to-Mission Tunneling Option would displace would displace 23 residential units (46 residents) & 50 businesses (763 employees). Mitigation: see Transbay Terminal discussion.	No impact.
Socio-economics	No impact	No adverse impact. Both alternatives would increase pedestrian activity and may contribute to the intensification of land uses and the redevelopment of underutilized parcels; thereby improving the economic vitality of the area.	No adverse impact. Both alternatives would provide improved access and therefore would enhance economic activity in this area.	No adverse impact. Both alternatives are expected to provide socioeconomic benefits by intensifying the urban character of the area and resulting in a more cohesive neighborhood with a balanced mix of residential and commercial uses.

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
Community Facilities & Services	No impact	Estimated 2 San Francisco Police Dept. officers would patrol new Terminal. Life safety plan would address fire safety issues. Short- and long-term solid waste management measures are included.	For both alternatives, a life safety plan would be developed to address fire safety issues.	Estimated up to 115 San Francisco Police Dept. officers required/ no new police facilities. Develop security plan for future projects. Additional fire suppression personnel may be required/no new facilities likely. New emergency medical staff may be required. Likely supported by user fees.
Parklands, Schools and Churches	No impact.	No adverse impacts. Current concept for the new Transbay Terminal includes an open plaza for public use.	No adverse impacts. Private schools would likely benefit from the improved transit operations.	No adverse impacts. Private schools would likely benefit from new transit-oriented development.
Fiscal and Economic Impacts	No impact.	Both Alternatives: Net real estate acquisition, demolition, and relocation costs between $12.9 and $18.3 million.	Second-to-Main Alternative Cut-and-Cover Option net real estate acquisition, demolition, and relocation costs between $121 and $128 million. Second-to-Main Alternative Tunneling Option net real estate acquisition, demolition, and relocation costs between $55.6 and $59.8 million. Second-to-Mission Alternative Cut-and-Cover Option net real estate acquisition, demolition, and relocation costs between $130.4 and $137.6 million. Second-to-Mission Alternative Tunneling Option net real estate acquisition, demolition, and	Transfer of publicly-owned property from State to San Francisco Redevelopment Agency and Transbay Joint Power Authority to defray portion new Transbay Terminal costs.

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
			relocation costs between $65.7 and $69.0 million. Short-term loss of property tax revenue may be recouped or exceeded by new development. Short-term loss of payroll tax revenue avoided if businesses relocate in San Francisco.	
Air Quality	No impact.	Included in Redevelopment alternatives.	Both Alternatives expected to produce decrease in vehicle miles traveled (VMT) with reduction of emissions from automobiles (reactive organic gases, carbon monoxide (CO), oxides of nitrogen, particulate matter, and oxides of sulphur).	No adverse impact. Incremental increases in CO concentrations at study intersections would not exceed state or federal standards. Locating development at a transit hub expected to divert to public transit many trips that would otherwise be made by private automobile.
Noise and Vibration	No impact.	Noise impacts from proposed bus storage lot east of Second St. would occur at a live/work loft building. Mitigation: construct a sound wall along a portion of the south side of the bus storage lot.	Vibration impacts would occur at 4 buildings. Mitigation: use high-resilience track fasteners or a resiliently supported tie system.	No impact.
Geology and Seismicity	No impact	Included in discussion of Caltrain Downtown Extension impacts.	**Both Alternatives -- Cut-and-cover & Tunneling Options** Address potential for settlement by applying engineering principles and conventional construction techniques. Address potential liquefaction and ground deformation through: Regular track maintenance. Design & construction of	Apply standard design and construction techniques for area. See Caltrain Extension discussion.

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
			foundations & shoring systems. Reinforce/stabilize soils, or rapid repair contingency plans. Design for maximum credible earthquake; use seismically resistant building structures. Pile supports for cut-and-cover portions, 4th & Townsend station.	
Geology Seismicity			**Both Alternatives – Tunneling Option** Due to fractured rock formations, use "Stacked Drift" and "Spiling" to prevent tunnel collapse.	
Water Resources	No Impact	No Impact	No Impact	No Impact
Floodplain	No Impact	No Impact	No Impact	No Impact
Utilities	No impact	Included in discussion of Caltrain Downtown Extension alternatives.	Relocation of existing underground utilities due to cut-and-cover excavation. Mitigation: coordinate with utility providers; avoid, relocate, and/or support in place utilities as necessary. Substantially reduced impacts from tunneling Option.	New development to connect to existing utility systems.
Electric and Magnetic Fields (EMF)	No impact	Included in discussion of Caltrain Downtown Extension alternatives.	EMF intensities and exposures are low. No health risks indicated.	No impact

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
Historic and Cultural Resources	No Impact	Archaeological resource impacts included in Caltrain Downtown Extension discussion. Demolition and removal of the Transbay Terminal (eligible for listing in the National Register of Historic Places), as well as the existing loop ramp (a contributing element to the Bay Bridge). Mitigation described under Caltrain Downtown Extension.	Previously unidentified archaeological sites may exist, and could be affected by any Alternative. Mitigation: Archaeological Research Design and Treatment Plan. Cut-and-cover Option (Both Alternatives) would require demolition of 13 buildings that contribute to historic districts. Mitigation measures to be set forth in a Memorandum of Agreement per Section 106 of National Historic Preservation Act. Tunneling option (Both Alternatives) would require demolition of 3 buildings that contribute to historic districts. Mitigation measures to be set forth in a Memorandum of Agreement per Section 106 of National Historic Preservation Act.	No Impact
Hazardous Materials	No Impact	No Impact	Construct and operate fueling facility to comply with local, state and Federal regulations; handle and store fuels and solvents per California OSHA and local standards for fire protection and prevention.	No Impact

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
Visual/ Aesthetics	Continued presence of existing features with low visual value, including surface parking lots, and in some cases, deteriorated buildings.	No adverse impact. Bus ramps to the Bay Bridge would occupy less area than existing ramps, and would be split, breaking up the mass of the ramps, enhancing views. New ramp decks would be less visually intrusive than existing. For West Ramp Alternative, the south and east portions of the existing ramp network would be demolished, opening up views outside of the Transbay Area.	Trench with concrete retaining walls approximately 30 feet deep south of Townsend St. and west of 5th St. Cut-and-cover construction between 5th Street and the Transbay Terminal includes demolition of all existing buildings above the alternative alignments. It is anticipated that new buildings would be constructed, with height and bulk similar to those demolished.	Folsom St. building heights would be taller than existing. Provisions for development would help protect views, preserve open space, enhance the pedestrian environment. Buildings may be broader and shorter, with setbacks preserved or taller and more slender preserving more of the existing views.
Safety and Security	No Impact	Security at Terminal responsibility of Transbay Terminal Joint Powers Authority.	Security at the Caltrain stations provided by the JPB via its contract with Amtrak. Security would increase over present levels commensurate with the increases in station activity.	Safety and security provided by San Francisco Police and Fire Departments.
Energy	No Impact	Included in Caltrain Downtown Extension discussion.	No adverse impact. Overall, Terminal and Train Extension would reduce the consumption of energy by diverting auto travel to rail and bus.	Redevelopment would require provision of energy from then current providers.

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
Transit Operations	10,000 passenger Transbay terminal capacity 32 bus bays. On-site bus storage	**For West Ramp Alternative**: Increase terminal capacity to 35,000 passengers. 34 bus bays provided. Off-site bus storage. **For Full Loop Ramp Alternative:** Increase terminal capacity to 24,000 passengers. Provide 51 bus bays. Maintain on-site bus storage.	**Either Alternative would** Increase linked transit trips in the corridor in 2020 by 10,000/day. Result in daily travel time savings of 7,200 person hours. Reduce VMT in Caltrain corridor by 260,000. Reduce BART San Mateo County entries/exits, but increase BART-Caltrain transfers in San Francisco. Reduce Muni and Samtrans service ($4 million annual savings) Increase transfers between Caltrain and other transit service.	Either Alternative would provide high-density development (business and residential) near major multi-modal transit facility to encourage increased transit usage and defray portion of Transbay Terminal costs. Less transit-oriented development under Reduced Scope Alternative.
Traffic Impacts	No Impact	All project components included in the Redevelopment impact discussion.	All project components included in the Redevelopment impact discussion.	7 intersections with adverse traffic impacts (significant under City and County of San Francisco guidelines) Mitigation: The City may request developers to contribute to the new Integrated Transportation Management System (ITMS) program.

Table S-1
Summary of Long-term Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT		
		TRANSBAY TERMINAL COMPONENT ALTERNATIVES	CALTRAIN DOWNTOWN EXTENSION COMPONENT ALTERNATIVES	REDEVELOPMENT COMPONENT ALTERNATIVES
Parking	No Impact	All project components included in the Redevelopment discussion.	All project components included in the Redevelopment discussion.	Approximately 1,950 (14 percent of study area parking) off-street parking spaces would be eliminated, including 260 spaces within the current Transbay Terminal building. Development (business and residential) near major multi-modal transit facility expected to encourage increased transit usage with reduced parking demand.
Non-motorized Traffic	11 corners and 2 crosswalks would operate at pedestrian Level of Service F.	All project components included in the Caltrain Downtown Extension impact discussion.	11 corners and 2 crosswalks would operate at pedestrian Level of Service F. Although not required, pedestrian mitigation measures are suggested. A total of 105 bicycle storage spaces would be needed at the new Transbay Terminal.	All project components included in the Caltrain Downtown Extension impact discussion.

Table S-2
Summary of Construction Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT
Transit Operations	No Impact	**For the Downtown Extension 2nd Street Cut-and-Cover Option**: - Muni's Line 10 would be re-routed. - Potential re-striping of 3rd Street could affect the performance of Muni Lines 15, 30, 45 and 81X.
Vehicular Traffic	No Impact	**Transbay Terminal** construction would affect access to 4 loading docks on Minna Street. **Both Caltrain Alternatives - Cut-and-Cover Option** would require: A total of 23 trucks per hour. Block-by-block closures of 2nd St. 3rd Street would be restriped as detour with 3 northbound and 2 southbound lanes. On-street parking will be prohibited, and the bus lane will be a mixed flow lane. A left-turn lane will be added on Howard at the 3rd/Howard intersection. Temporary closure or alternative access for 21 driveways (2nd to Main Alternative), or 11 driveways (2nd to Mission Alternative). The 2nd Street Tunneling Option would reduce the number of driveways affected. **Tunneling Option for Caltrain Extension Alternatives** would require detour plans and parking removal only for the block of Second Street between Howard and Folsom Streets (Both Caltrain Extension Alternatives) and for Main Street between Howard and Harrison (Second-to-Main Alternative) or for Mission Street between Beale and The Embarcadero (for Second-to-Mission Alternative). **Contra-flow lanes to the temporary terminal** would: Eliminate 2 southbound traffic lanes & 12 curbside parking spaces on Beale Street between Howard and Folsom Streets. Reduce Folsom Street from 4 to 2 lanes between Beale and Main streets. 9 parking spaces would be removed. Main St. would be reduced from 3 to 2 lanes between Howard and Folsom. 48 motorcycle parking spaces & 9 automobile spaces would be removed. On-street parking spaces on Howard St. would be removed between Beale and Main.
Parking Impacts	No Impact	**For both Downtown Extension alternatives (Cut-and-Cover Option)**, on-street parking would be temporarily removed along Townsend, 2nd, and 3rd streets. 2nd Street parking would be closed and re-opened on a block-by-block basis. Parking on 3rd Street would be removed to accommodate detour for 2nd Street traffic. Contractor would post dates and times of parking closures and openings.

Table S-2
Summary of Construction Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT
Parking Impacts		**Tunneling Option for both Downtown Extension Alternatives.** Parking removal and detours would be required only for 2nd and 3rd Streets only between Folsom and Howard. Contractor would post dates and times of parking closures and openings. Tunneling Option would not require temporary removal of parking on 3rd Street. One block of parking on Second Street would be required between Folsom and Howard Streets.
Pedestrians and Bicycle Traffic	No Impact	**Temporary bus terminals would have the following impacts:** Casual carpool queues on the east side of Beale Street would be temporarily relocated to the west side of Beale Street. Walk and bicycle distances to the temporary terminal would be increased by 4 blocks for most pedestrians and bicyclists.
Neighborhoods & Businesses	No Impact	Most substantial impacts would occur on **streets affected by cut-and-cover construction**. Residential uses would be subject to reduced vehicle access, increased traffic congestion, increased noise, and construction-related dust. Businesses would experience the same type of disruptions, with the greatest impact to retail establishments, which rely on visibility and walk-in traffic. **For Cut-and-Cover Options – Both Alternatives,** this includes Townsend, 2nd Street between Brannan and Streets. **For Second-to-Main Alternative**, this includes Main Street. **For Second-to-Mission Alternative**, this includes Mission Streets. For Both Alternatives Tunneling Option, this includes Second Street between Folsom and Howard. **Mitigation:** conduct outreach to affected residents and businesses; develop traffic management plan; maintain a field office and information telephone line; post informational signs; maintain sidewalks during construction where feasible; install construction decking flush with adjacent surfaces; install construction fencing.
Community Facilities & Services	No Impact	Safety & security services would be provided by San Francisco Police and other security personnel. Any impacts to emergency access due to change in traffic conditions would likely be minor and not affect emergency response times. The San Francisco Fire Department would review project plans to ensure provision of adequate life safety measures and emergency access during construction. The amount of construction debris could be adequately accommodated by existing landfills. Mitigation: construction specifications will require the use of recycled construction materials where feasible, and include specification regarding the recycling of construction and demolition debris.
Parks, Schools, Religions Institutions	No Impact	For all alternatives/construction options: construction-related traffic delays may inconvenience persons gaining access to these facilities.

Table S-2
Summary of Construction Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT
Air Quality	No Impact	**For all Alternatives and Options**: Temporary emissions of nitrogen oxides, carbon monoxide, and sulfur oxides, and dust (PM_{10}). **Mitigation** would include: Water active construction areas at least twice daily. Cover trucks hauling loose materials or require trucks to maintain 2 feet of freeboard. Pave, apply water 3 times/day, or apply soil stabilizers on unpaved roads, parking and staging areas. Sweep daily paved access roads, parking and staging areas. Sweep streets daily if visible soil material is carried onto adjacent public streets. Install sandbags or other erosion control measures. Replant vegetation as quickly as possible.
Noise & Vibration	No Impact	**For all Alternatives and Options**, noise and vibration from construction activities could intrude on nearby residents and workers. **Mitigation** would include: Construct a sound wall as necessary for construction site. Comply with San Francisco Noise Ordinance. Conduct noise and vibration monitoring. Conduct inspection and noise testing of equipment. Implement community liaison program. Include noise control requirements in construction specifications. Limit use & hours of construction high vibration-generating techniques.
Water Resources	No Impact	**For all Alternatives and Options**: Grading, tunneling, and utility excavations would increase the sediment load to storm sewers, and wind-transported soils could affect nearby surface waters. Construction dewatering would locally result in temporary lowering of the water table and could promote downward migration of contaminants. **Mitigation** would include: Manage construction spoils to minimize wind dispersion. Dewater in stages and discharge dewatered effluent to sanitary sewer. Test groundwater samples to obtain a batch discharge permit from San Francisco Public Works Department; treat effluent prior to discharge if necessary.
Utilities	No Impact	Impacts for overall project were addressed in prior table. If necessary, disruptions to service during construction would be short-term and carefully scheduled with advance notice given to affected customers.

Table S-2
Summary of Construction Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT
Electromagnetic Fields	No Impact	No Impact
Historical and Cultural Resources	No Impact	Caltrain Extension Alternatives and Options require construction easement at the southeast corner of 166-178 Townsend Street, a contributor to the significance of the Rincon Point / South Beach Historic Warehouse – Industrial District. Proposed **mitigation:** underpin the building prior to construction. For archeology: If buried cultural materials are unearthed during construction, work in the vicinity would be halted until a qualified archaeologist can assess significance. If human remains are encountered during construction, no further disturbance shall occur until the County Coroner has made the necessary findings. Long-term impacts to archaeological and historical resources are addressed in Section 5.14.
Hazardous Materials	No Impact	Potential for direct impacts from pre-existing hazardous waste at 7 sites, indirect impacts from 27 sites. Exposure to asbestos or lead could result from demolition of the Transbay Terminal, which may have asbestos containing materials (ACM) and/or lead-based paint. **Mitigation** measures would include: Conduct further site investigation and develop mitigation plan for disposal of contaminated soil and discharge of contaminated effluent. Workers who may have contact with contaminated soil or groundwater would be required to have appropriate health and safety training. A worker health and safety plan would be developed, implemented and monitored. Any ACM and/or lead-based paint in the Terminal would be identified. If necessary asbestos will be abated and lead-based paint removed prior to demolition.
Aesthetics/ Visual Impacts	No Impact	Construction equipment and supplies would be visible, and evidence of construction activity would be noticeable to area residents, employees, and visitors. **Mitigation** is not required, but the project contractor will minimize "spill over" light or glare effects on adjacent areas at night. The TJPA and JPB, through on-site field office, will make all efforts possible to minimize specific aesthetic and visual effects of construction identified by neighborhood businesses and residents.
Geologic Impacts	No Impact	**For both Downtown Extension Alternatives - Cut-and-Cover Option**, poor quality bedrock under Second Street from Brannan Street to Folsom Street would be addressed by special shoring techniques. **For the both Downtown Extension Alternatives Tunneling Option**, specialized tunneling techniques are recommended including “spiling” and “stacked drift.”

Table S-2
Summary of Construction Impacts and Proposed Mitigation Measures

IMPACT CATEGORY	NO-PROJECT ALTERNATIVE	PROPOSED PROJECT
Safety and Security	No Impact	To ensure safety during construction, best construction management practices would be required to be in place: Construction and staging areas would be fenced and lighted. Recognized safety practice requirements would be followed for the use of heavy equipment and the movement of construction materials. The Construction Manager would be responsible for job site safety and security. Emergency response personnel within San Francisco would be available for immediate response on an as-needed basis.

S.4 ESTIMATED CAPITAL COSTS

A rebuilt Transbay Terminal and the underground Caltrain Extension are estimated to cost on the order of $1.867 to $2.098 billion at start of construction. The Transbay Terminal component of the project is estimated to cost from $1.02 to $1.19 billion, depending upon the Terminal Alternative selected and assuming construction would begin in 2002. The Caltrain Extension Alternatives would cost on the order of $0.844 billion to $0.913 billion, depending upon the alignment selected and the construction technique used (cut-and-cover versus tunneling) and assuming construction would be initiated in 2004. Tables S-3 and S-4 summarize capital costs for the new Transbay Terminal and Caltrain Downtown Extension improvements, respectively. Cost estimates include net land acquisition costs and all agency costs for project oversight as well as general project contingency and reserve.

Table S-3
Transbay Terminal Capital Cost Estimates
(Start of Construction – Millions of Dollars [1])

Cost Component	West Ramp Alternative	Loop Ramp Alternative
Temporary Terminal	22.0	22.0
Temporary Ramps	14.2	14.2
Permanent Ramps	153.0	315.8
Permanent Terminal	795.0	795.0
Bus Storage	23.0	23.0
Real Estate [2]	15.6	15.6
Total	**$1,022.8**	**$1,185.6**

Notes:
[1] Costs escalated to start of construction. Other qualifications and assumptions apply, including coordination with Caltrans during the retrofit of the Western Approach and bus ramp retrofit projects.
[2] Assumes mid-point of real estate acquisition cost estimates.
Source: MTC, SMWM, Oppenheim Lewis, Sedway Group, Parsons, 2001

S.5 PROJECT'S INCLUSION IN REGIONAL TRANSPORTATION PLAN

The Transbay Terminal / Caltrain Downtown Extension / Redevelopment Project is included as one of the top funding priorities in the financially constrained portion (called "Track 1") of the Regional Transit Expansion Policy (RTEP).1 The RTEP is the transit expansion element of the 2001 Regional Transportation Plan (RTP).

The 2001 RTP, including the RTEP, was adopted by the Metropolitan Transportation Commission in March 2002. The Transbay Terminal/Caltrain Downtown Extension/ Redevelopment Project is therefore included in the financially constrained 2001 RTP.

1 The Project is identified as the "Caltrain Downtown Extension/Rebuilt Transbay Terminal" in the RTEP and RTP.

Table S-4
Caltrain Extension Capital Cost Estimates
(Start of Construction – Millions of Dollars)

Cost Component	Second-to-Main Alternative		Second-to-Mission Alternative	
	Cut-and-Cover Construction	Tunnel Construction [1]	Cut-and-Cover Construction	Tunnel Construction [1]
Demolition	4.6	3.4	5.6	4.4
Tunnel/Subway/Depressed Section Improvements	312.6	352.8	317.6	356.7
Roadway/Utility Improvements	51.2	34.9	56.5	40.2
Trackwork	17.4	17.4	17.4	17.4
Systems	15.0	15.0	15.0	15.0
Station Improvements	11.4	11.4	11.4	11.4
Environmental Mitigation	25.1	20.3	27.2	22.3
CONSTRUCTION TOTAL	**437.3**	**455.2**	**450.7**	**467.4**
Design, CM and Owner Costs (25%)	109.4	113.8	112.7	116.9
Contingency Allowance (25%)	109.4	113.8	112.7	116.9
Project Reserve (10%)	43.7	45.5	45.1	46.7
TOTAL PROJECT COST – End of 2001	**699.8**	**728.3**	**721.2**	**747.9**
2004 Inflation Adjustment (8%)	56.0	58.3	57.7	59.8
Right-of-way acquisition, relocation, resale (net loss) [2]	124.5	57.7	134.0	67.8
TOTAL PROJECT COST (Start Construction at Beginning of 2004)	**880.3**	**844.3**	**912.9**	**875.5**

Notes:
[1] Tunnel construction from Townsend to Folsom
[2] Total assumes mid-point of real estate costs.
The optional underground pedestrian connection from the train mezzanine to The Embarcadero BART Station is estimated to cost $45.3 million.
Source: Parsons Transportation Group, 2001

S.6 PROPOSED FUNDING BY SOURCE

Table S-5 presents funding options tailored to the different alternatives under consideration for the Project. The RTEP assumes a Project cost of $1,885 million (in 2001 dollars), an amount greater than the base capital costs of the Caltrain options under the Transbay Terminal West Ramp Alternative. Value engineering is expected to reduce this base capital cost. As shown in Table S-5, the funding plan identifies other revenues to fund additional financing costs. The other funding options for the Loop Ramp Alternative, provided in Table S-5, are for discussion purposes and have been developed using the RTP funding plan as the point of departure. The financial plan in this DEIS is based on financial projections and governmental actions which are not finalized. More detailed information on the financial plan will be presented in the FEIS.

Table S-5
Project Estimated Capital Costs and Funding Sources (Millions of 2001 Dollars)

Transbay Terminal	West Ramp				Loop Ramp			
Caltrain Extension Alternative	Second-to-Main		Second-to-Mission		Second-to-Main		Second-to-Mission	
	Cut-and-Cover	Tunnel Option	Cut-and-Cover	Tunnel Option	Cut-and-Cover	Tunnel Option	Cut-and-Cover	Tunnel Option
Capital Costs and TIFIA Debt Service								
Base Cost	$1,827.4	$1,789.1	$1,858.3	$1,818.8	$1,987.0	$1,948.7	$2,017.9	$1,978.4
Value Engr. [1]	($168.7)	($171.6)	($170.9)	($173.5)	($184.7)	($187.5)	($186.8)	($189.5)
Total Capital	$1,658.6	$1,617.5	$1,687.4	$1,645.2	$1,802.3	$1,761.1	$1,831.0	$1,788.9
Debt Service	$1,077.9	$1,051.1	$1,096.6	$1,069.1	$1,171.2	$1,144.5	$1,189.9	$1,162.5
Total Cost	$2,736.5	$2,668.6	$2,784.0	$2,714.3	$2,973.5	$2,905.6	$3,021.0	$2,951.4
Funding Source								
Local/State								
Regional Measure 1	$53.0	$53.0	$53.0	$53.0	$53.0	$53.0	$53.0	$53.0
Sales Tax [2]	$27.0	$27.0	$27.0	$27.0	$27.0	$27.0	$27.0	$27.0
ITIP [3]	$59.0	$59.0	$59.0	$59.0	$150.0	$111.0	$160.0	$150.0
AB1171 [4]	$150.0	$150.0	$150.0	$150.0	$150.0	$150.0	$150.0	$150.0
Land Sales [5]	$300.8	$300.8	$300.8	$300.8	$300.8	$300.8	$300.8	$300.8
Tax Increment [6]	$192.1	$192.1	$192.1	$192.1	$192.1	$192.1	$192.1	$192.1
Net Operating Revenues [7]	$67.5	$67.5	$67.5	$67.5	$67.5	$67.5	$67.5	$67.5
Prop 42/Other [8]	$600.9	$546.7	$638.9	$583.2	$630.8	$612.6	$636.1	$618.0
PFC [9]	$506.1	$506.1	$506.1	$506.1	$506.1	$506.1	$506.1	$506.1
Increased PFC [9]	$145.2	$145.2	$145.2	$145.2	$145.2	$145.2	$145.2	$145.2
Leveraged Lease Transaction [10]	$50.2	$50.2	$50.2	$50.2	$58.1	$58.1	$58.1	$58.1
Federal								
TIFIA Loan	$552.3	$538.6	$561.9	$547.9	$600.2	$586.5	$609.7	$595.7
RTIP/STP/CMAQ [11]	$23.0	$23.0	$23.0	$23.0	$83.3	$86.3	$105.9	$78.5
Section 1601 [12]	$9.4	$9.4	$9.4	$9.4	$9.4	$9.4	$9.4	$9.4
Total Funds	**$2,736.5**	**$2,668.6**	**$2,784.0**	**$2,714.3**	**$2,973.5**	**$2,905.6**	**$3,021.0**	**$2,951.4**

Notes:

[1] Assumes 10% value engineering savings calculated from total costs minus real estate costs, as defined in Tables 6.2-1 and 6.2-2, August 2002.

[2] San Mateo County contribution (per MTC's RTP).

[3] Interregional Transportation Improvement Program. MTC's RTP includes $59 million.

[4] Per MTC's RTP. New Source of discretionary funds to MTC, pursuant to State law passed in October 2001 to complete the seismic retrofit of Bay Area bridges and related projects, consistent with Regional Measure 1.

[5] Per Jones, Lang LaSalle Report, February 13, 2001, de-escalated to 2001$ by Nancy Whelan Associates, July 2002.

[6] Tax Increment Financing amounts from Seifel Consulting 6/25/02, de-escalated to 2001$ by Nancy Whelan Associates, July 2002.

[7] Per Jones, Lang LaSalle and Nancy Whelan Associates, July 2002. Includes $3 million in annual BATA bridge toll operating support per MTC Resolution 3434.

[8] Prop 42/Other includes potential funding from the following sources: Proposition 42, Proposition B sales tax rollover, third dollar on the Bay Bridge, High Speed Rail Funds, and the PCL Initiative. The MTC recently approved recommendations for the Bay Crossings Study that list the Transbay Project as an eligible project for revenues from the proposed third dollar.

[9] A Passenger Facility Charge (PFC) is assumed for Caltrain and AC Transit passengers. The PCF would be $1 from commencement of service through 2024, increasing to $1.50 starting in 2025.

[10] The Terminal Facility's value is assumed to be $1.003 or $1.163 billion and the net benefit rate to be 5%. Leveraged lease transactions are encouraged by the FTA as innovative financing mechanism.

[11] Per MTC's RTP, which assumes $23 million in RTIP (Regional Transportation Improvement Program), STP (Surface Transportation Program), and CMAQ (Congestion Mitigation and Air Quality Improvement Program) funds.

[12] Per MTC's RTP, which assumes $9.37 million in Section 1601 design grant.

Sources: San Francisco County Transportation Authority, Seifel Consulting, Jones, Lang LaSalle, Openheim/Lewis, Peninsula Corridor Joint Powers Board, Sedway Group, Nancy Whelan Associates, Parsons Transportation Group, 2001 and 2002.

Funding sources include: (1) Section 1601 of the Transportation Equity Act for the 21st Century (TEA-21), (2) Interregional Transportation Improvement Program (ITIP) funds, (3) State Transportation Improvement Program (STIP) funds, (4) transfer of state-owned land parcels in San Francisco to the Transbay Joint Powers Authority and the San Francisco Redevelopment Agency, (5) Regional Measure 1, (6) property tax increments of redevelopment, (7) AB 1171 funds, (8) RTIP/STP/CMAQ funds, (9) passenger facility charges (PFC), (10) net operating revenues, (11) leveraged lease transaction, (12) TIFIA (Transportation Infrastructure Financing and Innovation Act) loan, and (13) sales tax. In addition, Proposition 42 adds potential funding in permanently dedicated the existing state sales tax on gasoline to transportation purposes.

All improvements to the Transbay Terminal/Extension project could be classified as Transportation Improvements under Title 23 and are therefore eligible for a subordinated loan from the federal government as a part of USDOT's TIFIA program, which was authorized in TEA-21. This program may provide various forms of credit support for large transportation projects for up to one-third of a project's total cost. Revenues that could be pledged to such a loan include:

- Tolls from the San Francisco Bay Bridge,
- Lease income on retail space within the terminal,
- Sale or lease of properties transferred to the Transbay Joint Powers Authority, and
- Tax Increment Revenues on project areas created by the San Francisco Redevelopment Agency.

S.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The West Ramp Transbay Terminal, Second-to-Main, Tunneling Option, Full Build is the environmentally superior alternative in that it:

- Fully meets the purpose and need for the project,
- Provides the most efficient transit service within the new terminal,
- Provides better views and opportunities for coordinated development in downtown San Francisco with fewer adverse land use impacts,
- Requires the least amount of property acquisition, including the fewest historic structures, therefore involving the fewest business and residential relocations,
- Provides dense transit oriented development near a multi-modal transit facility to help defray the costs (via tax-increment financing) for a multi-modal transit facility, thus encouraging increased transit use,
- Has the lowest level of construction impacts on properties along Second and Third Streets.

S.8 ISSUES TO BE RESOLVED

Resolution is required regarding the selection of the appropriate Transbay Terminal, Caltrain Downtown Extension, and Redevelopment Alternative and Option.