Chapter 3: Third Street Light Rail

The Third Street Light Rail Project is the most significant capital investment in several decades for Muni. The 6.9-mile two-phase project has brought light rail service to the heavily transit-dependent Third Street corridor in eastern San Francisco, and will extend light rail service to the Financial District and Chinatown, the most densely developed areas of San Francisco. It will also serve a number of other popular locations, such as Union Square, Moscone Convention Center, and AT&T Park.

The Project is being built in two phases. Phase 1, the Initial Operating Segment (IOS), includes 5.1 miles of surface rail, known as the T-Line, which began construction in 2000 and commenced revenue service in April, 2007. This first phase also includes the Metro East operating and maintenance facility, which will begin operation in the fall of 2008. The second phase of the Project, the Central Subway, will add 1.7 miles, from Fourth and King Street to a terminal at Stockton and Jackson Streets, with a station at either Washington or Clay Street in Chinatown. Phase 2 is currently in Preliminary Engineering and is expected to be in service in 2016.

Ultimately, the project will improve travel times between the southern end of the line near the Caltrain Bayshore station and Chinatown by up to 10 minutes for the 24.6 million annual trips projected on the LRT line.

The Third Street Light Rail Project has been San Francisco's highest priority transit project. The need for transportation improvements in the Third Street corridor was identified in the Bayshore Transit Study in 1993. In 1995 it was prioritized as the highest-ranking project in the city in the San Francisco County Transportation Authority's Four Corridors Study. This study formalized the desirability of a light rail link between the Third Street LRT and the Chinatown/North Beach Corridors. The project was reviewed in a Final Environmental Impact Statement/Final Environmental Impact Report (FEIS/FEIR), which was completed in 1998. The Third Street LRT project is intended to address existing and

Figure 3-1: Map of Third Street Light Rail

anticipated deficiencies in the transit system serving the communities in the Southeastern part of San Francisco and Chinatown. It is also intended to serve as a key infrastructure improvement to help support revitalization of communities along the corridor and to directly serve Mission Bay, San Francisco's largest redevelopment project, which covers 303 acres of land between San Francisco Bay and Interstate-280. The maximum development program for Mission Bay includes:

- 6,000 housing units, with 1,700 (28%) affordable to moderate, low, and very low-income households. Redevelopment Agency sponsored non-profit developers will build 1,445 of the affordable units on 16 acres of land contributed to the Agency by Catellus. The remaining 255 affordable units will be included in privately developed projects.
- 6 million sq. ft. of office/life science/technology commercial space.
- A new UCSF research campus containing 2.65 million sq. ft. of building space on 43 acres of land donated by Catellus and the City.
- 800,000 sq. ft. of city and neighborhood-serving retail space.
- A 500-room hotel with up to 50,000 sq. ft. of retail entertainment uses.
- 49 acres of public open space, including parks along Mission Creek and along the bay, plus 8 acres of open space within the UCSF campus.
- A new 500-student public school.
- A new fire and police station.

Project Objectives

The primary purpose of the Third Street Light Rail Project is to accommodate existing and forecasted transit ridership within the corridor with greater reliability, comfort and speed, and to facilitate economic development opportunities along the corridor. More specific objectives include:

Transit Improvements: provide improved travel time, access, reliability, passenger comfort, and transit connections in the Third Street corridor. The project will improve travel time between the southern terminus and Chinatown and improve service reliability with exclusive right-of-way in the subway segment and semi-exclusive right-of-way in most of the surface segments of the alignment.

Economic Development: support economic development and revitalization in communities along the corridor. The project will support businesses in South of Market (SOMA), downtown, Union Square, and Chinatown, and economic development in Bayview Hunters Point and in the new Mission Bay development.

Traffic Improvements: reduce congestion in downtown San Francisco and improve traffic safety in the Third Street corridor.

Environmental Improvements: reduce diesel emissions with the removal of the 15-Third motor coach service.

The project will connect with intermodal facilities at a number of locations. Connections with Caltrain can be made at the Fourth & King Station and at the Bayshore Station. The Locally Preferred Alternative approved by the SFMTA Board will have a connection to the Powell Station on Market Street with access to Bay Area Rapid Transit (BART), the existing Muni Metro subway, and connections with all Muni streetcar, bus, and trolley coach lines operating along Market Street. A supplemental EIR has been prepared to discuss the new alignment.

Project Funding

Third Street LRT Phase 1 was funded primarily through local sales tax revenues, provided by the SFCTA, as well as Federal Section 5309 Rail Modernization funds, Federal Surface Transportation Program (STP) funds, State Transportation Improvement Program (STIP) funds, and California Traffic Congestion Relief Program (TCRP) funds. Phase 1 is fully funded. Third Street LRT Phase 2 expects to use Federal New Starts funds, TCRP funds, STIP funds, State Infrastructure Bond funding local Prop K sales tax funds, and parking revenues. About $477 million in funding has been committed to the Central Subway, with the remaining funds largely dependent upon receiving a Full Funding Grant Agreement from FTA, currently anticipated for 2010. The funding plan, expressed in millions of year-of-expenditure dollars, is summarized below.

Figure 3-2: Third Street Light Rail Funding Plan

Funding Source	Phase 1 IOS	Phase 2 CS	Total	% of Total
Federal New Starts	$0	$762.2	$762.2	39.3%
Federal Other	$72.9	$0.0	$72.9	3.8%
STIP (RIP)	$68.8	$92.2	$161.0	8.3%
State Other	$126.0	$264..0	$390.0	20.1%
Local (Prop K, Parking Revenues)	$380.7	$171.3	$552.0	28.5%
Total	$648.5	$1,289.7	$1,938.10	100.0%

In $millions, year of expenditure dollars

The Central Subway is forecasted to reduce operating costs by approximately $1.5 million/year, primarily by providing a more direct, shorter route from Third Street Stations and the Caltrain Terminal to the Market Street subway. This should allow a reduction in the number of light rail and trolley bus vehicle hours and miles. (This projection is based on a sophisticated operating cost model developed by AECOM Consult.)

Public Participation

The project's extensive public outreach program includes a periodic project newsletter, a telephone hotline, a project web page (available at www.sfmuni.com), and an ongoing series of community and corridor-wide meetings and workshops. To date, this has included 26 Community Advisory Group meetings, 17 Technical Advisory Group meetings, 2 corridor-wide workshops and over 190 meetings and workshops with various community, civic and professional groups. In addition, SFMTA has sponsored a series of three Economic Development Forums, held in conjunction with the redevelopment planning process in Bayview, to discuss

ways in which the light rail project can contribute to the revitalization of the Bayview Commercial Core.

After the start of revenue service, Muni responded to passenger concerns and media comments about service problems. This response included a town hall meeting in May 2007 and service changes made less than three months after start of service.

Phase 1 - Initial Operating Segment

The IOS, which began revenue service on April 7, 2007, extends Muni Metro light rail service south from its current terminal at Fourth and King Streets. The line crosses the Fourth Street Bridge and runs on Third Street and Bayshore Boulevard, ending at Bayshore and Sunnydale in Visitacion Valley. The 5.4 miles of new rail have been constructed primarily in the center of the street to improve safety and reliability. There are 18 stops with high level platforms. The Phase 1-IOS improves travel times from Visitacion Valley to Market Street. In order to serve the Phase 1-IOS start up, the SFMTA acquired 15 LRV's.

Extensive pedestrian safety improvements have been added at intersections along the Third Street corridor as part of the project. These include pedestrian countdown signals and accessible (audible) features at station intersections and some adjacent intersections, as well as corner curb bulb-outs (sidewalk extensions) at selected intersections. The Bayshore/Arleta/San Bruno intersection has been completely reconfigured.

Urban Design

Working with community members from several neighborhoods, a team of architects and artists explored a variety of themes for the design of the corridor. The result was the idea of a "Great Street / Main Street" as the primary theme for the corridor. In this scheme, Third Street takes its place as one of the City's "Great Streets", with a series of design elements that are consistent and recognizable along the corridor. Elements include:

- Unique colored paving to mark the light rail track area;
- A special corridor-wide street tree (the Brisbane Box) to lend a strong "boulevard" image;
- Glass and metal canopies on all station platforms;
- Seating, lighting and informational signage at all platforms; and
- A tall "marquee pole" to serve as a distinctive marker for the stations.

At the same time, Third Street also serves as a "Main Street" for specific communities along the corridor, with pedestrian-oriented enhancements provided to give special identity to neighborhood centers. Along Third Street in the Bayview Commercial Center, the light rail project provides special "Main Street" pedestrian-oriented improvements, in conjunction with the City's revitalization efforts. These include widened sidewalks with special artist-designed paving patterns, distinctive neighborhood trees, seating and pedestrian lighting. The City is seeking funding to provide these improvements in other "Main Street" areas in the future.

Metro East Light Rail Maintenance Facility

As a necessary part of the Third Street LRT project, the SFMTA is constructing the Metro East Light Rail Vehicle Maintenance and Operations Facility. This new facility is for the storage,

maintenance, and operation of Muni light rail vehicles. It is needed to support the new Third Street Light Rail line and to relieve the overcrowded conditions at Green Division, Muni's other light rail maintenance facility. The facility will be located on a 13-acre parcel bounded by 25th Street, Illinois Street, Cesar Chavez Street and Louisiana streets (part of the former Western Pacific Railroad site). Metro East will store 80 LRV's, with the shops sized to accommodate 100 LRV's. The facility will consist of a two-story main shop and administration building, power substations, an LRV storage yard, and an on-site parking lot. The shop building will have a floor space of about 180,000 square feet. The building is designed to be within the allowable height limit of 40 feet. The on-site employee and non-revenue vehicle (service) parking lot will accommodate about 170 vehicles; this lot is also for ADA accessible parking and for visitors such as vendors. Drivers arriving early in the morning when transit service is limited require these spots, to avoid inconveniencing neighbors through decreased on-street parking availability.

All design work was completed in 2001. Site and soil improvements were completed in August 2002. Construction for the shops and the yard began in August 2005, and the facility is scheduled to begin operation in fall 2008.

Jobs Program

The SFMTA initiated the Community Employment, Recruitment and Training (CERT) program to identify Third Street construction-related job opportunities. The program, administered by the San Francisco Private Industry Council with the assistance of local community based organizations (CBO's), helps local residents prepare and become placed in these positions. As of February 2007, 332 residents of the Potrero Hill, Bayview-Hunter's Point, and Visitacion Valley Districts have been hired for the Third Street LRT project. Of these 332, 198 residents have been hired through the CBO's. The original jobs program has been superseded by CityBuild, a program operated through the Mayor's Office. The Metro East contractor is using this program.

Project Status

Construction on Phase 1 of the light rail line began in spring 2002 and achieved substantial completion of the last alignment contract in January 2007. Revenue operations began in April 2007. With the exception of the Metro East contract, all the other contracts are in closeout or closed.

Phase 2 - Central Subway

Current Approved Project

Phase 2 will add 1.7 miles of light rail track north from the northern end of the Phase 1-IOS project at Fourth and King Streets, to a terminal at Stockton and Jackson in Chinatown. The tracks will enter the Central Subway underneath the I-80 Freeway between Bryant and Harrison, and proceed to cross beneath Market Street, running under Stockton Street to Chinatown. The Central Subway is projected to open in 2016. The current approved alignment places the subway in SOMA under Fourth Street, with a total of three underground subway stations located at Moscone Center, Market Street/Union Square and Chinatown and one surface station on Fourth Street between Bryant and Brannan. Current projections show that the two-phase Third Street project will carry 78,000 daily riders by 2030, with travel times from Visitacion Valley to Chinatown reduced by up to 14 minutes, compared with today's travel times. The project is currently estimated to require four additional light rail vehicles (LRV's).

The Central Subway is a critical transportation improvement linking neighborhoods in the southeastern part of the City with the retail and employment centers in downtown and Chinatown. The project will:

- Significantly reduce travel time both for the transit rider and for other vehicles using the streets, since the subway takes buses off the streets.
- Reduce overcrowding on existing bus service.
- Reduce pollution and gridlock with fewer diesel buses and automobiles on the streets
- Provide more reliable service.
- Provide direct connections to Caltrain, BART, regional buses, and other Muni lines.
- Improve access to the heart of Chinatown and strengthen community connections between Visitacion Valley and Chinatown.
- Provide a direct connection to the Moscone Center, Union Square, and Chinatown.
- Connect Mission Bay, the new UCSF campus, and Bay View Hunters Point with downtown San Francisco.

New Starts Funding

The Third Street-Central Subway project has received $33.9M to date in highly competitive Federal New Starts funding. The project is part of the Bay Area's adopted Long-Range Regional Transportation Plan, which positions it as a top priority for Section 5309 New Starts funds. For the second year in a row, the Federal Transit Administration (FTA) has granted the Third Street-Central Subway project a "recommended" rating, based largely on the strength of corridor land uses and land use policies, and the strength of the financial plan. While not a guarantee of funding, the rating means that this second phase of the Third Street project will continue to go forward, with encouraging prospects for future federal funding. The rating is part of FTA's annual New Starts evaluation process.

Project Status

In 2003, the SFMTA selected the Joint Venture team of Parsons Brinckerhoff ("PB Americas") /Wong Engineering to perform the Conceptual Engineering Report and Preliminary Engineering phases of the Central Subway, as well as assisting with as-needed supplemental environmental updates that may become necessary as the engineering work progresses. In order to assess the proposed Fourth Street alignment and other changes, the SFMTA issued a supplement to the EIS/EIR on October 17, 2007, to determine the potential benefits and impacts. Preliminary Engineering is scheduled to be completed at the end of 2008. Construction is currently planned for 2010-2015, with opening planned for 2016.

Fourth Street Alignment

The SFMTA hosted four Community Advisory Group meetings, and numerous community meetings, both workshops and civic and neighborhood group presentations, to establish which options the community preferred regarding the project alignment, station access, portal locations, and construction methods. The input from this public process resulted in some proposed changes to the project.

On June 7, 2005, the SFMTA Board approved changing the Locally Preferred Alternative for the Central Subway south of Market Street to operate entirely under Fourth Street instead of Third Street. The SFMTA has prepared a Supplemental EIS/EIR to determine the impacts of this Fourth Street Alignment. The Fourth/Stockton alignment was developed during preliminary engineering and community outreach to avoid or minimize adverse impacts. For example, it includes a deep (rather than previously planned shallow) tunnel under Market Street that would minimize conflicts with a major sewer line and limit surface disruptions caused by construction. The Fourth/Stockton alignment also had improved transit and vehicular travel time and localized traffic circulation, especially on Third Street.

This alignment starts as a surface line at Fourth and King – the current terminus of the now-completed Third Street Phase 1 project. It precedes north along Fourth Street to a surface station at Brannan Street similar in architecture to a Third Street Phase 1- IOS center platform station. From the surface station, it proceeds to a portal structure between Bryant and Harrison where the alignment transitions from surface to subway.

From the portal, the line proceeds north under Fourth Street to serve three subway stations: a station in the vicinity of the Moscone Center complex, a combined Union Square/Market Street station on Stockton Street between Ellis and Geary Streets, and a Chinatown station on Stockton at either Washington or Clay Street. Figure 3-3 shows the proposed Fourth Street alignment and stops.

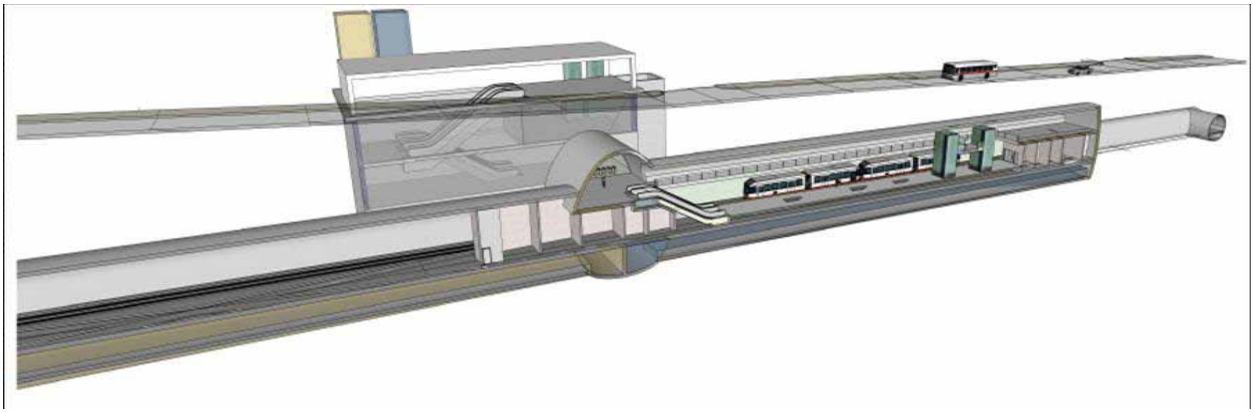
The Union Square/Market Street Station will provide a connection to the Powell BART/Muni Metro Station. It will also provide a direct connection with Union Square.

Figure 3-3: Proposed Fourth Street Alignment for Central Subway

Station Access

The original EIS/EIR proposed locating all station entrances in the sidewalks along the alignment. During the preliminary design process, the narrow right of way and sidewalks along Stockton Street and the vicinity of the Moscone Center complex prohibited the use of sidewalk entrances; in addition, the community expressed concerns that sidewalk space limitations would impact residents, businesses and traffic. Therefore, off-street access - where station entrances would be located in other non-street public areas or on acquired private properties - was studied and overwhelmingly preferred by the public. Some in-sidewalk entrances would remain where sufficient space is available, as shown in Figure 3-4.

Figure 3-4: Proposed Chinatown Station



Fare Collection Design

The original EIS/EIR proposed a proof-of-payment (POP) fare collection system that did not require fare gates. Due to concerns about safety, security, and platform access, the project team was asked to include fare gates similar to those in the Market Street Subway. This barrier system design controls access and is consistent with MTAB Board policy.

Portal Location

The LPA, Option B has located the portal between Bryant and Harrison, under the I-80 Freeway structure.

Ventilation Shafts

Subway ventilation shafts are required for emergency conditions. The Supplemental EIS/EIR has included possible locations for the ventilation structures adjacent to or near the off-street station entrances.

Construction Methods

The original EIS/EIR proposed using top-down-surface construction methods for most of the tunneling south of Union Square. Surface construction methods result in significant impacts to the public during construction. An alternative tunneling technology is being proposed – called deep tunneling – which allows most of the work to be done below ground with minimal disruption on the surface. Deep tunneling would pass under the BART/Muni Market Street Subway tunnels, minimizing construction impacts in the Market Street area. Underground use easements would be required in the few cases where the tunnels encroach into existing property lines adjacent to the public right of way. Figure 3-5 shows the type of tunnel boring machine used for the deep tunneling operation used in this kind of construction. The Chinatown station will use Sequential Excavation Method (SEM), which reduces disruption significantly. SEM is a mined construction technique that excavates the station below ground, allowing work to avoid impacting the ground surface of Stockton Street.

Figure 3-5: Tunnel Boring Machine

Third Street Light Rail Service Plan

T-Third line

The current operating plan runs the T-Third as an extension of the K-Ingleside, through the Market Street subway, along the Muni Metro Extension (MMX), and down the new Third Street light rail line to the terminal near Sunnydale Avenue.

The Castro Shuttle supplements service through the Market Street subway. While the J-line was initially extended to 4th/King, now the N-line instead supplements T-Third service along the MMX to the Caltrain Terminal. Eventually the N-Line will be extended to the Mission Bay Loop (from the Caltrain Terminal, south on 4th Street, then on 3rd Street near UCSF, as far south as 19th and 3rd Streets in Mission. Bay). After the Central Subway segment of the Third Street project is built, the T- line will extend all the way from Sunnydale to Chinatown.

T-Third Related Service Changes

Along with the addition of new light rail service in the Third Street corridor, Muni made a number of changes to bus and light rail routes to replace service on former 15-Third route segments not covered by the IOS, eliminate duplicate service, and improve performance of the T-Third Street line. Initial service changes were implemented with the opening of the T-Third line on April 7, 2007. The extra service load, operating changes, and complicating traffic signal modifications contributed to service problems and delays that affected the Muni Metro network. There were also public complaints about reduced service and more difficult transfers for some passengers. Partly in response to these problems, further revisions to service were made on June 30, 2007. The service changes made through June 30, 2007, are described below, starting with a discussion of rail changes the addressed Market Street subway operational problems.

Light Rail Service Changes

Through-Routing ("Interlining") of Lines K-Ingleside and T-Third Street

When Line T-Third Street was introduced on April 7, 2007, trains were turned back at Castro Station in the Market Street subway. The overlapping of lines and turning back of trains in the Market Street subway contributed to delays on all Metro lines following the April changes. With

the June revisions, the T-Third is now through-routed (interlined) with Line K-Ingleside. Each inbound trip on Line K becomes a T-Third Street trip at West Portal Station and continues via the T-line to Sunnydale. Each northbound trip on Line T becomes an outbound K-Ingleside trip at Embarcadero Station and continues via the K-line to Balboa Park (Geneva Avenue and San Jose Avenue).

Line N-Judah

The inner terminal of Line N-Judah was changed from 4th & King Streets (Caltrain) to Embarcadero Station with the April changes. The June revisions restored N-Judah service to the Caltrain Station at 4th & King Streets.

Line J-Church

Line J-Church had been extended to the Caltrain station at 4th & King Streets during peak periods as part of the April changes. The June revisions deleted that extension so that all inbound trips now terminate at Embarcadero Station.

Castro Street Shuttle

Castro Street Shuttle service that had operated between Castro Station and Embarcadero Station during weekday peak periods (and was deleted with the April changes) was restored with the June 2007 service revisions.

Bus Service Changes

Line 9X/9AX/9BX

Effective on April 7, 2007, the 9X/9AX/9BX Bayshore Express routes were extended along the former route of Line 15-Third to serve the former northern and southern terminals of Line 15-Third at Fisherman's Wharf and City College. The 9X now mirrors the hours of operation and the headways of the former 15 line, operating at night and on weekends. (This change also responds to multiple past requests by providing more convenient service from North Beach and Fisherman's Wharf to Geneva Avenue and City College.) While the 9AX and 9BX operate peak direction service during peak service hours only (northbound in the morning, southbound in the afternoon), the 9X provides off-peak service as well as peak period service in the off-peak direction. Overall, the combined 9X/9AX/9BX Bayshore Express services now provide approximately 20 hours of service per day, 7 days per week.

Line 10-Townsend

Peak period frequencies on Line 10-Townsend were increased to compensate for the loss of Line 15-Third Street service in the South of Market Area (SOMA). Line 10 was also rerouted in the southbound direction to serve bus stops in the area of Sansome/Sutter/Market/Second streets that were formerly served by Line 15. With the initial April changes, the improved frequencies were implemented only on the segment between Caltrain and Pier 39; with the June revisions, frequencies were improved over the entire 10-Townsend route.

Line 20-Columbus

On June 30, 2007, service was initiated on a new 20-Columbus line connecting the intersection of Van Ness Avenue & North Point Street with the Transbay Terminal area. It operates weekdays during the daytime only. Line 20 travels along almost the entire length of Columbus Avenue and serves the Financial District, thus restoring the North Beach-Financial District midday connection previously provided by the 15-Third. The 20-Columbus also was started to alleviate overcrowding on the 41-Union during the AM peak. This is the first new electric trolley coach line since 1993, when the 31-Balboa was converted from motor coach operations. This service initially is a trial service, and as demand warrants, service hours could be expanded and the line could be extended. Possible improvements or extensions to Line 20-Columbus will be studied through the Transit Effectiveness Project (TEP) process.

Central Subway

When Third Street LRT Phase 2 is completed, service on the T-Third will be revised to operate from its southern terminal at Bayshore Boulevard and Sunnydale Avenue through the Central Subway to the new northern terminus in Chinatown. The current service assumptions are for single-car trains running on 2-6-minute weekday peak period headways, with the more frequent service (2-minute headways) on a short loop between Chinatown and the Caltrain Terminal, with the 6-minute headways for service running to Bayshore, and intermediate 4-minute headways for service as far south as Mission Bay. Service levels are planned for 2 car trains operating at five-minute peak period and single car trains during non peak periods but this is subject to change depending on demand. Service changes to Muni bus routes are also anticipated to coincide with the initiation of Central Subway service.

Areas Served

The Third Street Light Rail project will serve a number of neighborhoods in the eastern portion of the City. Some of these are very densely populated, thus justifying a heavy transit investment; others are in planning and are expected to develop into more active, densely populated neighborhoods. The Central Subway corridor has a population of approximately 52,000. The general area served by the Central Subway taken together (Central Business District, Chinatown, Union Square, and South of Market within a half-mile of the alignment) contains over 44,000 residential units and over 66 million square feet of commercial space. In addition, current regulations allow potential growth of 15% – which could result in 6,500 new housing units and an additional 10 million square feet of commercial space.

Visitacion Valley: This is an established neighborhood on the City's southern border with many low income and minority residents. Planning has been ongoing in this neighborhood for several large development sites as well as the intermodal station connecting Muni with the Caltrain commuter rail line. Implementation of the intermodal Bayshore Station (connecting with Caltrain) will occur at a later phase of the project due to development issues on surrounding land located in San Mateo County.

Bayview Hunters Point: From the beginning, light rail in the Third Street Corridor has been viewed as a key infrastructure improvement to assist in the revitalization of Bayview Hunters Point. The Bayview Hunters Point Redevelopment Area was adopted in June, 2006. This Project Area is the result of a collaborative effort by the community to develop a unified and

comprehensive vision that will guide the implementation of plans, programs, and projects in the Bayview Hunters Point area. The Concept Plan, adopted in 2000, envisioned that the Third Street Light Rail project would help expand retail opportunities and employment centers, and create a strong streetscape identity for Third Street. This is being accomplished by incorporating widened sidewalks, pedestrian-scale lights, pedestrian signals, effective signage, street furniture, public art and other amenities. A related project is the Bayview Connections, which is the construction of pedestrian amenities in the neighborhood.

Central Waterfront: This area is bounded by Mission Bay on the north, Bayview Hunters Point on the south, Potrero Hill on the west, and the Bay on the east. Formerly characterized by maritime and industrial uses, the neighborhood is becoming a unique mix of heavy industrial, maritime, residential, and light industrial uses. The Planning Department, working with other City agencies and community members, has prepared a transit-oriented, neighborhood-specific plan for the Central Waterfront area as part of its Better Neighborhoods program. The plan is intended to encourage both job growth and housing development in the neighborhood. It includes elements such as parking management plans and retail development at transit stops. The plan will also encourage retail around the 20th and 23rd Street stations and a neighborhood retail strip on 22nd Street.

Mission Bay: This is an approximately 300-acre site located just south of the developing South of Market area of San Francisco. The site was formerly characterized by abandoned railroad yards and other industrial uses, but a redevelopment project is transforming the area completely. Construction activity is well underway on commercial, residential, and open space projects on many of the parcels, and many new buildings have been completed. Mission Bay will include a new medical research campus, six million square feet of research and development, light industrial and office use, up to 6,000 new residential units, 800,000 square feet of retail space, and a 500-room hotel. Much of the residential development in Mission Bay North and the UCSF campus has already been built and occupied. At full build-out, according to the Mission Bay environmental documents, the development area will generate almost 70,000 daily transit trips. The light rail line will be a key piece of infrastructure necessary to support this level of mixed-use development.

South of Market: In SOMA, the Third Street Light Rail serves AT&T Park, home of the San Francisco Giants, which generates between 5,000 and 10,000 Muni trips on game days. SOMA also includes Yerba Buena Center, which includes the George Moscone Convention Center, two major hotels, and over 2,500 new housing units, of which more than 1,400 are for low to moderate-income residents. The Metreon contains 15 movie screens, restaurants, cultural facilities, and a children's center. Other visitor attractions include major museums such as the Museum of Modern Art (MOMA) and the Museum of the African Diaspora (MOAD).

Transbay: The Transbay Terminal will be rebuilt as a multi-modal transit facility and will accommodate 45 million passengers annually. The surrounding redevelopment area will include approximately 3,000 residential units, a hotel, office space, and retail space. Several projects are already under construction, including high-rise offices, high-rise residences, live-work lofts, hotels, and communications facilities.

Financial District: San Francisco's Central Business District (CBD) is the densest and most transit-accessible downtown on the West Coast. In 1995 the Financial District section of downtown alone contained approximately 166,000 jobs, or about 30% of all jobs in the City.

The Central Subway alignment on Stockton Street will run two blocks (about 800 feet) from the western border of the Financial District, considered reasonable walking distance to transit stops by local and national references.

Union Square: This is the City's primary retail district – a very dense pedestrian and transit-oriented development with retail, office, hotel and some high-density residential uses. The Westfield Mall has recently increased shoppers attracted to this area, with its new expansion.

Chinatown: With over 100 housing units per net acre, Chinatown is one of the most densely populated areas in San Francisco and the United States. It also has extremely dense concentrations of retail, as well as some office and small-scale industrial uses. Chinatown may be the most densely populated community in the country not currently served by modern rail transit.

THIS PAGE INTENTIONALLY BLANK