

Chapter 5: Service Planning and Expansion

Muni's current service design and basic route structure has been in place since the early 1980s. While Muni's current service serves the City well, there is room for improvement of the system. Corridor planning, investments in technology, and coordination with other modes and projects in the City are key efforts that Muni is undertaking to improve service to riders. This chapter describes these efforts in system improvement.

San Francisco's Transit First Policy is the basis for Muni's planning for major corridors. In 1974, the City's Board of Supervisors adopted this Transit First policy, which was reiterated by Proposition E in 1999. The policy prioritizes transit improvements, such as designated transit lanes and streets and improved signalization, to expedite the movement of public transit vehicles. Furthermore, the policy states that new transportation investment should be allocated to meet the demand for public transit generated by new public and private commercial and residential developments.

A Vision for Rapid Transit

Muni published *A Vision for Rapid Transit in San Francisco* in February 2002. The purpose of the document was to propose a vision for moving people in San Francisco along major corridors in a rapid transit mode. Development of this document began as an effort to identify major capital improvements and funding mechanisms for Muni as a follow-up to Proposition E. The vision was developed in consultation with transit advocates, civic and business organizations, and the staffs of other City departments and other Bay Area transit agencies.

Figure 22: Vision Plan Corridors



The Vision Plan lists 12 major transit corridors, shown in Figure 22, that have high volumes of riders, but suffer from chronic capacity and reliability problems. Corridors were also chosen based on anticipated growth and geographic coverage of the City. The aim is to make improvements in all of the corridors to bring each one up to a minimum level of speed and reliability. The underlying principals are as follows:

- Integrate local and regional transit into a seamless transit network.
- Physically separate transit service from automobile traffic on major corridors by creating exclusive rights-of-way.
- Provide high-capacity, rapid transit-style service in major corridors.
- Upgrade transit service in increments as ridership builds and as funding becomes available.

Muni developed a “toolbox” of improvements that can be implemented with varying amounts of funding. The toolbox allows for a multi-phase approach. The tools range from relatively low-cost Transit Preferential Streets (TPS) improvements to more costly improvements such as light rail in a subway right of way, and include the options of converting from diesel bus to electric trolley bus service, and implementing Bus Rapid Transit service.

Combined together, the principles, corridors, and toolbox outlined a blueprint for Muni’s future. For instance, on Geary, the first phase could be Bus Rapid Transit (BRT) designed to be upgradeable to LRT in a second phase, given demand and funding. In other corridors where demand does not currently justify a large transit investment, TPS treatments could be appropriate for the first phase. When the low volume corridors are fully built out, BRT could then be implemented to provide a more appropriate level of service. Muni will work with SFCTA, DPT, Planning, DPW, Redevelopment, and other city agencies to ensure that transit projects are part of a coordinated corridor-wide improvement effort.

Individual projects still require much community work, technical analysis, and capital and operating funding before they can be implemented. Projects also depend on the feasibility of operation including service plans, vehicle availability, and storage and maintenance facilities.

SRTP Amendment

In February 2001, Bayview Advocates and other community groups filed suit against MTC, Muni, and AC Transit, alleging that the defendants violated the Clean Air Act by failing to comply with Transportation Control Measure 2 (TCM2) of the 1982 Bay Area Air Quality Plan. Muni and AC Transit settled with the plaintiffs. MTC eventually prevailed on its appeal of the lower court's decision. As part of its settlement with the plaintiffs, Muni analyzed 20 of the projects from the *Vision Plan* for potential ridership increases, capital and operating costs, implementation timelines, and demographic analyses. Muni produced an Amendment to the FY2002-2021 SRTP, which incorporated these projects into the SRTP and CIP. The MTA Board adopted the Amendment in December 2002. Detailed information about the BRT and TPS projects is below; information about the electrification program can be found in the Infrastructure Program, Chapter 8. The 20 projects were:

- | | | |
|-----------------------------------|---------------------------------|-------------------------------|
| - Geary BRT | - Potrero-San Bruno TPS | - Folsom TPS |
| - Van Ness BRT (Van Ness-Mission) | - Fillmore-16 th TPS | - 47-Van Ness Electrification |
| - 19 th Avenue BRT | - K-Ingleside TPS | - 9-San Bruno Electrification |
| - Stockton-Columbus TPS | - J-Church TPS | - 19-Polk Electrification |
| - N-Judah TPS | - 19-Polk TPS | - E-line Terminal |
| - L-Taraval TPS | - Geneva TPS | |
| - M-Ocean View TPS | - Market TPS | |

The projects are prioritized in the Capital Improvement Program according to Muni’s established criteria and with consideration to potential ridership effects. Implementation of these projects is subject to Muni's funding priorities.

Of the projects analyzed, the route electrification projects and the MMX terminal improvement were already included in the CIP. The remaining projects were grouped into three Infrastructure programs: the BRT Program, the TPS Rapid Rail Program, and the TPS Motor Coach/Trolley Coach Program.

Bus Rapid Transit

Bus Rapid Transit (BRT) is a new mode of transit for San Francisco, developed to deliver many of the benefits of light rail at lower cost, with buses. It is a high-quality transit service that reduces travel time, increases reliability, and improves passenger comfort primarily by giving the bus an exclusive lane so it can operate faster and more reliably. BRT technology was pioneered in Latin America and has also been implemented in Australia, Canada, and Europe. It is currently being deployed in many United States cities, including Los Angeles, Las Vegas, and Boston, because it is cost effective and allows communities to experience benefits relatively quickly.

BRT was the centerpiece of the expenditure plan for Proposition K, the half-cent sales tax for transportation improvements in San Francisco. Prop K identified Geary, Van Ness, and Potrero for BRT treatments over the next 30 years. The *Vision Plan* also highlighted Geary and Van Ness as the corridors highest in priority for BRT treatments. In addition, the *Vision Plan* included 19th Avenue as a BRT corridor but it is not included in Proposition K.

Two corridors identified for BRT, Van Ness and 19th Ave., are state highways. For this reason, Caltrans is a partner with MTA in the development of BRT in these corridors. Caltrans is part of the Van Ness technical advisory committee and has continuing input into the Van Ness BRT planning process. No working group has been formed yet for the overall 19th Avenue corridor improvements but Caltrans will be included when such a group is formed. Currently, Muni is working with Caltrans for signal improvements in the 19th Avenue corridor.

BRT projects are in the CIP's Infrastructure Program.

Elements of a Bus Rapid Transit System

BRT encompasses a variety of features designed to reduce delays, as well as improve reliability and customer comfort. Components of the BRT system and related benefits may include:

Dedicated Lane or Exclusive Guideway provides a BRT vehicle with its own travel lane free of conflicting traffic, double-parked or stopped vehicles, and other obstructions. By running buses in dedicated lanes, BRT can provide travelers with a faster and more reliable service.

Modern, Low-Floor, High-Capacity Buses with wide doors and aisles allow for more convenient and faster boarding/exiting, and provide passengers with a more comfortable and quieter ride. While new buses are desirable, BRT is flexible enough to be implemented with existing buses.

High Quality Bus Stops for BRT range from protected shelters to large transit centers, and are designed to serve both as traveler amenities and as neighborhood enhancements. Improved bus stops will include improved signage and maps, high-quality shelters, and lighting, enhancing safety and comfort for waiting passengers and strengthening neighborhood identity.

Streetscape Improvements and Amenities, such as landscaping, countdown signals, bicycle racks, and well-designed crosswalks, enhance the adjacent neighborhoods to make the street safer and more comfortable for pedestrians and bicyclists accessing the bus stops. Good street design also enhances safety and comfort for residents, shoppers and other users, and gives the street a cohesive sense of identity.

Improved Fare Collection is a key element of BRT, making it faster and more convenient to pay the bus fare, often before boarding the vehicle. Regular riders may use prepaid TransLink cards or monthly passes that allow multi-door boarding. The system might also include ticket vending machines at certain stops so

that passengers can purchase tickets before boarding. Once on the bus, the ticket or monthly pass serves as proof of payment when requested by inspectors.

Advanced Transit and Traffic Management Systems provide an array of state-of-the-art technologies to enhance the traveler's experience riding BRT and to improve overall traffic flow. Advanced technologies being considered include:

- Signal Priority for buses at traffic signals, allowing the bus to spend less time stopped at red lights and enabling faster trips and more reliable overall service; and
- Real-time information that tells riders when the next bus is coming, allowing users more control over their time.

Van Ness Bus Rapid Transit

Van Ness Avenue is a major priority corridor for Muni. Van Ness is a designated state highway. Although it appears to be relatively automobile-oriented, the adjacent blocks have up to 100 housing units per net acre, among the highest residential densities in the U.S. Currently, Muni service is frequently delayed on this street due to heavy overall traffic volume and to other vehicles parking in bus zones, making it an appropriate location for a BRT project. Van Ness is one of the corridors identified in SFCTA's Four Corridors Plan for primary investment in BRT or LRT solutions and funding was committed in Proposition K for BRT implementation.

In 2003 Muni and the SFCTA received a Caltrans Community Planning Grant to study BRT on Van Ness. The Van Ness Corridor Bus Rapid Transit (BRT) Study is a conceptual planning study that focuses on how bus rapid transit can address transit needs and opportunities on Van Ness Avenue. This study is a key step in the next-generation of transit plans and projects for San Francisco. Van Ness was selected because of its role as a key transit spine in the overall transit network and because of the strong potential to increase transit mode share in the corridor. Van Ness is a major north-south transportation spine, as well as a destination that includes many commercial, government, cultural and entertainment uses. Muni carries 42,000 people daily on the two bus lines on Van Ness, and Golden Gate Transit also runs several lines on Van Ness.

The study scope includes evaluation of existing conditions on Van Ness Avenue and development of alternatives. Alternatives will aim to promote transit ridership and mode share growth; efficient, effective, and equitable transit service; improved pedestrian conditions; and BRT system development in San Francisco. Key project benefits include improved travel times, reliability, passenger comfort, and safety. Public involvement will be solicited throughout the process to ensure that the preferred alternative reflects the priorities of the community.

Study findings so far indicate that mixed traffic congestion increases the travel times and delays for transit throughout the day, not just in the PM peak, and primarily in the southern portion of the corridor between Mission and California streets. The Needs Analysis findings point to the need to separate transit from auto traffic to reduce travel time and increase reliability. They also suggest the need to reduce delays associated with passenger loading and unloading through an array of measures such as level boarding; proof of payment; and reducing the number of stops. Findings also point to the need for improvement in on-time pullouts at the start of the routes.

Two conceptual alternatives are under study. In both alternatives, two lanes of traffic are maintained at all times, and parking loss is minimized. Pedestrian improvements such as extended and enlarged median refuges, corner bulbs, and countdown signals, will be part of any Van Ness project.

The Center option places the transitway in the center of the street with platforms and landscaping separating the buses from auto traffic. The existing center medians would be removed and replaced with

an equivalent amount of landscaping in the side medians, except in the City Hall block, where a center median would be maintained. Several left turns would be eliminated.

The Side option would create transit-only lanes on the right side of the street, with loading from newly built bus bulbs at every stop. The side lane must allow cars to turn right from turn pockets to the right of the transit lane, and to make parking maneuvers.

In parallel to the Van Ness Corridor BRT Study, the Octavia Boulevard project is being constructed and is scheduled to open in summer 2005. The Planning Department is also finalizing the Better Neighborhoods Study for the Market/Octavia area. The Department of Public Works is improving the landscaping along the center median of Van Ness Avenue, and there are plans to resurface the southern part of Van Ness Avenue in FY2009. The Van Ness Corridor BRT Study will coordinate extensively with these concurrent efforts, and with other planning activities in the corridor.

Muni's goal is to launch phase 1 of the BRT program by 2010, and coordinate it with DPW's resurfacing project.

Geary Bus Rapid Transit

With over 15.5 million trips annually, Geary is one of Muni's heaviest ridership corridors, serving major destinations across the City and the Richmond District, one of San Francisco's largest residential areas. Geary is the highest priority corridor for transit improvements, after the completion of the Central Subway. The Geary BRT is intended to be upgradeable to LRT in a second phase, given demand and funding.

Demographics along the Geary corridor are similar to those of the City as a whole. It is 50% white, 8% black, and 34% Asian. It has a smaller proportion of Hispanics (8%) than the rest of the City. The corridor contains 17% of the City's population at a density of 41 persons per acre, so it is an appropriate corridor for a large transit investment.

Geary Corridor System Planning Study (1995)

Geary was identified for improvement in the 1989 Proposition B sales tax expenditure plan. In 1995, Muni conducted a system planning study. The study started with 31 different options, evaluated seven of them, and narrowed to four alternatives:

- Transportation System Management
- Subway/Surface Light Rail (with three routing options on the east end)
- Subway/Surface Electric Trolley Bus
- All-Surface Light Rail

These alternatives were evaluated with respect to ridership, capital, and operating costs, land use and economic impacts, and environmental impacts. This effort also studied the effect of BART on Geary on the Muni alternatives, and recommended that BART initiate a more definitive study. The 1995 study examined many issues for light rail on Geary, including options for locating a western terminal, technical issues at Fillmore Street, and subway construction impacts.

The study concluded that a median right-of-way for light rail was feasible with retention of on-street parking, and the community was generally supportive of the project. Muni was governed at the time by the Public Transportation Commission, which elected not to move forward on staff's recommendation to a Major Investment Study (MIS) and EIS/EIR until a viable financial plan could be developed. The PTC also elected not to select a preferred mode and alignment.

SRTP Amendment (2002)

More recently, a high level study of Geary was completed as part of the SRTP Amendment process. The Geary BRT cost estimate currently shown in Muni's Capital Improvement Program – \$126 million – was

produced in that process. Annual operating costs were estimated at \$15.7 million, which is marginally higher than the current operating cost. It was estimated that a Geary BRT project, given adequate funding and no community opposition, could be designed and constructed in five to seven years.

For the purposes of this analysis, Geary BRT service was designed as a skip-stop service, with “A” and “B” buses each stopping at every other stop, except at major transfer points where both would stop. Both A and B buses would make transfer stops on Market, at Union Square, Jones/Leavenworth, Van Ness, Fillmore, and Divisadero. All service would stop at Presidio. West of Presidio, both A and B buses would stop at Arguello, 6th Avenue, Park Presidio, 25th, 33rd, 37th, and 40th avenues. The A service would also stop at Collins, Commonwealth/Stanyan, 9th Avenue, 21st, and existing stops west of 40th Avenue to Point Lobos. Meanwhile, the B would stop at Spruce, 3rd, 17th, and 29th avenues, and stops west of 40th Avenue to Fort Miley. The Geary Local would continue to operate at all existing stops from the Transbay terminal to Presidio and terminate there. The express services would remain as they are.

The project would build an exclusive transitway in the center of Geary from 33rd Avenue to Collins, and concrete curbs to separate transit from traffic between Collins and Gough. A viaduct would be built at Fillmore to cross the street at grade. The Fillmore station would be built on this viaduct, though there is a potential problem with vertical clearance for vehicles passing under the station.

Viaduct structures would also be built between Divisadero and Presidio and between Masonic and Collins to allow buses to stay in the center lane at grade without being required to merge into the right lane. The median west of Masonic would be demolished and replaced with new landscaping on either side of the center lane transitway. The BRT service would run in this median transitway while local service would remain in the right lane. East of Van Ness, the project would build 23 bus bulbs at all existing stops that do not currently have a bulb. The possibility of converting Geary to two-way operation east of Van Ness could be considered.

Phase 1 Transit Improvement Project (2003-05)

Muni has just completed a short-term, low-cost project intended to serve as a first phase of Geary BRT. Muni designed a project to improve service east of Van Ness, the most congested part of the corridor, to be implemented in coordination with the repaving of Geary and O’Farrell. The primary goal of the Phase 1 project is to improve the rider experience in terms of reliability, travel time, and passenger comfort. The project aims to achieve these goals while preserving or enhancing business vitality and neighborhood livability. In addition, the project will result in calmed traffic, an improved streetscape, and improved safety for all users of the street – pedestrians, transit riders, bicyclists, and motorists.

The main project elements include a wider, more effective transit-only lane; bus bulbs at combined local/limited stops; consolidated stops; turn pockets for vehicles; more and better placed loading zones; and improved parking management and enforcement. One lane of traffic has been removed on Geary and O’Farrell between Polk and Mason, and some parking has been lost to create the turn pockets.

Geary Corridor BRT Study (2004-06)

The Prop K expenditure plan included funding for planning and construction of a Geary BRT. Muni is now working with the Transportation Authority on the *Geary Corridor Bus Rapid Transit Study*, which was initiated in late 2004 and will define the key features of BRT on Geary through in-depth technical analysis and an extensive community outreach process. The study team also includes DPT, the Planning Department, and DPW, and consultants to provide expertise on technical analysis, microsimulation modeling, public outreach, and urban design. The TA has also convened a Geary Citizens Advisory Committee to serve as a critical liaison between the Study’s technical team and local stakeholders.

This conceptual study is trying to answer three main questions:

- Are dedicated bus lanes separating buses from general traffic required on Geary?
- Should they be a center or side lanes?

- What other transportation changes are desirable on Geary to support the Bus Rapid Transit System (e.g. improved pedestrian crossings, better transit shelters, real time transit information)

The project team identified the following goals for transit on Geary:

- **Robust and Stable Ridership.** Decrease travel times; improve service reliability; improve in-vehicle comfort; improve passenger waiting experience; improve the quality and safety of transit access for all modes including pedestrians and bicyclists; and increase accessibility for Geary neighborhoods.
- **Efficient, Effective, and Equitable Transit Service.** Increase service efficiency and effectiveness through cost effective improvements; reduce operator stress; support demand generated by existing and planned development; and distribute passenger benefits across all users and trip purposes.
- **Neighborhood Livability and Commercial Viability.** Support existing and planned land use; enhance safety and security for all travelers and others in the community; establish attractive transit stations that serve activity nodes; link transit to the community through design treatments; reduce emissions relative to *no-project* condition; and minimize the negative impacts of the project on local residents and businesses.
- **Transit Priority Network System Development.** Establish an identity that enhances the image of transit on Geary; integrate the Geary Corridor into the citywide rapid transit system; provide clear, understandable, and accessible passenger information; apply and advance BRT technology; improve connectivity between the Geary Corridor and the local and regional transit network; create a sense of permanence that inspires confidence in long-term investment; and serve as a model for BRT applications in other urban areas.

The performance targets for the project are 15-30% reduction in total travel time and 25-50% improvement in reliability. These targets are consistent with other BRT systems that have been implemented in the United States and Canada.

The center-running alternative will be designed to light rail standards in terms of horizontal and vertical clearances, grades, minimum tangent sections, and turning radii. The Geary BRT Study will also determine the costs and feasibility of implementing a more extensive definition of “rail-ready,” which aims to minimize construction impacts if resources become available to convert the BRT project to light rail. This definition would potentially include installing the rails and sub-surface electrical work, relocating utilities, and building longer platforms to accommodate light rail vehicles during the initial BRT construction. The BRT study will calculate the cost of each incremental rail-ready element. This information will help determine the most cost-effective way to balance the benefits of a more immediate BRT implementation with the benefits of a more rail-ready project that sets the stage for a potential rail line on Geary.

The team has conducted data collection and a needs analysis and completed the first round of public workshops in April 2005. Conceptual design alternatives will be developed in summer 2005, with another set of public workshops in fall 2005. The alternatives will be refined with further analysis and public input in the fall and winter. The public will have a chance to help shape short-term priorities at this time. The Geary Corridor BRT Study is slated for completion in April 2006, with the goal of having the first phase of the project under construction by FY11.

Rail Transit Expansion

As a major rail transit operator, Muni is considering rail transit expansion in corridors where rail can provide better service to the riders, and where justified based on ridership levels, operating considerations, and land use. Muni has successfully expanded rail service incrementally in San Francisco over the last 25 years, beginning with the opening of the Muni Metro subway in February 1980. This was followed by the opening of the M-Line Extension to Balboa Park, the J-Line Extension to Balboa Park, the restoration of

streetcar service on the surface of Market Street (F-Line), the Muni Metro South Embarcadero Extension to Caltrain, and the F-Line Extension to Fisherman's Wharf. This trend will continue with the opening of the new Muni Metro Third Street line in 2006.

Over the years, Muni has worked with community and business groups to develop additional extensions. The one that has generated the most interest repeatedly has been the Geary Corridor. In 1989, the voters of San Francisco approved Proposition B, which included funding for a rail extension project, and authorized the funding to be spent in the four corridors listed in the ballot measure:

- Bayshore Corridor
- Geary Corridor
- North Beach Corridor
- Van Ness Corridor

Muni first began planning work on a rail extension in the Bayshore Corridor (now under construction as the Third Street LRT Project Phase 1 – Initial Operating Segment), and then performed a corridor study in the Geary Corridor. Funding constraints meant that only one corridor could proceed with the funds available in Proposition B, and Third Street was chosen as the first project to proceed. In order to establish a rational basis for linking the corridors, in 1995 SFCTA produced the *Four-Corridors Plan*, which defined linkages between the corridors and identified which projects should move forward first, given the limited funding available from Proposition B.

In 2002, Muni produced a new document; *A Vision for Rapid Transit in San Francisco*, which identified twelve of the heaviest ridership corridors throughout the city, and identified potential projects in each to offer upgraded rapid transit-style service. This *Vision Plan* recommended rail expansion for several corridors, either as an immediate first step or as an incremental second or third step following a first-phase BRT project. The corridors identified in the *Vision Plan* are shown in Figure 23 at the beginning of this chapter. Of the corridors identified in the *Vision Plan*, the corridor with the highest potential for future rail development after the Third Street LRT Project is completed is the Geary Corridor. This section briefly describes the status of development of rail expansion projects in each of the major corridors.

Third Street

The first phase of the Third Street LRT project is constructing the bulk of the Bayshore Corridor, and the second phase (Central Subway) will construct the remainder of the Bayshore Corridor and a portion of the North Beach Corridor. Although the planning issues for the first phase have been largely resolved, the Central Subway portion is in Preliminary Engineering (PE), and there are still planning issues to be resolved as this project moves forward through PE and into Detailed Design. A more complete description of this project is available in Chapter 3.

Geary

As outlined in the preceding section on BRT development in the Geary Corridor, this corridor has had a significant amount of work to develop rapid transit and rail expansion projects in the corridor. Geary was identified for improvement in the 1989 Proposition B sales tax expenditure plan, and in 1995, Muni conducted a system planning study on the Geary Corridor. The study started with 31 different options, evaluated seven of them, and narrowed to four final alternatives, of which two were rail:

- Transportation System Management
- Subway/Surface Light Rail (with three routing options on the east end)
- Subway/Surface Electric Trolley Bus
- All-Surface Light Rail

These alternatives were evaluated with respect to ridership, capital and operating costs, land use and economic impacts, and environmental impacts. This effort also studied the effect of building a BART extension on Geary on the Muni alternatives, and recommended that BART initiate a more definitive

study. The 1995 study examined many issues for light rail on Geary, including options for locating a western terminal, technical issues at Fillmore Street, and subway construction impacts.

The study concluded that a median right-of-way for light rail was feasible with retention of on-street parking, and the community was generally supportive of the project. Muni was governed at the time by the Public Transportation Commission, which elected not to move forward on staff's recommendation to a Major Investment Study (MIS) and EIS/EIR until a viable financial plan could be developed. The PTC also elected not to select a preferred mode and alignment.

Geary remains a corridor in which there is much community interest in pursuing a rail project. The focus of activity in the corridor is on the BRT project that is currently undergoing study (described above). This BRT project is designed to be upgradeable to light rail at some point in the future if the decision is made to build a rail project. Muni anticipates that when the design of the proposed BRT system in the corridor is more fully developed, a cost-benefit analysis will need to be performed to determine if the BRT project or a rail project should be built in the corridor.

Chinatown/North Beach

The North Beach Corridor was one of the original corridors in Proposition B. This corridor would be a logical extension of the Central Subway in the future to serve the significant traffic generators in North Beach and the Fisherman's Wharf area, and there is community interest in such an extension. Muni's Vision Plan did consider a light rail extension from Chinatown to the Marina through North Beach as a possible future extension of the Central Subway.

Van Ness

The Van Ness Corridor was listed in Proposition B as a future rail extension, from 16th Street in the Mission District to Aquatic Park. As described above in the section on BRT projects, a BRT project on Van Ness is currently being studied through a multi-agency effort, and there is no current activity to look at a rail extension in this corridor. Muni's Vision Plan did consider light rail as a possible third phase of transit improvements in this corridor, following electrification of the 47-line and implementation of a BRT project.

Other Corridors

As possible rail projects further out in the future, Muni's Vision Plan did list several other corridors for consideration for future rail projects. These corridors would be lower priority than the corridors already outlined above. These additional corridors would be:

- Fillmore/16th Street
- Geneva/Ocean
- 19th Avenue/Park Presidio

Historic Streetcar Expansion

In addition to expansion of Muni Metro service, Muni is studying expansion of historic streetcar service in several areas.

F-line Service Increase

Ridership on Muni's historic F-line has grown steadily since the line was introduced as a regular service in 1995 and extended to Fisherman's Wharf in 2000. In response to this increased demand, Muni intends to increase service on the F-line. This service increase requires additional funding for operations and for an expanded fleet of historic vehicles. Muni is currently rehabilitating vehicles for this service.

E-line Start Up

As part of the F-Market extension to Fisherman's Wharf, connecting tracks were built on The Embarcadero between the F-Market tracks north of Mission Street and the MMX tracks south of Folsom

Street. These tracks give Muni the ability to operate rail service along the entire waterfront, from Fisherman's Wharf to the Caltrain Terminal at Fourth and King Streets.

While full 20-hours a day service would require additional historic vehicles, operating and capital funding, a terminal configuration on the southern end, and additional maintenance facility capacity, it is possible to start a limited E-line service with existing double-ended vehicles and tracks. Muni's plan is to phase in E-line service gradually, with partial service ramping up to basic service by FY 2009. Initial F-Line service will be operated with double-ended vehicles that are currently being rehabilitated. The non-profit Market Street Railway has also proposed extending future E-line service along the Third Street alignment to a terminal at 3rd Street & 18th Street, south of Mission Bay.

Figure 23: Map of E-line Alignment



Historic Streetcar Extension to Fort Mason and the Presidio

As part of initial planning, an historic streetcar extension to Fort Mason/Presidio Feasibility Study, managed by the Presidio Trust with Muni participation, and funded through the National Park Service (NPS), was completed in December 2004. Two entities of the NPS, the Golden Gate National Recreation Area (GGNRA) and the San Francisco Maritime National Historic Park (SFMNHP), participated in this study. The study focused strictly on identifying potential historic streetcar extension alignments that are technically feasible from engineering and operational standpoints. These alignments will be analyzed in

detail, with full public participation and input, in future environmental studies. The NPS is also conducting a Geotechnical/Structural/Seismic Study of the Fort Mason Tunnel, funded by FHWA. The NPS has identified some funds for the environmental study phase for the historic streetcar extension to Fort Mason. Environmental studies for this phase are planned to begin in late 2005. It is possible that a precursor to E-line operation could consist of the simple extension of F-line streetcars from their current terminal near Fisherman's Wharf to Fort Mason.

A second phase would further extend historic streetcar service to The Presidio, possibly serving Crissy Field Environmental Center, the Letterman office complex, as well as the Presidio Main Post. Both phases would require additional vehicles and possibly new or expanded operation and maintenance facilities.

G-line to Golden Gate Park

In July 2000, the SFCTA published the G-line Feasibility Study. This study looked at the issues involved in implementing a new historic light rail line into Golden Gate Park via 9th Avenue, operating over portions of the N-Judah line and the F-Market line. Operation of this line would require acquisition or rehabilitation of additional vehicles and track construction.

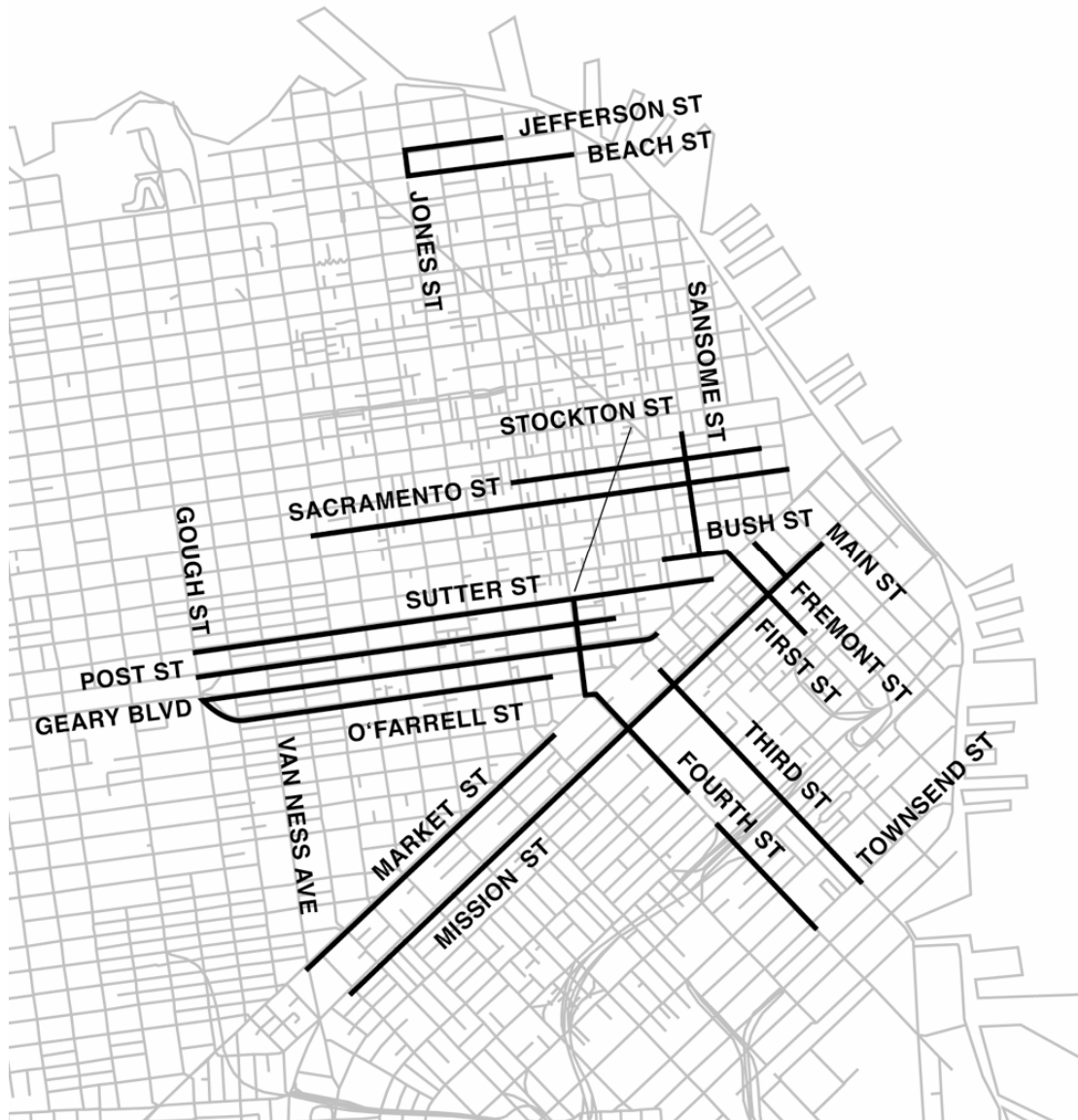
Transit Preferential Streets

San Francisco's Transit Preferential Streets (TPS) program is designed to make streets more transit-friendly in a city that depends heavily on public transit. While San Francisco is a densely developed city with high transit ridership, public transit operates mostly on the surface by streetcar, electric trolley coach, or diesel bus. In effect, the streets function as the rapid transit arteries, carrying loads that would be carried on subways or on rail in exclusive rights-of-way in other cities. For example, Geary and Mission have surface bus lines that each carry over 50,000 riders per day, which is heavier ridership than on many systems' rail lines.

The TPS program was launched in the mid-1970s after the adoption of the Transit First policy. Initially, the TPS program was funded through a federal grant, and a number of projects were completed. The program was dormant through the mid-1980s until Proposition B set aside funding for TPS planning and implementation. One of the early efforts at this stage was to define the TPS network, those streets with the highest ridership, highest frequency of vehicles, rail or trolley infrastructure, and special locations with high transit-auto conflicts. In general, the TPS family of improvements includes signal priority, semi-exclusive transit lanes, bus bulbs, bus stop consolidation and relocation, and boarding islands. To date, the TPS program has implemented many improvements:

- Semi exclusive transit lanes on 16 streets
- Exclusive right of way for rail on the Embarcadero as well as parts of other Metro routes
- Over 30 bus bulbs
- 100 boarding islands
- Signal priority at over 100 intersections, including new infrared transit signal priority on Mission and Geary

Figure 24: Existing Transit Preferential Streets Lanes



Recent Accomplishments

- The Geary/O'Farrell Phase 1 TPS Improvements package was developed and taken through the legislative process for implementation in 2005.
- Completed installation and testing of infrared-based Transit Signal Priority at 39 intersections on Mission and Geary corridors.
- Stockton-Fourth Street Transit Lane extended from Stockton & O'Farrell across Market Street to Fourth & Clementina, providing a continuous transit lane from the south end of the Stockton tunnel.
- Irving/Arguello corner bulb designed and constructed, improving safety for passengers using the Second Avenue N-Judah outbound LRV stop.

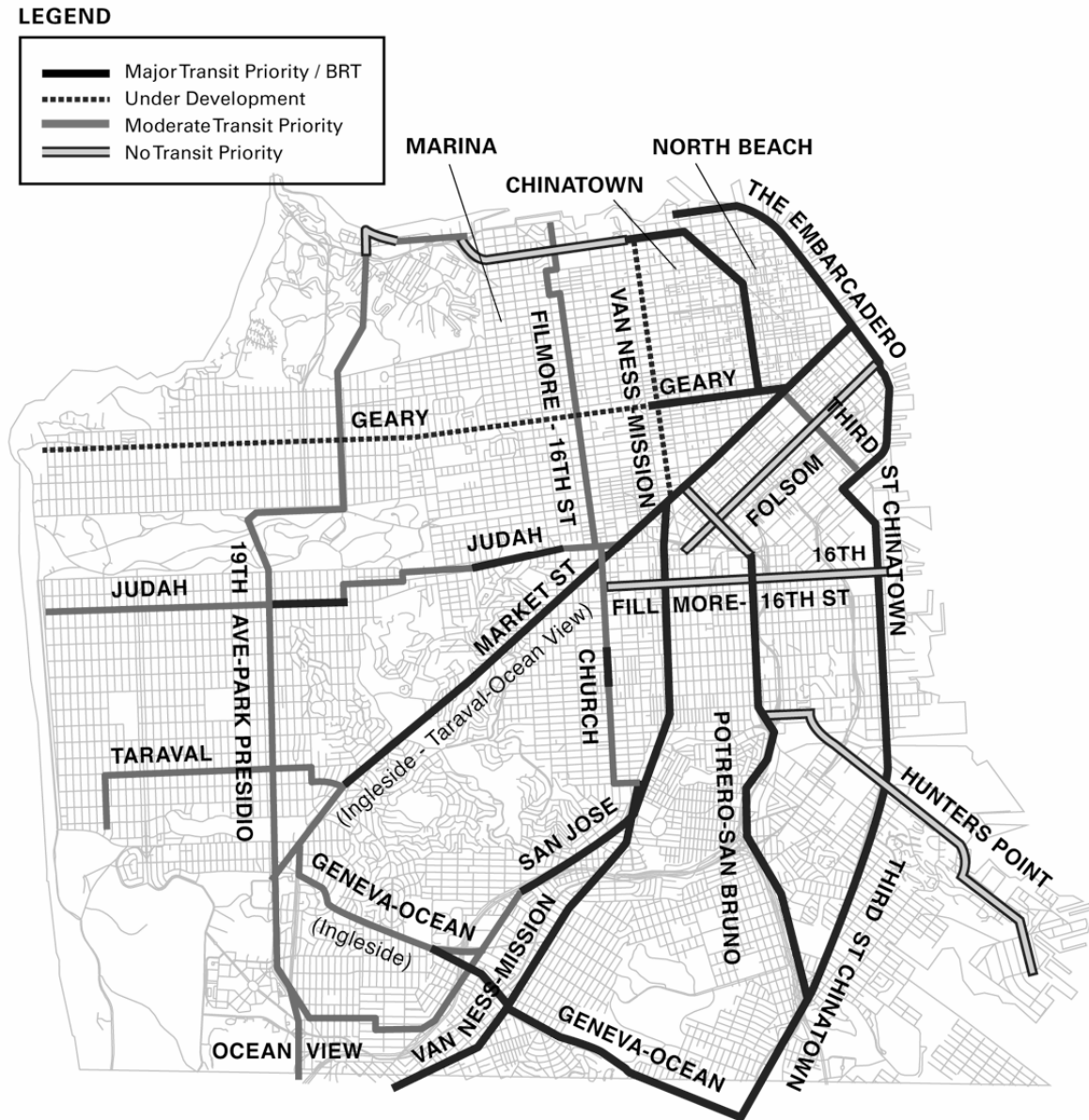
Five-Year Program

The Expenditure Plan for Prop K includes funding for both BRT and TPS projects. The current Five Year Program of Projects (through FY09) includes approximately \$5 million for TPS corridor projects. These corridors have been included in the TPS program.

- Market Street: implementation
- 19th Avenue: planning, implementation
- Potrero Avenue: planning, signal work implementation
- Outer Mission

The program is subject to change, depending on support from the community and opportunities for coordination with other projects on other corridors.

Figure 25: Muni TPS 5-Year Program



Related Planning Inputs

A number of other efforts around the City affect and feed into Muni’s service and capital planning. This section describes the major initiatives in which Muni is participating.

Transit Effectiveness Project

Beginning early in 2006, a two-year study will begin on making the present transit system more efficient and effective. Under the auspices of the City Controller, an audit will be conducted on how well Muni's current transit network functions and how it can be improved. Travel patterns in the city will be compared with current route structure to determine if new services should be added and existing ones modified or eliminated. Redundancy in the network will be reduced wherever feasible, including both routes and stops that are spaced too closely. Best transit planning practices in comparable areas will be examined for possible adoption in the Muni system, and current policies influencing system development will be reexamined. The intent is to produce a revised set of service standards and a set of recommended changes to routes, headways, span of service, and operating practices that can result in higher ridership at lower operating cost.

Market Street Study

The Market Street Study, led by SFCTA in partnership with Muni, DPT, and the Bicycle Coalition, along with a group of businesses, pedestrian advocates, and other agency staff and stakeholders, sought to develop a set of improvements that would benefit all users of San Francisco's most important street. The purpose of the study is to address the following four goals while preserving Market Street's character and its preeminence as one of San Francisco's truly grand streets:

- decrease transit travel time and improve transit reliability
- improve pedestrian circulation and safety
- create a safer, more inviting bicycle route
- accommodate necessary motor vehicle trips

The intent of the Market Street Study is to identify cost-effective short-term improvement measures that meet the above goals. At the end of 2003, the Study produced a number of recommendations, some of which were deemed "early action," such as restriping the crosswalks, developing a new transit-only lane symbol, and striping bicycles lanes from Octavia to 8th Street.

"Short term" improvements (1-2 years) that would benefit Muni are changing the signal timing, improving transit-only lane enforcement, and requiring eastbound motorists to turn right at 8th Street during peak periods. The full Market Street Study is available on the TA website.

Pedestrian Master Plan

The Pedestrian Master Plan is expected to be initiated by DPT in fall 2005, working with a broad range of other departments and stakeholders. The PMP will provide a comprehensive framework for improving pedestrian safety and mobility, which in turn should improve air quality, the efficiency of the overall transportation system, the health of citizens, and the attractiveness of San Francisco as an international destination. It will be a tool to focus and attract funding for physical improvements, as well as for education/outreach and enforcement efforts.

While the scope is still being developed, the PMP is expected to address public transit access policies. This will include prioritizing transit stop/station area improvements such as: ADA curb ramps, sidewalk widening, bus bulb-outs, median island accessibility, pedestrian countdown signals, and signs. It will also include a funding strategy that will specifically look at Safe Routes 2 Transit and other transit funding sources.

Bike Plan Update

Muni staff serves on the Technical Advisory Committee and Oversight Committee of DPT's citywide Bike Plan Update. The 2004 San Francisco Bicycle Plan is the result of a two-year collaborative planning process led by DPT, with participation from the TA, Muni, the San Francisco Bicycle Coalition, and many other agencies and organizations. The plan was developed with input from a series of public

workshops as well as from representatives of numerous City departments, regional agencies, and community members.

The Bicycle Plan contains background information, capital improvement recommendations, policies and implementation strategies relating to the needs of bicyclists and bicycle transportation in San Francisco. The Plan is separated into two documents: one is the “Policy Framework” which is primarily a statement of goals, policies and action items, and does not contain specific or detailed proposals for reconfiguration of streets. However, the Policy Framework does include Supplemental Design Guidelines for bicycle facilities in San Francisco. One of the proposed guidelines is a shared bus/bike lane, which will require further study before any implementation.

The second component of the Bicycle Plan, the “Network Document,” contains detailed design and engineering studies and proposals for improvements on the Bicycle Network established by the Plan’s Policy Framework Document. Each of the proposals will also require extensive outreach, analysis and engineering before implementation.

Better Neighborhoods Planning

Muni participated actively in the City Planning Department’s Better Neighborhoods planning process to formulate a vision for the future in Balboa Park, Market and Octavia, and the Central Waterfront. The three neighborhoods were chosen in part because of their good transit infrastructure. It was critical for Muni staff to work closely with the Planning Department to examine Muni’s operations and facilities in the various neighborhoods, identify opportunities, and develop ideas for transit that improve operations and are compatible with the neighborhood plans.

Draft plans for each of these neighborhoods were released in 2002. A programmatic EIR is being conducted for the Market and Octavia plan; this effort encompasses the southernmost part of the proposed Van Ness BRT project. Along with the Central Freeway demolition and Octavia Boulevard nearing completion, many elements of this plan can soon be realized.

For Balboa Park, the City is currently preparing an EIR, which will cover the improvements at a program level. The EIR is expected to be certified in 2006. Many of the individual projects in the station area will need subsequent environmental clearance.

The City, in partnership with BART and Caltrans, intends to begin conceptual engineering and service planning work in FY06 for a wide variety of improvements in the station area as proposed in the Balboa Park Station Area Plan. The conceptual engineering should be completed within two years and will result in a conceptual cost estimate, phasing and funding plan for the station area improvements. There will be a focus on designing and implementing short-term improvements while the larger, more complex long-term improvements move through the programmatic EIR process. Muni will be involved in both of these short- and long-term efforts to ensure that Muni service, operations, and facilities are improved as part of the process.

Transbay Terminal

A major capital project that will affect Muni service downtown is the new Transbay Transit Terminal, which will be rebuilt on its current location at First and Mission streets. The project includes a new six-level terminal building, new viaducts leading to the Bay Bridge, extension and terminal for Caltrain commuter rail service, and bus terminal and storage facilities. The 900,000 square foot facility is expected to serve 45 million passengers annually. The Transbay Redevelopment Area will include 3,400 units of new housing, 1.2 million square feet of new office space, a hotel, and retail locations when redevelopment is complete. The project, including the Caltrain extension, is estimated to cost up to \$2 billion.

The new Transbay Terminal will eventually serve Caltrain, AC Transit, Golden Gate Transit, SamTrans, Greyhound, Amtrak bus service, BART, high-speed rail, and Muni bus and light rail lines. The Transbay

Terminal will be within walking distance of the Central Subway, and it is being designed to accommodate a future Geary light rail line.

The project received a Record of Decision from FTA in February 2005, and preliminary engineering is underway.

Environmental Justice

Environmental justice concerns also play a part in Muni's service planning. Muni staff was active in MTC's Environmental Justice Advisory Group as part of the last RTP development process, and it has subsequently been active in the Welfare to Work Advisory Group.

Because Muni's service is so comprehensive, both across the City and at all hours, the Lifeline Network study found no gaps in Muni service, except in a few instances late at night.

Muni's 108-Treasure Island route was also identified as a lifeline service. Operation of this line has been partly funded with Low-Income Flexible Transportation (LIFT) funds for the past three years. This line carries over 2,000 people per weekday, and service was expanded to Saturdays and Sundays.

Regular outreach to the public, including community meetings and signage on vehicles, is conducted in Chinese and Spanish as well as in English. As needed, Muni provides outreach and materials in other languages.

Demographics and Projections

San Francisco is a 49-square mile city that is almost fully built out, at almost 26 persons per gross acre. The City's population is the highest it has been since 1950, and despite the recent slowdown in the technology and tourism sectors, San Francisco is still a desirable place for jobs. San Francisco is the headquarters city for a number of major corporations, and many others maintain a significant presence here. San Francisco's daytime population, including workers and visitors, is estimated at 1.1 million people.

San Francisco's population was 776,733 in 2000 according to the US Census. This is the highest the City's population has been since the 1950 Census, when there were 775,400 people living here. The 2000 count is a 7.3% increase from a population of 723,959 in 1990 and an increase of only 8.5% since 1970, when 715,674 people lived in the City. Half of the population (49.7%) is white, 7.8% are black, and 30.8% are Asian. Fourteen percent of the population is Hispanic or Latino. There were 346,527 housing units in 2000 of which 329,700, or 95.1%, were occupied. The average household size was 2.3 people.

In the next 30 years, according to the Association of Bay Area Governments (ABAG), the City is expected to grow by 20.4%, to a population of 935,100. This is much smaller growth than the 29.4% growth that ABAG projects for the nine-county Bay Area region as a whole. San Francisco is expected to see a 22.1% increase in households by 2030, again much lower than the increase in households throughout the Bay Area.

As with the population and household numbers, San Francisco is expected to see job growth by 2030, but at a lesser rate than the rest of the Bay Area. The City is projected to have 815,680 jobs in 2030, a 28.6% increase, but less than the 39.2% increase in jobs in the Bay Area. The biggest gains in San Francisco will be in retail trade (+34.7%), and business and other services (+32.6%). High tech jobs are projected to concentrate outside of the City – while the City sees a 16.2% increase in this sector, the region sees a 38.5% increase. San Francisco's mean income is expected to rise 26.5% to \$110,600, in step with the rest of the region.