SHORT RANGE

TRANSIT PLAN

SAN FRANCISCO MUNICIPAL RAILWAY

FISCAL YEARS 2006–2025

WWW.SFMUNI.COM

SAN FRANCISCO MUNICIPAL RAILWAY

SHORT RANGE TRANSIT PLAN FY2006-2025

ADOPTED DECEMBER 6, 2005

Federal transportation statutes require that the Metropolitan Transportation Commission (MTC), in partnership with state and local agencies, develop and periodically update a long-range Regional Transportation Plan (RTP), and a Transportation Improvement Plan (TIP). The TIP implements the RTP by programming federal funds to transportation projects contained in the RTP. In order to execute these planning and programming responsibilities effectively, MTC requires each transit operator in its region that receives federal funding through the TIP to prepare, adopt, and submit to MTC a Short Range Transit Plan (SRTP).

The preparation of this SRTP has been funded in part by a grant from the United States Department of Transportation (USDOT) through Section 5303 of the Federal Transit Act. The contents of this SRTP reflect the views of the San Francisco Municipal Railway, and are not necessarily those of USDOT, the Federal Transit Administration, or MTC. The San Francisco Municipal Railway is solely responsible for the accuracy of the information presented in this SRTP.

Stuart Sunshine, Acting Executive Director
Municipal Transportation Agency
One South Van Ness Avenue
San Francisco, CA 94103
www.sfmuni.com

December 21, 2005

Dear Friends of Public Transit:

The San Francisco Municipal Railway is pleased to present the FY2006-2025 Short Range Transit Plan (SRTP). The San Francisco Municipal Transportation Agency Board adopted this SRTP on December 6, 2005. This year's plan chronicles Muni's accomplishments for the past two years and provides a guide for how we will work to improve Muni service over the next few years.

The FY2006-2025 SRTP is the product of an agency wide collaboration to present the operational, financial, and administrative framework required to sustain, improve and expand the Muni system. The SRTP contains information about Muni's organization, our current and planned transit services, current and projected operating data, and performance information. It also contains Muni's Capital Improvement Program (CIP) and Operating Financial Plan, both of which cover a 20-year period. The CIP shows how we intend to build improvements to the Muni system and to buy new vehicles and equipment. The Operating Financial Plan shows how much we expect it to cost to operate Muni in the future, and how we intend to pay for it.

A major focal point in this SRTP is the Third Street Light Rail Project, which is Muni's largest capital project. Construction of Phase 1 is nearly complete and testing is set to begin in 2006 with Phase 1 operation scheduled to begin in late 2006. Design continues on Phase 2, the Central Subway, which will extend the Third Street Line into Chinatown. The SRTP provides detailed discussion about the service changes that will go into effect when Third Street Phase 1 is opened.

I hope that you will find this edition of the SRTP to be a useful reference. The team at Muni is working to improve service for everyone using transit in San Francisco. We appreciate your interest in the San Francisco Municipal Railway.

Sincerely,

Stuart Sunshine
Acting Executive Director
Municipal Transportation Agency

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

Chapter 7: Fleet Program

Chapter 8: Infrastructure Program

Chapter 9: Facilities Program

Chapter 11: Capital Improvement Program

THIS PAGE INTENTIONALLY LEFT BLANK

INTRODUCTION

- What's New
- Mission, Vision, Values
- Accomplishments
- Goals

Chapter 1: Introduction

The San Francisco Municipal Railway (Muni) operates public transportation in San Francisco. It is the Bay Area's largest transit operator and seventh largest in the U.S. Muni carries 686,000 trips every weekday – 216 million trips per year – with 4,800 employees and an annual budget of over $500 million.

Muni's Short Range Transit Plan (SRTP) is the system's primary planning document, and is updated biennially. It describes the organization, current and planned services, the 20-year operating financial plan, and the Capital Improvement Program (CIP) along with its component programs. The SRTP documents Muni's current state as well as top priorities for the future, and provides financial forecasts for the next 20 years. Muni staff, the San Francisco County Transportation Authority (SFCTA), the Metropolitan Transportation Commission (MTC), the Federal Transit Administration (FTA), other agencies, and the public refer to the SRTP to learn about the details of Muni's plans.

This SRTP also includes information about the Municipal Transportation Agency (MTA), Muni's parent agency, which also oversees the Department of Parking and Traffic (DPT). Most of the information in this SRTP, such as the Capital Improvement Program and the operating forecast, pertain only to Muni. In instances where a "one agency" approach is needed, such as in agency goals and accomplishments and organizational structure, information is reported about the combined MTA. The relationship between Muni and MTA is described in Chapter 2.

What's New in this SRTP

Since the FY04 SRTP was published, a great deal of progress has been made on the Third Street Light Rail Project, including the Central Subway. A detailed update on this project is in Chapter 3.

Information related to service – current service, planning, and evaluation – has been organized into two chapters. Chapter 4 describes the current service design and policies, methods of evaluation including Proposition E standards, and system performance. It also outlines the service changes proposed for August 2005 as part of the FY06 operating budget. Chapter 5 describes the future service proposals and plans for expansion, including relevant inputs into planning and technology innovations.

Chapter 6 describes the operating budget for FY06 and projects the budget 20 years into the future. This SRTP includes a section on structural changes that could be made to Muni's operating budget in order to achieve a stable and sustainable budget in the future.

The Capital Improvement Program (CIP) is described and detailed in the Chapters 7-11. Projects in the major component programs (Fleet, Infrastructure, Facilities, Equipment) are described in Chapters 7-10, and Chapter 11 provides information on prioritization, available funding, and the detailed and summary tables. Individual project descriptions are included at the end of the CIP chapter.

Mission, Vision, Values

After passage of Proposition E in 1999, Muni initiated an interactive process involving its employees, labor organizations and other key stakeholders to craft a clear statement of its mission, vision and values. Over 1,500 employees directly participated in this process and developed the following Mission Statement.

THE MISSION:

Working together effectively, we serve our community. We provide safe, reliable, clean, accessible, and convenient transportation to any destination in the City. We are dedicated to creating the most satisfying experience possible for our employees and our riders.

By placing people first, Muni strives to offer the maximum opportunity for employees to contribute their best and achieve career growth. We are building a model urban transit organization, internationally recognized for excellence.

We treat each other with respect; develop trust; encourage mutual understanding; and value our diversity. We promote accountability and take pride in our work.

Above all, we are committed to living this Mission daily in our relationships with each other and everyone in our comMUNIty.

With this Mission Statement in hand, Muni turned its attention to *living* its mission, and formed a joint labor/management Mission Action Committee (MAC). The committee has a diverse makeup consisting of senior staff, middle managers, line operators, maintenance personnel, and union representatives. The MAC serves as a catalyst to the organization and works to ensure that all Muni employees, and other stakeholders, understand and practice the principles embodied in our mission in their daily work.

With the merger of Muni and DPT into the MTA, the MAC, which now includes DPT, turned its attention to developing a new mission statement for the consolidated organization. The MAC published a draft MTA Mission Statement in April 2005.

The Municipal Transportation Agency (MTA) consists of the Municipal Railway (Muni) and the Department of Parking and Traffic (DPT). Working collaboratively, we enhance transportation for transit riders, pedestrians, bicyclists, commercial, and other motor vehicles. We are dedicated to improving the quality of life for a diverse population of residents, visitors, and our employees. We are committed to the safe and efficient movement of people and goods according to the City's Transit First Policy.

MTA Goals for FY2004

The MTA goals for each fiscal year are developed by the Director of Transportation (also known as the Executive Director) and senior management through an informal process at the start of each fiscal year. The service standards, which were initially set in Proposition E, are revisited every year by a committee of staff, union reps, the CAC, and management; any changes in methodology or the actual goals are brought to the MTA Board of Directors for approval. As part of Muni's ongoing efforts to provide improved service, improve reliability, and meet the service standards in Proposition E, Muni and the MTA developed a set of goals for FY2004:

1. Advance Muni's and DPT's Missions at all levels and divisions within the organization by focused communication, involvement and recognition.
2. Cultivate security awareness and preparedness through drills, training, and improved coordination with transit and government agencies.
3. Improve safety for employees, passengers, pedestrians, and motorists by training; increased awareness; and improved equipment, facilities and traffic control.
4. Achieve service standards and performance measures including:
    - On-time performance
    - Service Availability
    - System reliability
    - System performance

- Staffing performance
- Customer service

5. Improve movement of people and goods throughout San Francisco by close communication and coordination between Muni and DPT.
6. Promote professional growth and development for all employees through available training opportunities.
7. Progress the Third Street Project in accordance with the FY04 baseline schedule and budget, including ongoing construction of line segments and Metro East, developing engineering design for Phase 2 New Central Subway, and securing funding and community support for the project.
8. Maintain a balanced budget and build a foundation for long-term financial stability through aggressive pursuit of all revenue sources and improved management of resources.
9. Improve customer service by increasing access to timely and accurate information about all MTA services and by speedy resolution of complaints and issues.
10. Increase the use of all alternative modes of travel and reduce travel time without increasing congestion.
11. Secure funding and begin detailed planning and community outreach for Transit Preferential Streets treatments for Geary Boulevard in accordance with the Vision Plan.
12. Continue implementation of TransLink® and Proof of Payment programs system-wide.

FY2004 and FY2005 Accomplishments

Major MTA accomplishments for FY04 and FY05 are listed below, including highlights for both Muni and DPT.

Security and Safety

- Trained all Muni and DPT employees in Security Awareness
- 680 Operators met the requirements of the Safe Driver Incentive Pilot program - almost 1/3 of all drivers
- Expanded pedestrian countdown signals to 780 intersections
- Obtained Department of Homeland Security funding for transit system security improvements
- Decreased non fatal pedestrian collisions
- Launched Phase 2 of Transit Safe
- Equipped metro stations with defibrillators
- Participated in FTA Transit Watch security program
- Conducted DHS/ODP Risk and Vulnerability Assessment - MTA is leading agency in nation in transit related Security Awareness Training

Third Street

- Third Street Light Rail construction project progressed on schedule
- Secured federal funding for Third Street Light Rail Phase 2, the Central Subway
- Started construction on Metro East maintenance facility
- Received “Recommended” rating by FTA for Third Street Central Subway
- Handprint project for Third Street children
- Expanded Third Street jobs program, with over 260 local residents employed on project

Service Performance

- Established service standards for DPT
- On-time Performance improved to above 70%
- Initiated traffic signal priority system for transit vehicles on Mission and Geary
- An independent customer satisfaction survey showed a 91% satisfaction level with the services provided by the San Francisco Paratransit Broker
- Implemented Digital Voice Annunciation on 90% of the rubber tire fleet

Employee/Labor Relations

- Reached Memorandum of Understanding with Local 250A (Operators)
- Completed employee/customer surveys
- Instituted new process for responding to Passenger Service Reports (joint labor-management initiative)
- Awarded new contract for worker's comp claims management
- Consolidated human resources functions at Muni and DPT

Financial Stability

- Successfully balanced the FY03 and FY04 operating budgets
- Revised the Transit Impact Development Fee - expected to stabilize this Muni funding source
- Completed construction of Mission/Steuart hotel joint development
- Prop K approved by voters, providing stream of capital funding for transportation projects

Planning Initiatives

- Planning for Geary Transit Preferential Streets (Inner Geary)
- Updated Bicycle Plan
- Signed TransLink® Interagency Participation Agreement with MTC and other local transit systems

Management Improvements

- Successfully underwent FTA triennial audit with minor recommendations
- Completed first Prop E Transportation Quality Review audit
- Negotiated new towing contract
- Finalized lease for additional warehouse space (1750 Burke)
- Leased space at 1 South Van Ness for consolidating Muni and DPT administrative functions
- New Vehicle and Materials Maintenance system up and running (SHOPS)
- Initiated Residential Permit Program "lockbox" and revised citation processing

Clean Air

- Issued Request for Proposals for electric-hybrid buses
- Announced transit vehicle Zero-Emission Plan
- Accepted final delivery of fully accessible ETI trolley vehicles (procurement completed)

Construction/Facilities Improvements

- Completed installation of SFgo™ Traffic Management Center
- Progressed construction for new Octavia Blvd
- Purchased New Jersey PCC cars

- Completed re-railing and street improvements to Ocean Avenue, including accessible platform at Ocean & Lee
- Reconstructed Cable Car turntables at Bay/Taylor and Powell/Market
- Finished installation of new parking meters citywide
- Transferred Geneva Office Building to Dept. of Rec/Park
- Secured funding for Geneva Canopy project to shelter historic streetcars
- Received additional funding for expanding Next Bus project
- Completed signal retiming project for Lombard Street

Community Outreach/Relations

- Produced "Rolling Gallery" art exhibit
- Received various awards including MTC awards to staff and board members; SF Beautiful award for Ocean Avenue project; MFAC award for Muni and DPT managers
- Provided special service for baseball, bike races, Bay to Breakers, etc.
- Awarded paratransit debit card contract
- Launched the "Read the Need" campaign to educate Muni riders of the needs of senior and disabled passengers

MTA Goals for FY2005

The MTA also set goals for FY05, continuing the agency's focus on safety and security, service improvement, and the Third Street Project:

1. Advance MUNI and DPT's Missions at all levels and divisions within the organization by focused communication, involvement and recognition.
2. Cultivate security awareness and preparedness through drills, training, and improved coordination with transit and government agencies.
3. Improve safety for employees, passengers, pedestrians, and motorists by training; increased awareness; and improved equipment, facilities and traffic control.
4. Achieve service standards and performance measures including:
   - On-time performance
   - Service Availability
   - System reliability
   - System performance
   - Staffing performance
   - Customer service
5. Improve movement of people and goods throughout San Francisco by close communication and coordination between the Municipal Railway and the Department of Parking and Traffic.
6. Promote professional growth and development for all employees through available training opportunities.
7. Progress the Third Street Project in accordance with the FY05 baseline schedule and budget, including: ongoing construction of line segments and Metro East, continuing preliminary engineering work for Phase 2, the Central Subway, and securing funding and community support for the project.
8. Maintain a balanced budget and build a foundation for long-term financial stability through aggressive pursuit of all revenue sources and improved management of resources.

9. Improve customer service by increasing access to timely and accurate information about all MTA services and by speedy resolution of complaints and issues.
10. Increase the use of all alternative modes of travel and reduce travel time without increasing congestion.
11. Finish implementation of the Transit Preferential Streets treatments for Inner Geary and continue planning and design for transit improvements on Geary, Van Ness, and other corridors, in accordance with the Vision Plan.
12. Continue implementation of the TransLink® universal fare card system.

Evaluation of goal achievement is ongoing.

MTA Goals for FY2006

FY 2006 goals are in development.

SYSTEM ORGANIZATION

- Proposition E
- Governance
- Organizational Structure
- Relationship to Other Agencies

Chapter 2: System Organization

This chapter describes Muni's governance and internal organization as well as its relationship to other agencies and organizations in the City and the region.

Brief History

The San Francisco Municipal Railway began service in 1912 as one of the first publicly owned and operated transit systems in the United States, competing with privately operated systems, and initiating service to areas of the City not served by those systems. In 1944, Muni absorbed the much larger, privately owned Market Street Railway Company, creating a combined system that was about three times as large as the old Muni system. The City's acquisition of the California Street Railroad in 1952 brought all of the transit services within San Francisco under public control. From 1932 until 1994, the City's Public Utilities Commission (PUC) governed Muni. In 1993, the City's voters passed Proposition M, which created the Public Transportation Commission and the Public Transportation Department, and removed Muni from the authority of the PUC. Governance of Muni changed again in 1999 with the passage of Proposition E, described below.

Proposition E

On November 2, 1999, the voters of San Francisco passed Proposition E, an amendment to the City Charter governing Muni. The measure received 61% of the vote, and created a new, quasi-independent agency called the Municipal Transportation Agency (MTA). Proposition E created a revised budgeting process for Muni, and also established service standards and milestones for Muni to meet in the areas of service delivery, service reliability, safety, staffing, and training. Proposition E gave the MTA greater power and authority over personnel and labor relations, administration, budget, and funding; and it reduced (but did not eliminate) the role of the Mayor and the Board of Supervisors in governing Muni. Proposition E also gave the Board of Supervisors the power to add the Taxi Commission functions to the MTA. The text of Proposition E can be found in Appendix A.

Governance

Unlike most large public transit systems in the United States, Muni is not a completely independent agency or authority. Muni is a department of the City and County government of San Francisco, and thus reports to a variety of policy-making bodies for different issues. This structure means that some functions normally contained within a transit agency's own organization are handled for Muni by other City departments. For instance, policies in many areas that directly affect Muni, such as fares and operating budget, require additional approval or input from other City agencies. Some of these are described later in this chapter.

Municipal Transportation Agency Board of Directors

Under the provisions of Proposition E, the MTA is governed by a seven-member Board of Directors. The Board is appointed by the Mayor and confirmed by the Board of Supervisors. Directors serve fixed, staggered terms, and continue to serve until they resign, are replaced, or when their term expires. The MTA Board is responsible for establishing the basic policies that govern the Municipal Railway's operation. The MTA Board also has jurisdiction over bus zone changes and other traffic-related changes under DPT's purview. Members of the MTA Board also serve as ex-officio members of the Parking Authority.

Figure 1: Municipal Transportation Agency Board of Directors

Director	Term End
Cleopatra Vaughns, Chair	3/1/2004
Shirley Breyer Black	3/1/2006
Wil Din	3/1/2007
Michael Kasolas, Vice Chair	3/1/2007
Rev. Dr. James McCray, Jr.	3/1/2006
Peter Mezey	3/1/2008
Vacant	

Municipal Transportation Agency Citizens' Advisory Council

The Municipal Transportation Agency Citizens' Advisory Council (CAC) is an advisory body to the MTA. The CAC meets regularly to provide recommendations to the MTA with respect to any matter within the MTA's jurisdiction. The CAC is composed of fifteen members appointed by the Mayor and the Board of Supervisors. There are four CAC committees: Engineering, Maintenance & Safety, Finance and Administration, Operations & Customer Service, and Planning & Marketing.

Organizational Structure

Muni was reorganized in November 2004. The primary goal of the reorganization was to integrate the functions of DPT and Muni into one MTA, as envisioned by Proposition E. Although Muni and DPT have both been reporting to the Director of Transportation since 2002, the latest reorganization is a broader merger of functions. The new organization particularly focuses on merging the administrative functions (finance and human resources) and the planning functions. The operational functions still remain distinct, though cooperation will continue at all levels. The primary reasons for the reorganization were: to meet the intent of Proposition E; to further improve delivery of both transit and parking and traffic services; to consolidate planning functions and create the leading transportation planning function for San Francisco; and to find efficiencies and increase productivity through consolidation.

Figure 2: MTA Employees by Division

Division	Budgeted Positions FY06 (approx)	% of Total
Muni Transportation/Ops	2055	44%
Muni Maintenance	1250	27%
Muni General Manager	281	6%
Muni Construction	161	4%
Muni Finance	156	3%
MTA Executive Office	156	3%
Muni Human Resources	59	1%
Muni Capital Planning	28	1%
DPT (all)	517	11%
Total	4663	100%

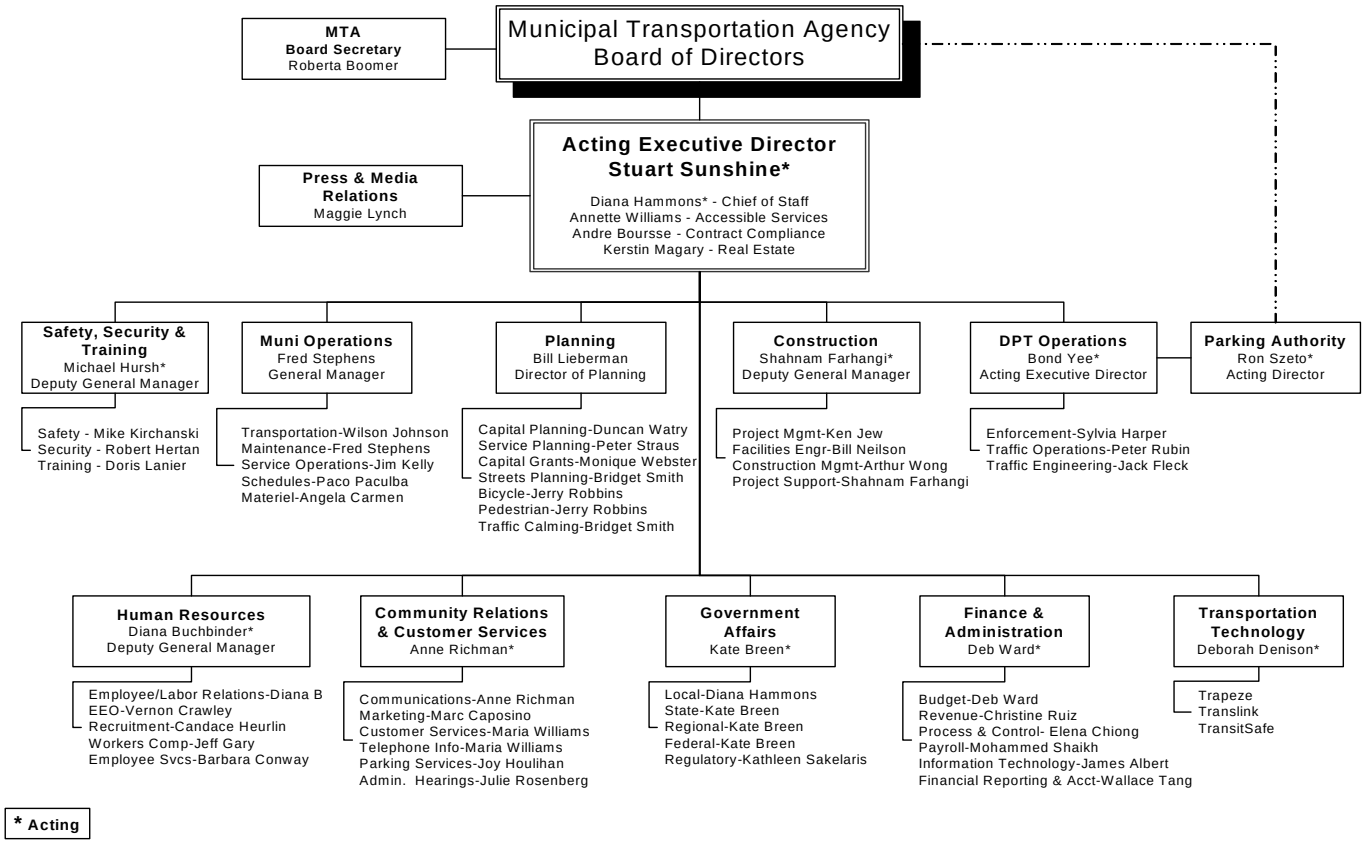
Based on FY06 budget.

As a result of the reorganization, the MTA now has a Muni Operations Division, a DPT Operations Division, and nine other divisions that support these operational functions: the Executive Director's Office; Safety and Security; Planning; Construction; Human Resources; Community Relations and Customer Service; Government Affairs; Finance and Administration; and Transportation Technology. Overall, the MTA has over 4,600 employees to staff the twelve divisions. Figure 2 provides a breakdown of the number of employees in each division, including grant-funded positions, as budgeted for FY2006. By far, the largest groups of employees at MTA are in the Operations Divisions. For Muni, this includes about 2,200 transit operators and over 1,200 maintenance staff; DPT Operations consists of about 325 enforcement personnel and 90 staff for various parking programs.

Labor unions play an important role at the MTA. Seventeen unions represent about 4,700 employees, ranging from Transport Workers Union Local 250A, which represents the approximately 2,200 Muni drivers, to the Glaziers Local 718, which represents five employees. Work rules and compensation for these employees are governed by collective bargaining agreements between the unions and the City.

Figure 3 shows MTA's organization as of February 2005. Following are brief descriptions of the different department functions:

Figure 3: MTA Organizational Structure



Muni Operations: Muni Operations comprises the transit operating and maintenance functions, responsible for delivering daily bus, light rail, trolley, and cable car service, as well as for maintaining the agency's transit vehicles and facilities. This is the largest division in the MTA.

DPT Operations: DPT Operations is responsible for basic traffic engineering and control functions, as well as for parking management. This division includes the enforcement staff (including the Parking Control Officers), the hearings and citations groups, parking services (which administers the Residential

Parking Permit program), and traffic engineering. The Parking Authority, which manages the City-owned parking garages, also reports to DPT Operations.

Construction: The Construction Division provides engineering and project management for projects that involve major rehabilitation, construction, or procurement of new equipment or facilities. Construction works closely with the operating and other divisions, as well as with the community, to identify project needs, plan, design, and construct projects.

Executive Director's Office: The Executive Director's Office provides leadership and management to the agency. In addition to the Executive Director and the Deputy Executive Director, this division includes Media Relations.

Safety, Security and Training: The Safety, Security and Training Division is responsible for managing the safety and security of all MTA employees, facilities and operations. This division is also responsible for managing the MTA's homeland security initiatives. In addition, this division manages the training activities for all MTA staff.

Transportation Technology: Transportation Technology oversees the development and implementation of new operating systems that are used to run the MTA's business applications. The objective of these systems, such as Shop History and Online Parts System (SHOPS), Scheduling System and Operator Dispatch (SSOD,) TransitSafe, and NextMuni, is to improve performance using transit industry best practices.

Human Resources: HR is responsible for administering benefits; negotiating and managing the various union contracts; recruiting staff; and managing the MTA's equal employment opportunity, workers' compensation, and drug and alcohol testing programs.

Community Relations and Customer Services: This new division is focused on areas of the MTA with extensive public interaction. It includes Communications, Marketing, Muni Passenger Services and the Telephone Information Center, and Parking Hearings and Citations. The goal of unifying these functions is to provide consistent and high quality information and services from the MTA.

Government Affairs: Government Affairs is responsible for legislation at the local, state and federal level, and is the primary point of contact for legislators. The division coordinates the federal earmarking process and is also responsible for regulatory activities, such as coordinating the triennial review.

Finance and Administration: The Finance Division manages the MTA's financial resources, including collecting, monitoring, evaluating and reporting on revenues, expenditures, and contracts; putting financial controls in place; preparing and reporting budgets; working with the City to raise long-term capital; and putting policies and procedures in place for revenues and expenditures. This division includes management of all of the day-to-day MIS functions.

Planning: The MTA Planning Division is responsible for developing a long term planning vision for San Francisco's transportation infrastructure and streetscape; launching key "Transit First" initiatives; collaborating with, supporting, and providing planning services for other MTA departments and outside agencies; and monitoring and guiding ongoing street maintenance, engineering, and transportation projects. The Planning Division includes the functions of the former capital planning, grants, service planning, streets planning, bicycle, pedestrian, traffic calming, and real estate groups.

Relationships to Other Agencies

Mayor

Proposition E reduced but did not eliminate the role of the Mayor's Office in overseeing Muni's operations. The Mayor's Office reviews Muni's annual operating budget. Under the terms of Proposition E, if Muni's budget does not seek more than the formula amount of General Fund support as determined by the Controller, the Mayor forwards the budget unchanged to the Board of Supervisors for approval as part of the overall budget for the City and County of San Francisco.

Board of Supervisors

Proposition E gave the MTA Board greater authority and reduced, but did not eliminate, the role of the Board of Supervisors. The Board of Supervisors approves Muni's annual budget, including any proposed major service changes, funding applications, and construction contracts, and it acts on proposed changes to Muni's fare policy. The Board of Supervisors may only reject Muni's budget in total by a two-thirds vote; it may not modify the budget, as long as Muni's request does not seek General Fund support beyond the Proposition E formula amount. The Board of Supervisors also sits as the San Francisco County Transportation Authority, which provides a significant portion of Muni's local funding toward capital projects.

The Controller

The Controller has a key role in developing the MTA's annual operating budget. Under the terms of Proposition E, the Controller is responsible for determining, by formula, the base contribution to the MTA budget from the City General Fund and other specified revenue sources.

San Francisco County Transportation Authority

Proposition B created the San Francisco County Transportation Authority (SFCTA) in 1989 to administer funds generated by the county's one-half cent transportation sales tax. In its role as the county Congestion Management Agency, the SFCTA programs state and other funds, and monitors and assists in project delivery. The Commissioners of the SFCTA are the Board of Supervisors, sitting as Commissioners of the Authority. The SFCTA is also the Congestion Management Agency for San Francisco and is responsible for preparing a long-range Countywide Transportation Plan that, among other purposes, provides input, along with Muni, for the Regional Transportation Plan. Funding from the sales tax is essential for the planning, design, and construction of major transportation projects and for paratransit operations within San Francisco. This funding is often used as local matching funds that qualify San Francisco to receive larger state and federal grants. In November 2003, voters passed Proposition K, reauthorizing the half-cent sales tax and the associated expenditure plan and extending it for 30 years. This provides a continuing local capital funding source for San Francisco transportation projects.

Peninsula Corridor Joint Powers Board

The Peninsula Corridor Joint Powers Board (JPB) is the policy body that oversees the operation and administration of Caltrain regional rail service, which serves San Francisco, San Mateo, and Santa Clara counties. Each of the member counties has three representatives on the JPB. The San Francisco representatives consist of one member each from the Mayor's office, the Board of Supervisors, and the MTA.

Each member county contributes operating and capital funding to Caltrain on a formula basis. Beginning in FY2004, San Francisco's contribution to Caltrain is included in the MTA budget and the funding is provided by the SFCTA.

Caltrain's northern terminal is in San Francisco at Fourth & King streets, and there are two other San Francisco stops at 22nd Street and Bayshore. Fourth & King is the most heavily used station on the Caltrain system, with about 6,600 passengers using this station each weekday. An EIR/EIS is underway for the Caltrain Downtown Extension that will move the Caltrain terminal to a reconstructed Transbay Terminal, described in more detail in the Service Enhancements chapter.

Transbay Joint Powers Authority

The Transbay Terminal Project is now underway and includes the following project elements:

- the design, construction and operation of a new, six-level terminal building at First & Mission Streets
- new elevated bus viaducts leading to the Bay Bridge

- a 1.3-mile subsurface extension of Caltrain commuter rail service from its present terminal at Fourth & Townsend Streets to the new terminal building
- temporary and permanent bus terminal and storage facilities.

The new Transbay Terminal will eventually serve Caltrain, AC Transit, Golden Gate Transit, Samtrans, Greyhound, Amtrak bus service, MUNI bus and light rail lines, and BART. The facility will also be able to serve future high speed rail service. The Terminal is located within the Transbay Redevelopment Area, which 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 new Terminal is therefore destined to become the largest transit-integrating center west of New York City, and a part of the largest transit-oriented residential development in the Western United States.

Participating agencies are the City and County of San Francisco, the Alameda-Contra Costa Transit District, and the Peninsula Corridor Joint Powers Board-Caltrain (composed of the City and County of San Francisco, the San Mateo County Transit District, and the Santa Clara Valley Transportation Authority).

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the designated metropolitan planning organization (MPO) for the nine-county Bay Area region. In this role, MTC prepares the long-range Regional Transportation Plan and other key planning documents. San Francisco is represented at MTC by two representatives, one who is a member of the Board of Supervisors, and one appointed by the Mayor.

MTC created the Bay Area Partnership in collaboration with all transit operators, public works departments, congestion management agencies, half-cent sales tax agencies, and other regional transportation stakeholders. The Partnership has a number of working groups with which Muni participates, including the Transportation Finance Working Group (TFWG), which is responsible for programming federal formula capital funds. Federal formula capital funds are a primary source of funding for Muni's major vehicle and infrastructure replacement needs. In addition to the TFWG, Muni participates in the Partnership Technical Advisory Committee and the Partnership Board, which review the recommendations from TFWG regarding policy and funding. These recommendations are sent to the Commission for action. Working committees are also formed out of the TFWG to focus on specific funding and policy issues such as implementing a mechanism to fund preventive maintenance with capital funds.

MTC hosts additional working groups for other fund sources, such as Regional Measure 2 (RM2). RM2 was a voter-approved regional measure to increase Bay Area bridge tolls by $1 to fund transportation programs. Muni participates in working groups to implement RM2 funded initiatives such as Owl Service during hours BART is not in service, and Real Time Passenger Information. Other working groups that Muni participates in are the Regional Connectivity working group and the Intelligent Transportation Systems regional architecture working group.

Department of Public Works

The Department of Public Works (DPW) is the City department responsible for designing, constructing, and maintaining much of San Francisco's infrastructure, including the street right-of-way (except water, sewer, streetlights, and traffic signals). Major street construction included in Muni construction projects is usually designed by DPW.

Planning Department

The Planning Department is the City department responsible for adopting and maintaining a comprehensive, long-term general plan for future improvement and development of the City. The Planning Department develops and maintains the General Plan, and formulates policies and standards – including those pertaining to streets and transportation – to ensure a quality living and working

environment for San Francisco. Muni works with the Planning Department on compliance with the General Plan on construction projects, as well as on larger planning efforts.

Department of the Environment

The San Francisco Department of the Environment (SF Environment) works to improve, enhance, and preserve the local environment. SF Environment has been a key partner in working with Muni in reducing emissions from transit vehicles and expanding the use of alternative fuel buses. In addition, Muni and SF Environment have been cooperating on other programs, including the Green Building program to design more environmentally friendly facilities, and promoting transit as an affordable alternative to car travel.

SF Police Department

Muni works with the SFPD on an ongoing basis to enhance employee and passenger safety and to improve traffic flow during construction or special events. Muni also works with the police to investigate accidents and incidents and to reduce fraud and criminal activities on Muni.

Mayor's Office of Emergency Services

The Mayor's Office of Emergency Services (MOES) has developed a comprehensive plan for the City to respond effectively to a variety of hazards. Along with other City agencies, Muni participates with the MOES in emergency planning efforts and in periodic tabletop exercises or drills designed to test and improve emergency response.

Department of Human Resources

Proposition E included significant personnel changes for Muni employees, particularly for those employees classified as "service-critical" by the MTA. For "service-critical" personnel, who comprise a substantial proportion of Muni's workforce, the MTA has generally taken over the functions of the Department of Human Resources (DHR). For example, most "service-critical" personnel now negotiate contracts directly with the MTA, rather than with DHR, as was previously done. However, DHR continues to administer all health services, and retirement benefits are still determined by the City charter.

Civil Service Commission

As a result of Proposition E, Muni has taken over most functions related to hiring that were previously performed by the DHR. Muni still operates under a civil service merit system according to rules established by the Civil Service Commission, and the Civil Service Commission hears appeals related to personnel hiring.

THIS PAGE INTENTIONALLY LEFT BLANK

THIRD STREET LIGHT RAIL

- Project Objectives
- Project Funding
- Phase 1: Initial Operating Segment
- Phase 2: Central Subway
- Third Street Light Rail Service Plan

Chapter 3: Third Street Light Rail

The Third Street Light Rail Project is the most significant capital investment in generations for Muni. The 6.9-mile two-phase project, now under construction, will bring light rail service to the heavily transit-dependent Third Street corridor in eastern San Francisco as well as to the Financial District and Chinatown, the most densely developed areas of San Francisco. It will also serve a number of regional destinations, such as Union Square, Moscone Convention Center, and SBC Park. The light rail line will replace the 15-Third Street motor coach line and is being implemented in concert with a community revitalization effort supported by numerous city departments, community groups, and other organizations. Ultimately, the project will improve travel times between the southern end of the line near the Caltrain Bayshore station and Chinatown by up to 14 minutes for the 29.7 million annual trips projected on the LRT line.

Figure 4: Map of Third Street Light Rail

The Third Street Light Rail Project is 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 refined the Central Subway concept and 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 (FEIR/FEIS), which was completed in 1998. The Third Street LRT project is intended to address existing and 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 is now under construction.

The project is being built in two phases. Phase 1 is the Initial Operating Segment (IOS), which began construction in 2000 and is expected to be in service in June 2006. This first phase also includes the Metro East operating and maintenance facility. Phase 2, the Central Subway, is currently in Preliminary Engineering and is expected to be in service in 2016.

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 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 will be made at the Fourth & King Station and at the Bayshore Station. The EIR-approved alignment of the Third Street line will have a connection to the Montgomery 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. The Fourth Street alignment, which was approved by the MTA Board of Directors on June 7, 2005, would provide a closer connection to BART and Muni Metro at the Powell Street Station. A supplemental to the EIR is being prepared to discuss the new alignment.

Project Funding

Third Street LRT Phase 1 is 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. Third Street LRT Phase 2 will use Federal New Starts funds, TCRP funds, STIP

funds, and local Prop K sales tax funds. The funding plan, expressed in millions of year-of-expenditure dollars, is summarized below.

Figure 5: 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	38.0%
Federal Other	$53.6	$0.0	$53.6	2.6%
STIP (State STIP)	$66.4	$92.2	$158.6	7.8%
State Other	$126.0	$14.0	$140.0	7.0%
Local	$354.6	$544.1	$898.1	44.6%
Total	$600.6	$1,412.5	$2,012.5	100.0%

In $millions, year of expenditure dollars

Public Participation

The project includes an extensive public outreach program that includes a periodic project newsletter, a telephone hotline, a project web page (available at www.sfmuni.com/thirdst), 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, Muni 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.

Phase 1 - Initial Operating Segment

The IOS will extend Muni Metro light rail service south from its current terminal at Fourth and King Streets. The line will cross the Fourth Street Bridge and run on Third Street and Bayshore Boulevard, ending near the Bayshore Caltrain Station in Visitacion Valley. The 5.4 miles of new rail is being constructed primarily in the center of the street to improve safety and reliability. Eighteen stops will be provided. The Phase 1-IOS will reduce travel times from Visitacion Valley to Market Street by up to 8 minutes. Construction on Phase 1 began in May 2002 and is scheduled to be complete in early-2006, with revenue start-up in June 2006.

A total of 29 additional light rail vehicles (LRVs) will be procured to operate on the Third Street line. Fifteen LRVs were acquired for Phase 1-IOS start up. As Mission Bay is built up, 10 LRVs will be added to the fleet to help accommodate the ridership projected from this development. The cost of these 10 LRVs is included in Phase 1. The remaining 4 LRVs will be needed for the Central Subway.

Urban Design

Working with community members from several neighborhoods, Muni's 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
- A tall "marquee pole" to serve as a distinctive marker for the stations

At the same time, Third Street will also serve 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 will provide special "Main Street" pedestrian-oriented improvements, in conjunction with the City's revitalization efforts. These will 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, Muni will construct the Metro East Light Rail Vehicle Maintenance and Operations Facility. This new facility is for the storage, maintenance, and operation of 80 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). It will store 80 LRVs, with the shops sized to accommodate 100 LRVs. 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 parking lot will accommodate about 170 vehicles.

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

Jobs Program

Muni 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 (CBOs), helps local residents prepare and become placed in these positions. As of April 2005, 280 residents of the Potrero Hill, Bayview-Hunter's Point, and Excelsior Districts have been hired for the Third Street LRT project. Of these 280, 170 residents have been hired through the CBOs.

Project Status

Construction on Phase 1 of the light rail line began in spring 2002 and will be complete in early 2006. Muni engineers worked closely with community members to develop the best construction strategy for each neighborhood, and Muni maintains a project office in the neighborhood (at 501 Cesar Chavez) for community liaison activities as well as assistance to local and minority contractors. Construction was phased so that only one side of the street is worked on at a time, and every effort was made to maintain two lanes of traffic in each direction during peak periods and at other times. Access to all businesses and residences was maintained at all times. Revenue service is scheduled to begin in June 2006.

Phase 2 - Central Subway

Current Approved Project

Phase 2 will add 1.5 miles of light rail track north from the northern end of the Phase 1 IOS project at Fourth and King Street, to a terminal at Stockton and Clay in Chinatown. The tracks will enter the Central Subway near Bryant Street, 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. Current projections show that the two-phase Third Street project will carry 92,000 daily riders by 2030, with travel times from Visitacion Valley to Chinatown reduced by up to 14 minutes, compared to today's travel times. Phase 2

includes the procurement of three additional peak LRVs, plus one maintenance spare. Muni will review the Central Subway vehicle demand during preliminary engineering to determine whether this is an appropriate number of LRVs to serve the line.

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 $20.5M 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, Muni selected the Joint Venture team of Parsons Brinckerhoff /Wong Engineering to perform the Conceptual Engineering Report and Preliminary Engineering phases of the Central Subway, as well as assisting with as-needed environmental updates that may become necessary as the engineering work progresses. In order to assess the proposed Fourth Street alignment and other changes, Muni will prepare a Supplement to the EIS/EIR to determine the potential benefits and impacts. Preliminary Engineering is scheduled to be completed at the end of 2006. Construction is currently planned for 2009-2015, with opening in 2016.

Fourth Street Alignment

Over the past year Muni hosted six community meetings, four Community Advisory Group meetings, and numerous civic and neighborhood group presentations. The purpose of this process was to establish which options the community preferred regarding alignment, station access, portal locations, and construction methods. The input from this public process resulted in some proposed changes to the project.

An alternative alignment that would follow Fourth Street through the entire South of Market area, instead of going northbound on Third and southbound on Fourth, received strong support from the public due to reduced construction costs, easier access, and faster travel times. This alignment starts as a surface line at Fourth and King – the current terminus of the Third Street Phase 1 project now nearing completion. It would proceed north along Fourth Street to a double portal structure between Townsend and Brannan where the alignment transitions from surface to subway.

From the portal, the line would proceed 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 Market and Geary, and a Chinatown station on Stockton at Clay. Figure 6 shows the proposed Fourth Street alignment and stops.

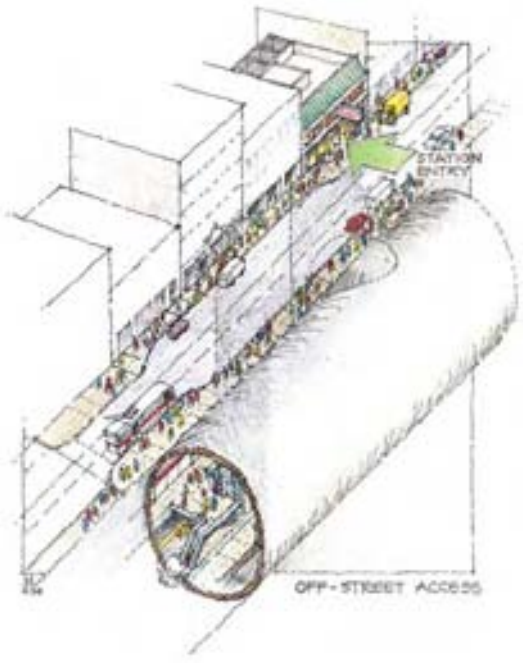
On June 7, 2005, the MTA Board approved changing the Locally Preferred Alternative for the Central Subway south of Market Street to operate entirely under Fourth Street. Muni is currently preparing a Supplemental EIS/EIR to determine the impacts of this Fourth Street Alignment.

Figure 6: Proposed Fourth Street Alignment for Central Subway

Station Access

The EIS/EIR proposed locating all station entrances in the sidewalks along the alignment. 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 7.

Figure 7: Proposed Moscone Center Stop Access



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 is now looking at installing fare gates similar to those in the Market Street Subway. This change will affect station design and access and therefore needs further study.

Portal Locations

Portal locations – those sites where Muni Metro trains transition from surface to subway operation – have been discussed in several meetings. The original EIS/EIR proposed two separate single portals – one portal on Third Street and another portal on Fourth Street between Brannan and Bryant. Concerns were raised about impacts on traffic circulation, especially on Third Street. As a result, Muni identified and studied alternative locations for the portals on Third and Fourth streets. The option that was strongly favored by the public is a combined double portal located on Fourth Street between Townsend and Brannan because it eliminates traffic impacts of the project on Third Street.

Ventilation Shafts

Subway ventilation shafts are required for emergency conditions. The Supplemental to the EIS/EIR will study possible locations for the ventilation structures. For example, off-street locations need to be identified where the shafts would be constructed.

Construction Methods

The original EIS/EIR proposed using 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, minimizing construction impacts in the Market Street area. Easements would be required in the few cases where the tunnels pass under existing buildings. Figure 8 shows the type of tunnel boring machine needed for this kind of construction.

Figure 8: Tunnel Boring Machine

Third Street Light Rail Service Plan

T-Third line

Following the completion of construction and a six month testing and start-up period, regular light rail service on Phase 1 is scheduled to begin in June 2006. The existing K-line light rail service will be modified and extended to serve Third Street. The current operating plan is to extend K-Ingleside service from the Market Street Subway, along the Muni Metro Extension (MMX), and down the new Third Street light rail line to the terminal near the Caltrain Bayshore Station. The letter "T" will be used as the line designation for the Third Street portion of the line. To implement that change, the line designation will be modified so that the inbound LRV displays a "K" sign west of West Portal Station and then, using the ATCS system, displays the "T" sign as it runs through the subway and out Third Street to its southern terminal. The service will be provided at levels comparable to the existing K-Ingleside line with single cars. Figure 9 shows the planned headways for the Third Street line.

The J-line will be extended to 4th/King, and the N-line will temporarily turn back at Embarcadero until the N-Line is extended to the Mission Bay Loop when it opens. After the Central Subway segment of the Third Street project is built, the Third Street line will keep this "T" designation for the new line that will not be connected to the existing subway. The K-line will revert to its original route, terminating at Embarcadero Station.

Figure 9: Third Street Light Rail Planned Headways (minutes) – IOS

	Peak	Midday	Evening	Night
Weekday	8	10	12	20
Saturday	Na	12	15	20
Sunday	Na	15	20	20

Along with the addition of new light rail service in the Third Street corridor, Muni anticipates making a number of changes to bus routes to eliminate duplicate service and to replace 15-Third service that is not covered by the IOS.

15-Third and Other Bus Changes

The 15-line will be eliminated. A new 15X line will be created that uses the route of the 9X/9AX/9BX but extends the route to cover the northern and southern portions of the existing 15 line. The 15X will also mirror the hours of operation and the headways of the 15 line, operating at night and on weekends. A 15AX and 15BX will run during peak service hours, to replace 9AX and 9BX service.

The northern and southern portions of the 15-Third service would be replaced with the equivalent amount of service on other lines. The 9X (to be called 15X) will provide approximately 20 hours of service, 7 days a week. In addition, the 54-Felton will be rerouted off Third Street between Revere and Hudson via Lane, Palou, Newhall, and Hudson, to provide Bayview residents with a neighborhood circulator to the light rail line. Other routes will remain as currently configured and at existing service levels.

Central Subway

When Third Street LRT Phase 2 is completed, service on the T-line will be revised to operate from its southern terminal at the Caltrain Bayshore Station through the Central Subway to the new northern terminus in Chinatown. Service levels are planned for single cars operating at five-minute peak period and ten-minute midday frequencies, but this is subject to change depending on demand. A second independent line is anticipated to operate between Chinatown and the turnaround loop in Mission Bay at 18th, Illinois, and 19th streets. This "short-line" service will require an additional 10 light rail vehicles, increasing the LRV fleet total to 161. Service changes to Muni bus routes are also anticipated to coincide with Central Subway service start up. When the new Third Street line is created, the K-Ingleside will revert to its former terminal at the Muni Metro Turnback at Embarcadero Station.

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 area served by the Central Subway taken together (CBD, 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. With the Central Subway alignment change, these job and housing numbers may be revised.

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.

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 is anticipated to be adopted in Summer 2005. 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 would be accomplished by incorporating widened sidewalks, pedestrian lights, 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 will serve SBC 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.

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.

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.

Chinatown: With over 100 housing units per net acre, Chinatown is one of the most densely populated areas in a city that is the second most densely populated in 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 served by rail transit.

CURRENT SERVICE AND SERVICE EVALUATION

- Service Design
- Significant Service Changes
- Ridership
- Accessible Services
- Proposition E Service Standards
- Security Plan
- Communications and Marketing

Chapter 4: Current Service and Service Evaluation

With a route network of 80 lines, Muni provides access to most locations within San Francisco, 24 hours a day, 365 days a year. Muni carries over 686,000 riders each weekday, totaling over 216 million annual passenger trips, making Muni the most heavily used transit system in the Bay Area and seventh in the nation.

This section describes the services that Muni currently provides, with a number of operating characteristics that illustrate Muni's service delivery. Muni's accessible and paratransit services and communications and marketing efforts are also described. It includes ridership numbers as well as various performance indicators used to evaluate Muni's performance, and results of those evaluations.

Service Design

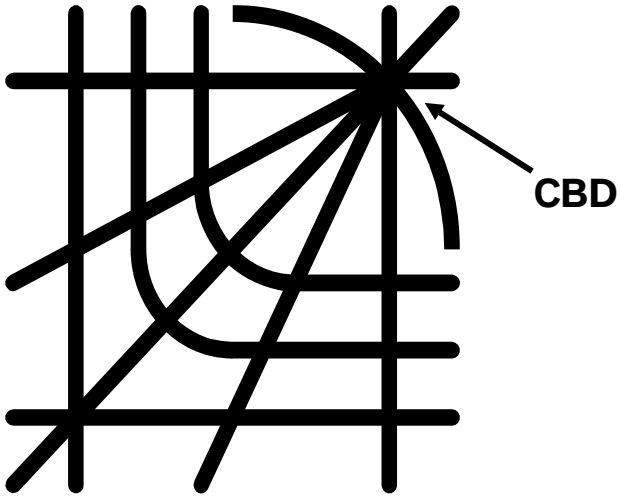
The Municipal Railway's service is based on service design standards. These standards guide decisions to determine the spacing of routes throughout the City, the frequency of buses and streetcars, the spacing of stops along a line, and the average loads experienced by passengers on vehicles. The standards also guide development of other programs that contribute to improved transit service.

Short History of Service Design

In 1982, Muni's service network was overhauled to create the current network. This overhaul entailed changes on 25 lines and was the single largest set of route changes in Muni's history. The new route structure succeeded in serving the existing riders and in attracting new riders to transit.

Because San Francisco's Central Business District is not in the center, but on the edge of the city with water on two sides, the transit network is a modified grid, illustrated by the conceptual diagram below. The downtown-focused radials are intersected by circumferential "crosstown" lines. The modified grid is focused on the CBD, but is designed for a rider to get from any point in the City to any other point with no more than one transfer.

Figure 10: Diagram of Muni's "Modified Grid" Service



Service Design Policies

Muni service is based on a set of policies developed over time. Service operation also responds to system performance, such as the Proposition E service standards. Service is also adjusted from time to time based on comments from the public or in response to new development patterns, such as in South of Market in the late 1990s.

System Policies

- Lines should be spaced approximately one-half mile apart throughout the City, except where constrained by geography or the street grid.
- All residential locations in San Francisco should be within approximately one-quarter mile of a Muni route that operates at least 19 hours per day.
- Muni's policy headways, or the maximum amount of time allowed between vehicle arrivals, should be 10 minutes at the peak for radial and express lines, 15 minutes for crosstown lines, and 20 minutes for feeder lines. Figure 11 presents Muni's policy headways. These headway frequencies are minimums, and more frequent service may be operated than provided by these standards. Many of Muni's lines exceed the standards.
- Service should be designed such that peak period loads do not exceed the maximum load for planning purposes as shown in Figure 12, when averaged over the two-hour peak. Note that cable cars are equivalent to a 40' vehicle.

Figure 11: Muni's Policy Headways

Weekday	Peak	Base	Evening	Owl
Radial	10	15	20	30
Express	10	--	--	--
Crosstown	15	15	20	30
Feeder	20	30	30	--
Weekend		**Base**	**Evening**	**Owl**
Radial		15	20	30
Crosstown		20	20	30
Feeder		30	30	--

Figure 12: Muni's Planning Load Factors

Vehicle	Maximum Load for Planning Purposes
30' Coach	45
40' Coach	63
60' Coach	94
LRV	119
PCC	70

- All new motor coaches and trolley coaches should meet Americans with Disabilities Act (ADA) requirements.
- Service should include the provision of paratransit services to all persons certified as ADA-eligible, and regional paratransit trips facilitated through regional providers.
- Increased capacity should be provided at equal or lower cost by substituting articulated vehicles where loads and frequencies warrant.
- Consider reducing service without exceeding policy headways on lines that continuously have diminished ridership.

Stop Policies

- Passenger stop spacing should be approximately 800-1,000 feet on motor coach and trolley coach lines except where there are steep grades, and 1,000-1,200 feet between stops on LRV surface lines.

- On streets with grades of over 10%, stops should be spaced 500-600 feet apart. On streets with grades of over 15%, such as on Castro between 22nd Street and 24th Street, stops may be spaced as close as 300-400 feet.
- Stops should be on the nearside of an intersection at stop signs; where right turns are heavy from the cross street on to the transit street; or where the green time for the transit street is less than half of the cycle.
- Stops should be on the far side of an intersection at uncontrolled intersections; where the bus makes a turn; where right turns are heavy from the transit street on to the cross street; or where the green time for the transit street is more than half of the cycle.
- Stops should be mid-block if there is a major traffic generator mid-block, or if pedestrian flows naturally converge at a mid-block location.
- Transit shelters should be installed at high usage boarding locations, generally with more than 125 boarding per day. The shelter site must meet DPW's criteria for sidewalk width to be in conformance with ADA requirements.

Other Service Goals

- Expand Metro system accessibility beyond the Key Stops Program.
- Construct appropriate transit rights-of-way in major corridors to reduce transit travel time and increase capacity.
- Expand transit priority measures, such as bus bulbs, bus-only lanes, and signal priority, on the Transit Preferential Streets network, or elsewhere as needed.
- Develop inter-operator fare instruments to facilitate regional travel.
- Provide convenient transfer opportunities with regional transit operators.

Transit Services and Areas Served

With the service design described above, Muni provides access to most locations within San Francisco, 19 hours a day, 365 days a year – 24 hours a day to the key trunk corridors.

Muni currently operates 79 lines in regular weekday service. Muni directly operates four modes of vehicles: motor coach, trolley coach, light rail (Muni Metro and historic streetcars), and cable cars. In addition, Muni provides paratransit service by contract.

Radial lines are those that go from neighborhoods to the downtown; Crosstown lines may run north-south, east-west, or circumferential; and Community Service lines are the lines that fill in the gaps or serve difficult topography. In addition, Muni operates a number of regular routes and two special owl service routes between the hours of 1AM and 5AM. Figure 13 shows the distribution of service between these five types of lines for an average weekday.

Figure 13: Service By Line Type

	No. of Routes	% of Total
Radial	36	66.3%
Crosstown	13	23.4%
Community	12	6.3%
Express	16	2.5%
Owl	2	1.6%
Total	79	100%

Significant Service Changes

There have not been major service changes since the last SRTP was published. Thirty-three new articulated trolley coaches were delivered in 2003, replacing an equivalent number of standard trolley coaches. These coaches have been assigned to meet demand on lines experiencing high ridership: the 30-Stockton and 49-Van Ness/Mission. In 2006, articulated motor coaches from the 15-Third line will be available for reassignment to other lines experiencing heavy ridership demand. The current candidate lines that may receive the additional articulated motor coaches are the 9X/9AX/9BX-San Bruno Expresses, 30X-Marina Express, the Richmond District Expresses, the 71-Haight-Noriega, and the 28-19th Ave. The 5-Fulton is a candidate for articulated trolley coach operation.

Below are known changes to service that are planned to occur in the next five years. Also included are other changes that Muni will implement given sufficient operating funds.

FY06 Service Adjustments

The adopted FY06 budget is predicated on adjustments to Muni service that will achieve a net savings for the year of $13.5 million. This will be accomplished through a combination of line restructuring, increased headways (beyond policy in some cases), and labor efficiencies. The changes were discussed with the public and are scheduled to be implemented in late August 2005. This section summarizes the service reductions planned as of May 6, 2005.

Planned Changes in Routing, Vehicles, and Hours and Days of Service

- **2-Clement:** Route via California rather than Euclid between Masonic and Arguello.
- **4-Sutter:** Discontinue mid-day service, and operate only between downtown and Sutter and Presidio during peak periods.
- **7-Haight:** Discontinue weekday mid-day and weekend service. Also see planned changes in frequency below.
- **9-San Bruno:** Discontinue weekday peak short trips that only go as far as SF General Hospital.
- **9ax/9bx/9x-San Bruno Express:** Use additional articulated buses.
- **10-Townsend:** Discontinue weekday evening and weekend service.
- **16ax/16bx-Noriega Express:** Discontinue service between Market Street and Caltrain.
- **26-Valencia:** Discontinue service south of Balboa Park. Also see planned changes in frequency below.
- **27-Bryant:** A route change via Eddy instead of O'Farrell on trips toward the Mission District is under consideration—but may not be implemented Aug. 27. Also see planned changes in frequency below.
- **30-Stockton:** Use articulated buses for weekday trips which do not serve the Marina District.
- **37-Corbett:** Minor route change to make two stops by Buena Vista Park become dropoff-only stops served on request only.
- **52-Excelsior:** Discontinue service between Burbank Middle School and Mission & Geneva. Also see planned changes in frequency below.
- **54-Felton:** Re-route in the Excelsior District to serve streets between Persia and Geneva currently used by the 52-line. The 54 will then continue along Geneva Avenue to reach the Balboa Park BART station, and resume its current route to the Daly City BART station. Also see planned changes in frequency below, including improved daytime frequencies.
- **66-Quintara:** Discontinue service between the Inner Sunset District and Downtown. This only affects rush-hour service. Also see planned changes in frequency below.
- **67-Bernal Heights:** Re-route clockwise loop via Crescent instead of Richland, and via Valencia.
- **71-Haight/Noriega:** Use articulated buses on weekends. Also see planned changes in frequency below.
- **82x-Presidio Express:** Reduce afternoon service from 5 trips to 2 trips.

- **J-Church:** A future proposal to extend the J-line to the Caltrain depot will be limited to weekday peak hours only. (This will not take place until at least June 2006.)

Planned Changes in Frequency

Figure 14 shows planned changes to service frequencies. Some of these lines may also have other changes, which are summarized above.

- Frequencies are only shown where a change is planned.
- All service shown is weekday except as noted.
- **J, K, L, M, and N** lines may have some weekday reductions to early morning and late afternoon service (4-5 PM) which are not reflected in the chart below. Evening rush hour service may also operate later than at present.
- **6 and 71** lines will be adjusted midday so each line operates on the same frequency, balancing service requirements on lower Haight Street. These are not reflected in the chart below
- Other changes may be planned to other lines.

Increased Reliability

In conjunction with the planned adjustments to service levels, Muni will also restore its roster of reserve, or "extra board," operators to the recommended level of 27.5% of scheduled operator assignments. This reserve force allows service to be operated normally when regular operators are on vacation or otherwise unavailable for work, without resorting to excessive levels of overtime. Recently, because service reductions budgeted in FY04 were not implemented, the budgeted operator force levels were unable to support the FY04 level of service, resulting in an inadequate "extra board" reserve and consequent unfilled operator assignments. This has led to erratically reduced Muni service, perceived by riders as diminished service reliability. Muni's ability to reliably operate these adjusted service levels will be significantly enhanced.

Operating Efficiencies

In addition to service changes, internal operating changes are also planned to help offset the budget shortfall:

- Reduce overtime built into runs.
- Eliminate various non-driving assignments of operating personnel.

Figure 14: Weekday Frequency Proposals

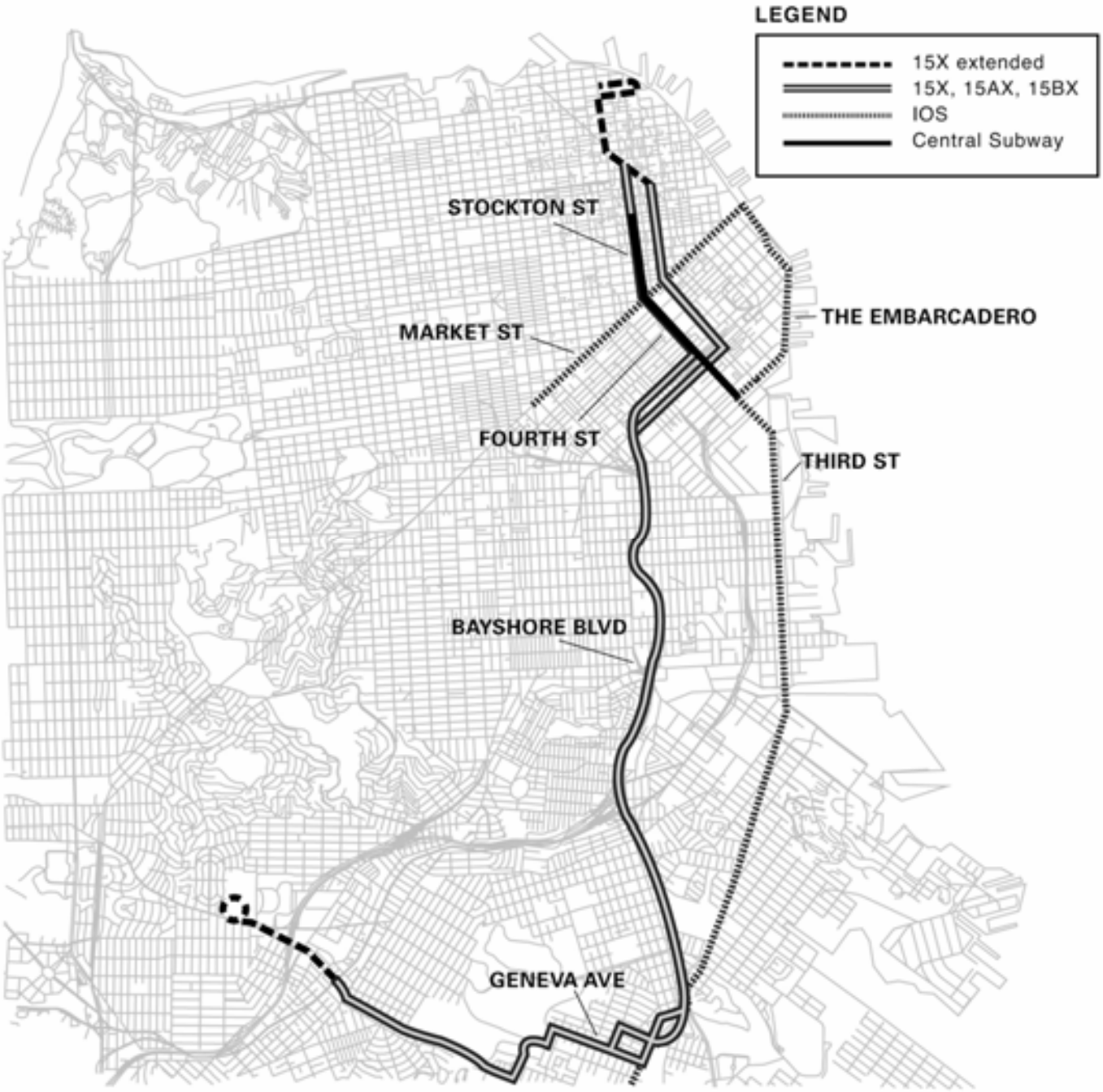
Line	Current AM Peak	Planned AM Peak	Current Mid-day	Planned Mid-day	Current PM Peak	Planned PM Peak	Current Evening	Planned Evening
1			5	6				
4	10	15	20	Use 2 or 3-line	10	15		
5					4	5	15	20
7	12	15	12	Use 6 or 71-line	12	15		
12							20	30
14	5 (10 south of Lowell	6 (12 south of Lowell)	6	8	5	6		
14X	9	10						
15					7	8		
17			20	30			20	30
19			10 (10 or 20 south of Brannan)	12 (12 or 24 south of Brannan				
21	8	7			6	7		
22	8	10			6	7		
23							20	30
24	8	9			8	10	15	20
26	15	20			15	20	20	30
27			12	15				
31			12	15			15	20
35	15	20			15	20		
36			20	30				
38	7	8	7	8	5	6		
41					6	7		
43			10-12	12				
47	6-7	7-8	8	9	6-7	7-8	15	20
49	6-7	7-8	8	9	6-7	7-8	15	20
52			20	30				
54	22	20	22	20	22	20	20	30

Changes will also be made to Saturday and Sunday service levels similar to the weekday changes itemized above.

Third Street

Third Street changes, and changes for the Central Subway service, are described in Chapter 3. Figure 15 shows the Third Street service changes.

Figure 15: Map of Third Street Service Changes



Mission Bay

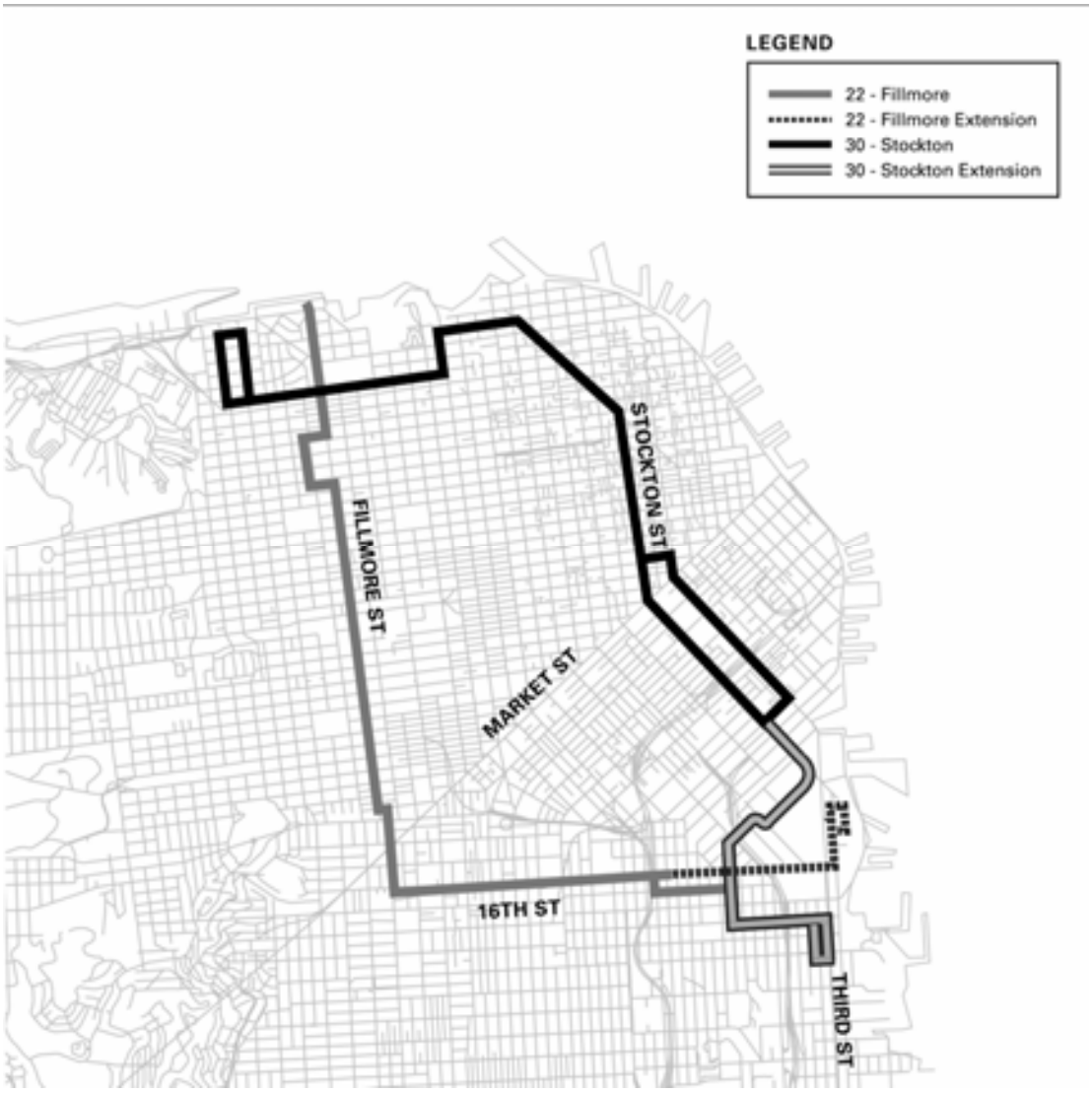
In approximately 2008, Muni will begin work on trolley coach extensions to accommodate new ridership in Mission Bay as employment and residential development increase in that area. The expected changes include:

- Reroute 22-Fillmore onto 16th Street east of Kansas Street to a terminal on Third Street in Mission Bay. Since the 22-Fillmore currently serves the Potrero Hill and Dogpatch neighborhoods, this extension to Third Street may be served by the 33-Stanyan as an interim measure. This service change requires overhead wires to be constructed on 16th Street between Kansas and Third, and a terminal loop at Third. There are many safety concerns about the Caltrain grade crossing at 16th and Seventh streets that must be resolved. A grade separation could be investigated.

  Due to delays in funding availability, the overhead wires may not be constructed in time; in that case, Muni could operate a temporary motor coach service on 16th Street. This service is a last resort, and Muni will make every effort to operate this for the shortest period possible, with clean diesel vehicles.

- Extend either the 30-Stockton or 45-Union/Stockton trolley coach line from its existing terminal at Fourth and Townsend, through Mission Bay, and over a portion of the current 22-line on Potrero Hill to the existing 22-line terminal at Third and 20th Street. Analysis of Mission Bay service demand indicates that operating one-third the current level of service on Stockton Street with 40-foot coaches would provide adequate service. This service requires the Mission Bay project to complete construction of new streets and significant funding for overhead wires and additional vehicles. These service changes may require six additional standard trolley coaches. This service also requires crossing Caltrain at-grade.

Figure 16: Map of Mission Bay Service Changes



Other Future Service Proposals

All of these proposals would require additional operating funding, so they are possible but not scheduled. Other possible service changes that require expansion of the existing system are described in the next chapter.

Richmond District Expresses: In response to rising demand and a lengthening peak period, Muni has considered adding service on several Richmond District express bus lines. Anticipated changes would include adding trips (operating more frequently) and operating later in the evening on the 1AX, 1BX, 31AX, 31BX, 38AX and 38BX lines.

Reliability Improvements: Muni's Schedules section conducted a Schedule and Headway Adherence Study to determine if the current scheduled running times on all Muni lines are adequate for the actual conditions encountered in everyday operation. The analysis found that an overall increase in the number of peak vehicles is required to provide the existing scheduled service levels. By creating new schedules with more realistic running times and expanding the fleet to provide the additional service, Muni could significantly improve reliability for passengers. This improvement would require additional vehicles and operating funds that are not in this SRTP's CIP or operating forecast. This proposal has been deferred for further evaluation.

Increased Service to Meet Demand: It is anticipated that Muni will need to expand service on the Metro by about 2015. Although the exact extent of this increased service demand cannot yet be estimated, Muni is anticipating that additional LRVs will be required and is reflecting this expectation in the Fleet Plan, though acquisition of these vehicles is not funded. As ridership trends develop, future editions of this document will include specific service proposals, including the impact on revenue hours, revenue miles, and vehicle demand and associated capital and operating funding needs.

Ridership

Data Collection Methodology

The Municipal Railway is required to provide data to the Federal Transit Administration (FTA) as part of the National Transit Database (NTD). The main purpose of this data is to estimate annual ridership. These estimates are made according to a very specific process: a baseline is developed for each line, which determines the ridership for the entire line (a separate baseline is developed for each of weekday, Saturday, and Sunday service). The baseline also determines the location of the maximum load point (MLP), and establishes a ratio between the ridership at the MLP and the ridership for the entire line. Each year, ridership on each line is monitored at the MLP, and the ratio is applied in order to estimate the ridership for the entire line. To capture any changes in summer ridership, a summer seasonal variation factor is used. Saturday and Sunday service is divided into demand lines (major lines) and policy lines (smaller lines). The policy lines are grouped together, and ridership is estimated for the lines as a group.

There is a baseline for each weekday line, but not all Saturday and Sunday lines have baselines. Those lines without baselines are called policy lines, and are grouped together by mode. There is a monitoring program for these policy lines that estimates ridership for all the lines combined. There is a policy line figure for motor coaches and one for trolley coaches. This year we are completing baselines for all Sat/Sun Trolley Coach lines, so next year there will be a policy line figure for motor coaches only. The table below shows the date of the most recent baseline for each line.

This process has been approved by FTA, and has been on-going for many years. A Data Collection Plan for NTD was developed in FY1995/96, and is consistently followed each year. This sampling plan was designed to attain a 95% confidence level with a standard error of +/- 10%. That means there is a 95% certainty that a ridership estimate is correct, plus or minus 10%. In actuality, ridership data that Muni collects often reflect a higher level of precision. It should be noted that this confidence level applies to

the annual ridership for all lines together. Individual line ridership figures do not reach this degree of certainty.

Ridership numbers for FY04 are shown in Figure 17. The historical annual ridership is shown in Figure 18 and graphed in Figure 19.

Figure 17: Line-by-Line Ridership, FY04

Line	Name	Mode	Route Type	Avg Wkday	Wkday Check	Wkday Baseline	Avg Sat	Sat Check	Avg Sun	Sun Check
F	Market & Wharves	LR	Radial	13,950	2/04	4/01	15,193	5/04	12,327	2/03
J	Church	LR	Radial	17,374	2/04	9/00	7,435	5/04	6,088	2/04
K	Ingleside	LR	Radial	20,289	2/04	6/85	12,598	5/04	8,817	2/04
L	Taraval	LR	Radial	30,326	2/04	6/85	14,054	5/04	12,197	2/04
M	Ocean View	LR	Radial	26,182	2/04	6/85	13,427	5/04	12,084	2/04
N	Judah	LR	Radial	37,753	2/04	5/85	25,591	5/04	19,404	2/04
1	California	TC	Radial	25,618	11/03	1/03	16,210	2/04	12,481	2/04
1AX	California A Express	MC	Radial	799	9/03	5/02	NA	NA	NA	NA
1BX	California B Express	MC	Radial	1,380	10/03	5/02	NA	NA	NA	NA
2	Clement	MC	Radial	5,574	1/04	6/02	Policy	NA	Policy	NA
3	Jackson	TC	Radial	2,901	1/04	1/01	3,408	4/04	Policy	NA
4	Sutter	TC	Radial	3,832	2/04	1/01	NA	NA	NA	NA
5	Fulton	TC	Radial	13,256	11/03	6/00	9,112	3/04	8,368	9/03
6	Parnassus	TC	Radial	7,819	9/03	1/01	3,931	5/04	Policy	NA
7	Haight	TC	Radial	5,740	10/03	1/01	3,342	5/04	2,726	9/03
9	San Bruno	MC	Radial	17,322	11/03	10/98	9,076	4/04	8,956	2/04
9X	San Bruno Express	MC	Radial	9,543	3/04	3/04	7,708	4/04	NA	NA
9AX	San Bruno A Express	MC	Radial	2,881	3/04	3/04	NA	NA	NA	NA
9BX	San Bruno B Express	MC	Radial	2,351	3/04	3/04	NA	NA	NA	NA
10	Townsend	MC	Radial	2,518	11/03	8/01	976	10/03	1,097	5/04
12	Folsom	MC	Radial	7,318	4/04	5/01	Policy	NA	Policy	NA
14	Mission	TC	Radial	40,492	4/04	9/02	22,869	10/03	22,856	10/03
14L	Mission Limited	MC	Radial	4,167	5/04	11/02	5,753	10/03	NA	NA
14X	Mission Express	MC	Radial	2,582	6/04	11/02	NA	NA	NA	NA
15	Third Street	MC	Radial	25,321	11/03	11/03	12,900	11/03	16,182	5/04
16AX	Noriega A Express	MC	Radial	803	4/04	4/03	NA	NA	NA	NA
16BX	Noriega B Express	MC	Radial	833	5/04	4/03	NA	NA	NA	NA
17	Park Merced	MC	Feeder	1,326	6/04	7/02	Policy	NA	Policy	NA
18	46th Ave	MC	Crosstown	3,234	4/04	5/03	Policy	NA	Policy	NA
19	Polk	MC	Radial	9,446	5/04	8/01	5,552	2/04	3,348	2/04
21	Hayes	TC	Radial	14,116	5/04	11/00	5,149	3/04	4,671	9/03
22	Fillmore	TC	Crosstown	19,576	6/04	7/04	14,563	10/03	14,104	5/04
23	Monterey	MC	Crosstown	4,189	6/04	8/03	Policy	NA	Policy	NA

Line	Name	Mode	Route Type	Avg Wkday	Wkday Check	Wkday Baseline	Avg Sat	Sat Check	Avg Sun	Sun Check
24	Divisadero	TC	Crosstown	13,672	4/03	4/03	Policy	NA	Policy	NA
26	Valencia	MC	Radial	4,393	4/04	12/01	Policy	NA	Policy	NA
27	Bryant	MC	Radial	9,022	10/03	8/02	Policy	NA	Policy	NA
28	19th Ave	MC	Crosstown	12,075	11/03	12/99	9,411	4/04	5,977	10/03
28L	19th Ave Limited	MC	Crosstown	2,384	9/03	12/99	NA	NA	NA	NA
29	Sunset	MC	Crosstown	15,626	9/03	10/01	Policy	NA	Policy	NA
30	Stockton	TC	Radial	28,997	3/04	3/97	27,707	7/03	14,533	2/04
30X	Marina Express	MC	Radial	1,850	2/04	9/98	NA	NA	NA	NA
31	Balboa	TC	Radial	9,603	4/04	9/94	4,529	7/03	3,540	6/04
31AX	Balboa A Express	MC	Radial	918	3/04	6/02	NA	NA	NA	NA
31BX	Balboa B Express	MC	Radial	770	1/04	6/02	NA	NA	NA	NA
33	Stanyan	TC	Crosstown	5,907	5/04	9/04	3,574	1/03	Policy	NA
35	Eureka	MC	Feeder	812	2/04	2/03	Policy	NA	Policy	NA
36	Teresita	MC	Feeder	1,487	3/04	1/99	Policy	NA	Policy	NA
37	Corbett	MC	Feeder	1,612	1/04	6/02	Policy	NA	Policy	NA
38	Geary	MC	Radial	29,517	4/04	11/96	40,469 (Inc. 38L)	3/04	27,936	6/04
38L	Geary Limited	MC	Radial	17,955	6/04	11/96	NA	NA	NA	NA
38AX	Geary A Express	MC	Radial	740	2/04	6/02	NA	NA	NA	NA
38BX	Geary B Express	MC	Radial	1,056	3/04	6/02	NA	NA	NA	NA
39	Coit	MC	Feeder	307	1/04	10/98	Policy	NA	Policy	NA
41	Union	TC	Radial	3,487	1/04	2/03	NA	NA	NA	NA
43	Masonic	MC	Crosstown	14,975	2/04	9/99	Policy	NA	Policy	NA
44	O'Shaughnessy	MC	Crosstown	11,939	3/04	1/02	8,394	7/03	4,655	9/03
45	Union/Stockton	TC	Radial	12,512	2/04	9/04	10,863	8/03	12,564	3/04
47	Van Ness	MC	Crosstown	13,271	1/04	10/01	Policy	NA	11,433	9/03
48	24th St	MC	Crosstown	9,540	2/04	1/03	Policy	NA	Policy	NA
49	Van Ness/Mission	TC	Crosstown	28,928	3/04	4/03	Policy	NA	Policy	NA
52	Excelsior	MC	Feeder	3,156	3/04	7/02	Policy	NA	Policy	NA
53	Southern Heights	MC	Feeder	1,320	4/04	8/00	Policy	NA	Policy	NA
54	Felton	MC	Feeder	5,708	5/04	4/04	Policy	NA	Policy	NA
56	Rutland	MC	Feeder	133	6/04	2/03	77	3/04	102	2/04
59	Powell & Mason	CC	Cable	8,198	4/04		8,055	4/04	7,896	4/04
60	Powell & Hyde	CC	Cable	9,114	4/04		8,862	4/04	10,071	4/04
61	California	CC	Cable	4,325	4/04		4,449	4/04	3,059	4/04
66	Quintara	MC	Radial	774	5/04	11/98	Policy	NA	Policy	NA
67	Bernal Heights	MC	Feeder	2,471	5/04	2/03	Policy	NA	Policy	NA
71/ 71L	Haight/Noriega	MC	Radial	12,239	9/03	4/02	12,418	8/03	Policy	NA

Line	Name	Mode	Route Type	Avg Wkday	Wkday Check	Wkday Baseline	Avg Sat	Sat Check	Avg Sun	Sun Check
76	Marin Headlands	MC	Radial	NA	NA	NA	NA	NA	423	9/03
80X	Gateway Express	MC	Radial	152	7/03	7/03	NA	NA	NA	NA
81X	Caltrain Express	MC	Radial	117	8/03	8/03	NA	NA	NA	NA
82X	Levi Plaza Express	MC	Radial	351	8/03	8/03	NA	NA	NA	NA
88	BART Shuttle	MC	Feeder	1,077	6/04	10/98	NA	NA	NA	NA
89	Laguna Honda	MC	Shuttle	149	1/04	12/02	Policy	NA	Policy	NA
90	Owl	MC	Owl	245	2/04	3/03	Policy	NA	Policy	NA
91	Owl	MC	Owl	267	3/04	9/98	Policy	NA	Policy	NA
108	Treasure Island	MC	Radial	2,024	1/04	1/00	1,453	7/03	786	1/04
	Policy	MC	Various	NA	NA		78,234	Various	71,271	Various
	Policy	TC	Various	NA	NA		34,275	Various	35,340	Various
	TOTAL			685,984			461,491		375,291	

Ridership Demographics: Origin and Destination Study

In early 2004, an Onboard Transit Survey collected passenger trip and demographic information for all Muni routes. The goals were to develop a rich data set describing the trip-making patterns of transit riders within the city, and to integrate previously collected household survey data in order to recalibrate the SFCTA's Travel Demand Forecasting Model. Projects as wide-ranging as the Geary Bus Rapid Transit Study, Muni's Central Subway project, and the Folsom Street Strategic Analysis Report, are already benefiting from this data. The study was funded by multiple sources including Proposition K and funds from the Metropolitan Transportation Commission, and was sponsored by SFCTA in cooperation with Muni.

In addition to collecting information on trip locations, the survey queried passengers on demographics, transfers, and fare payment. Data was collected over a seven-week period in February and March, 2004. The final survey database comprises more than 15,000 completed passenger surveys, representing a response rate of 28 percent and a system-wide confidence level of 95% with a margin of error of ± 0.8%.

The questionnaire contained 19 pre-coded and respondent provided questions designed to assess origin and destination points, trip patterns, frequency of use, and passenger demographics. The survey found that 93% of the system riders were San Francisco residents. The majority of Muni passengers are female; low-income riders were also more likely to be women. Women were also more likely to be transit-dependent than men (i.e., no auto was available for the trip).

Forty-one percent of all bus passengers and 25% of rail passengers had annual household earnings of less than $25,000, but Muni also carries large numbers of passengers from middle- and high income households: 11% of bus and 22% of rail passengers are from households with more than $100,000 annual income. Most Muni passengers (85%) walk to their stop. Very few riders are dropped off, share a ride, or drive to the stop.

Other significant results are

- The vast majority of passengers can travel to their final destination without transferring.
- About half paid for the trip with a Fast/Senior/Student Pass.
- Most passengers walk both to the bus stop and to their final destination after traveling on the Muni system.

- If passengers have to transfer to or from another transit system, they typically transfer to or from another Muni line.

Figure 18: Historical Annual Ridership

	Motor Coach	Trolley Coach	LRV	Cable Cars	Total
FY88#	96,535,455	96,715,812	39,485,320	11,996,596	244,733,183
FY89@	98,983,281	87,407,602	38,909,382	10,493,594	235,793,859
FY90	96,460,165	86,287,078	40,213,584	10,507,412	233,468,239
FY91	101,229,495	87,018,324	40,043,628	10,641,967	238,933,414
FY92	102,740,036	85,863,908	39,033,872	10,656,676	238,294,492
FY93	99,172,257	81,807,925	39,331,872	9,606,100	229,918,154
FY94	93,993,513	78,752,101	37,615,493	9,555,142	219,916,249
FY95	90,578,855	79,340,117	37,242,661	8,836,599	215,998,232
FY96	89,896,446	77,807,274	36,727,834	9,616,713	214,048,267
FY97	89,826,408	80,810,882	36,738,177	9,833,555	217,209,022
FY98%	92,845,139	77,463,294	38,898,062	9,883,055	219,089,550
FY99	92,978,413	78,275,199	35,659,815	9,498,148	216,411,575
FY00	96,394,515	78,460,995	41,610,041	9,206,298	225,671,849
FY01	96,032,547	80,868,519	49,698,816	8,312,946	234,912,828
FY02	98,614,739	78,773,571	47,898,268	7,729,162	233,015,741
FY03	90,880,694	74,398,960	42,896,196	7,418,638	215,594,488
FY04	87,471,668	75,215,805	45,187,031	7,869,197	215,743,701

Summer monitoring began

@ 31-line converted from motor coach to trolley coach

% 47-line converted from trolley coach to motor coach

Figure 19: Annual Ridership Graph 1945-2004

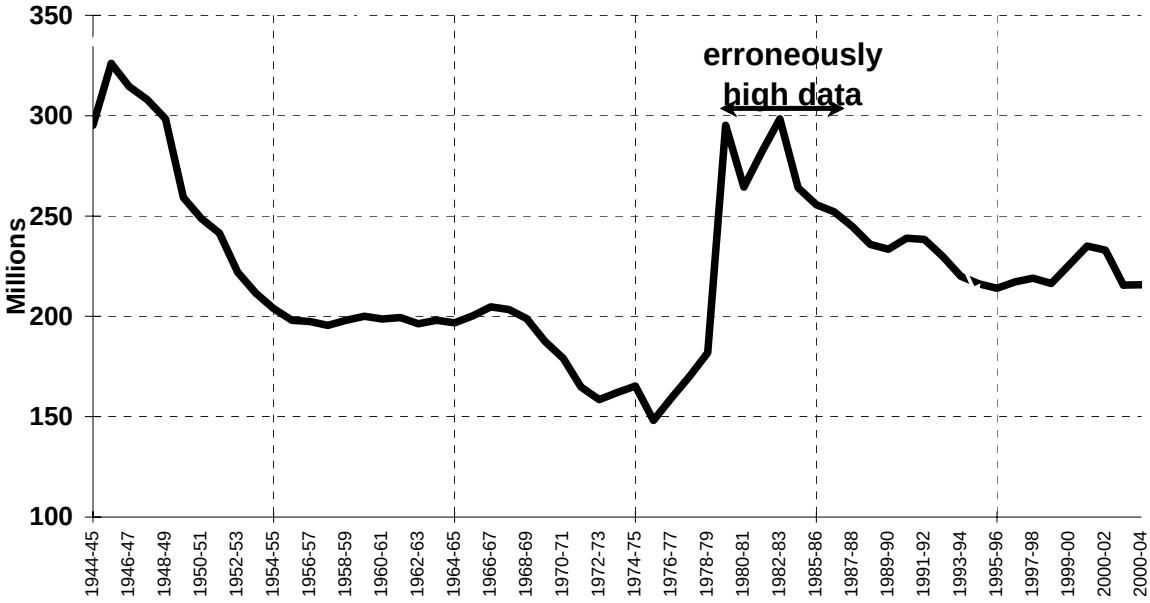


Figure 19 includes some erroneously high data in the early 1980s that is due to both changes in methodology and ridership fluctuation associated with a number of service changes.

Accessible Services: Fixed Route and Paratransit

The purpose of the Accessible Services Program is to ensure that appropriate, accessible, ADA-compliant transportation services are available to seniors and persons with disabilities. The main components of this program are:

- Assuring that fixed route bus and metro services are accessible to seniors and persons with disabilities;
- Managing the provision of door-to-door paratransit service for disabled persons unable to use Muni's fixed route service; and
- Providing identification cards to disabled persons to allow them to ride Muni's fixed route system at a discounted rate, as well as those of other Bay Area operators.

Muni staff works with two community advisory groups, the Muni Accessibility Advisory Committee (MAAC) and the San Francisco Paratransit Coordinating Council (PCC), on Muni accessibility and paratransit issues. Muni coordinates fixed route and paratransit services in cooperation with the MAAC, the PCC, and the paratransit broker staff.

Motor and Trolley Coach Service

Accessible bus service is currently provided on 55 motor coach and trolley coach lines. With the exception of two lines, the 6-Parnassus and the 41-Union, all Muni motor coach and trolley lines are accessible. The 6-Parnassus line is anticipated to be fully accessible during the next fiscal year. It is unclear when the 41-Union line will achieve full accessibility.

The majority of the motor and trolley buses in operation today are newly acquired. These state-of-the-art diesel buses and trolley coaches are lift-equipped and have space inside for two wheelchairs. The new vehicles feature the following accessibility elements:

- Wheelchair lifts
- Kneeling capability (the ability to lower the front end of vehicle to assist passengers in reaching the first step)
- Two areas for securing persons using wheelchairs
- Extra poles and hand-rails
- Digital Voice Annunciation System (DVAS), which permits automatic audio and visual stop announcements.

Muni Metro Service

The five-line Muni Metro system has become increasingly accessible in recent years through the construction of accessible wayside platforms and lifts and other ongoing accessibility projects. All Muni Metro subway stations have high-level platforms at car floor height, and except for West Portal, are fully accessible by elevator. In order to make on-street stops accessible, either high level accessible wayside platforms or wayside lifts have been constructed, as part of the ADA-mandated Key Stops program.

All Muni Metro surface stations on the MMX incorporate full accessibility features including wheelchair access, accessible signage, and tactile warning edges. Although the Key Stops program has been completed, Muni is continuing the commitment to improving accessibility on Metro surface stations.

The Breda LRVs incorporate many accessibility improvements, including two wheelchair securement areas, widened aisles, extra stanchions, and a horizontal gap filler between the vehicle door and the platform edge.

All stations on the new Third Street Light Rail Line are being constructed as fully accessible high level stops.

Historic Streetcar Service

The F-Market streetcar line has been made accessible through the construction of wayside platforms at car floor-level and wayside lifts. On portions of the system built prior to 1991, Key Stops have been made accessible. On portions of the line constructed after 1991, all stops have been constructed as accessible, with car-floor-level platforms or wayside lifts. All stops on the Fisherman's Wharf extension along The Embarcadero are fully accessible.

Facility Accessibility

Major goals in the area of accessibility of Muni facilities include:

- Incorporate accessibility features into all new facility projects
- Modify existing Muni facilities to provide further accommodations for employees
- Enhance accessibility to all public areas of Muni facilities.

ADA Paratransit Service

Paratransit services are available for persons with disabilities who are unable to independently utilize bus and light rail service some or all of the time. Paratransit services are mandated under the ADA. A paratransit broker under contract to the City administers the paratransit program. The paratransit broker manages subcontracts with paratransit service providers, monitors service quality, administers client eligibility, manages the sale of fare instruments, and acts on behalf of the Municipal Transportation Agency as the principal customer service representative for paratransit services. The San Francisco Paratransit Program provides a range of services to persons certified eligible according to federal criteria established by the ADA. Currently, all modes of paratransit services contain elements that exceed the requirements of the ADA, and there are over 15,500 registered paratransit consumers. Paratransit services include:

- On-call Taxi Services: Curb-to-curb services provided by ten taxicab companies and two dispatch services. Service is available 24 hours a day, seven days a week. In addition, ramp taxi services are available to wheelchair users who are unable to independently transfer into a standard taxicab.
- ADA Access and Lift Van Services: Door-to-door van services requiring advance reservations. Service is available 24 hours a day, seven days a week for any trip purpose, and with no trip limits for fully eligible riders.
- Group Van Services: Group van services operated in coordination with social service agencies for ADA eligible clients going to a common destination such as a senior center, nutrition site, or Adult Day Health Center, on a routine, pre-scheduled basis Monday through Friday.

Paratransit Debit Card Program

Muni is implementing a debit card project to replace taxi scrip as a fare collection mechanism in the Paratransit Taxi program. In October 2004, after a competitive selection process, the City approved a contract with GPS Data Solutions to design and implement the paratransit debit card system. The debit card system will improve capabilities for trip monitoring and verification, provide trip approval in close-to-real time, and will also streamline and reduce the administrative processes associated with taxi scrip transactions and trip invoicing. Debit cards are also easier to handle for senior and disabled consumers who will no longer have to handle bulky books of taxi scrip or complete trip reports after each taxi trip. When the system is fully implemented, approximately 10,000 paratransit taxi customers will conduct fare transactions. They will use a debit card inscribed with a photo ID that will be swiped through mobile data terminals in taxi vehicles.

There is an anticipated 20-month implementation period for full deployment. It is anticipated that the debit card equipment will be leased through the paratransit broker to taxicab companies at a reduced rate.

Regional Coordination

Muni participates in many regional coordination efforts associated with paratransit and fixed route accessibility. The coordination efforts are organized through the Accessibility Subcommittee of MTC's Partnership Transit Coordinating Committee. The Accessibility Committee, comprised of accessibility staff from the 21 Bay Area transit agencies, has been meeting for over 15 years.

Regional coordination efforts include the Regional Transit Connection discount ID cards, interagency paratransit guidelines, and the ADA Eligibility Program Memorandum of Understanding. The Regional Transit Connection discount ID cards allow qualified seniors and persons with disabilities to ride transit in the Bay Area at a discounted fare. The interagency paratransit guidelines and the ADA Eligibility Program Memorandum of Understanding are both coordination efforts that help make the Bay Area paratransit programs more efficient. They enable paratransit consumers, who have applied to one transit system, to use all paratransit systems in the region.

Proposition E Service Standards

One of the major changes initiated by Proposition E is that the City Charter now includes service standards that Muni must meet by specific deadlines. Proposition E included system reliability goals, shown below, that Muni was tasked to achieve. Figure 20 shows detailed descriptions of the many of the standards and the updated FY05 goal.

Figure 20: Prop E Service Standards and FY05 Goals

Standard	Purpose	July 1, 2005 Goal
On-time Performance	To measure schedule adherence – the percent of vehicles that run on time according to published schedules (no more than 4 minutes late or 1 minute early) measured at terminals and established intermediate points	85%
Scheduled Service Hours Delivered	To measure service hours through available operators and available equipment, actually deployed in revenue service, along with the percentage of equipment available for service	98.5%
Missed Scheduled Service Hours	To measure missed service due to either insufficient vehicles or driver unavailability as a percentage of scheduled service hours	1.5%
Pass-ups	To measure crowding in vehicles – the percent of vehicles that pass published time points during measurement periods unable to pick up passengers due to crowding without being followed within 3 minutes or less by another vehicle on the same route with space for all waiting passengers	<5%
Peak Period Load Factors	To measure load factors at peak periods. Periods of time include morning rush (6 a.m. to 9 a.m.) midday (9 a.m.- 4 p.m.) evening rush (4 p.m. to 7 p.m.) and night (7 p.m. to 1 a.m.).	<85%
Actual headways measured against scheduled	To measure actual headways against scheduled headways on all radial, express, crosstown, secondary, and feeder lines for peak, base, evening, and late night services.	Achieve 85% of the time
Percent vehicle availability	To measure the percentage of equipment available for service (mean distance between failure) by mode.	98.5%

In addition to these goals, the MTA's Board of Directors is required to adopt interim milestones and standards every year. The Board of Directors approved its first set of interim milestones and standards in June 2000. These are updated periodically. The service standards and specific milestones adopted for each measure are provided in Figure 21, along with actual performance numbers for the past five years.

Figure 21: Service Standards Goals and Actuals, FY00-FY04

Standard	FY99/00	FY00/01 Goal	FY00/01 Actual	FY01/02 Goal	FY01/02 Actual	FY02/03 Goal	FY02/03 Actual	July 1, 2004 Goal	FY03/04 Actual	FY04/05 Goal
A. SYSTEM RELIABILITY										
1a. Percent of vehicles that run on-time	46%	85%	55.5%	70%	71.8%	75%	70.9%	85%	80%	85%
2a. Percent of scheduled service hours delivered	95.8%	98.5%	94.5%	97.0%	97.8%	97.5%	94.5%	98.5%	97.3%	98.5%
3a. Percent of missed scheduled service hours	4.5%	3.5%	5.5%	3.0%	2.2%	2.5%	5.5%	1.5%	2.7%	N/A
4a. Vehicles too full to board	0.15%	<5%	0.00%	<5%	0.33%	<5%	1.62%	<5%	2.11%	<5%
5a. Peak period load factors - percent of capacity	Various	No > 85%	13 Lines Exceeded Goal	No > 85%	8 Lines Exceeded Goal	No > 85%	2 Lines Exceeded Goal	No > 85%	3 Lines Exceeded Goal	No > 85%
6a. Actual headways measured against scheduled	45%	80%	58.8%	85%	72.1%	85%	74.8%	85%	80.2%	85%
7a. Percent vehicle availability	93.6%	98.5%	99.5%	98.5%	99.2%	98.5%	99.8%	98.5%	99.0%	98.5%
8a. Unscheduled absences										
Maintenance Employees	8.0%	7.6%	8.1%	7.7%	7.8%	7.2%	8.2%	5.8%	8.5%	8.1%
Transit Operators	14.1%	12.7%	13.7%	13.0%	12.8%	11.5%	11.1%	10.0%	4.9%	5.0%
Administration Employees	5.3%	5.0%	5.6%	5.3%	6.0%	5.7%	5.0%	4.8%	10.3%	8.3%
9a. Increase miles between road failures										
MC Artic - Flynn	846	1,500	873	1,500	1,929	1750	2,299	2000	2519	2500
MC-Woods	1,682	3,000	1,983	3,000	1,780	2500	3,176	2750	2583	2750
MC - Kirkland	2,467	3,000	3,138	3,000	2,381	3000	2,619	3000	3098	3100
TC Artic - Potrero	477	600	600	750	609	650	641	675	724	700
TC-40' Potrero	678	650	737	800	795	1000	782	1000	806	1200
TC-40' Presidio	903	850	1,002	800	1,233	1000	1,279	1000	1236	1250
LRV-Boeing	1,820	1,300	1,447	1,300	NA	NA		N/A	Retired	N/A
LRV-Breda	1,644	1,800	2,246	1,800	3,036	3000	3,329	3500	3162	3500
PCC	1,378	1,250	955	1,250	1,263	1250	1,309	1250	1086	1250
Cable Car	3,150	2,530	4,009	3,000	5,521	5000	5,656	5500	5814	5500
B. SYSTEM PERFORMANCE										
1b. Increase passengers carried by 2%	225,671,947	230,185,294	234,812,825	239,011,002	219,461,742	achieve 224m Total	215,594,583	achieve 224m Total	215,743,701	219,878,858
Motor Coach (annual boardings)	86,384,514	88,322,404	86,032,546	87,953,187	82,258,201		80,880,579		87,471,668	88,793,742
Trolley Coach (annual boardings)	78,492,995	80,030,216	85,868,518	82,498,899	73,988,384		74,398,949		75,219,805	78,344,042
LRV (annual boardings)	41,615,045	42,442,341	48,658,818	60,607,762	44,976,474		42,898,269		45,387,031	45,864,638
Cable Car (annual boardings)	8,206,298	8,390,424	8,313,940	8,479,204	7,257,683		7,410,790		7,866,197	7,987,239
2b. Increase fare revenue overall by $1.8m in FY2001	$102,103,468	$103,703,468	$104,175,594	$105,775,594	$98,181,653	achieve $100M Total	$97,387,714	achieve $117M Total	$115,537,522	$117,278,585
Motor Coach (annual cash fares)	$15,097,705		$14,504,449		$14,078,806		$14,040,087		$15,578,130	$15,811,801
Trolley Coach (annual cash fares)	$13,891,867		$13,576,560		$12,104,878		$12,249,779		$14,060,801	$14,271,818
LRV (annual cash fares)	$9,542,470		$9,554,872		$9,300,384		$7,910,161		$9,497,889	$9,630,308
Cable Car	$12,835,487		$13,394,768		$11,045,770		$11,008,050		$15,440,312	$15,678,008
Fast Pass sales	$45,446,026		$47,537,279		$45,859,002		$44,817,894		$53,171,122	$53,969,692
Other fare media	$5,554,630		$5,731,068		$5,957,878		$6,255,035		$6,480,416	$6,585,682
Paratransit revenues	$764,616		$865,741		$1,010,027		$1,071,068		$1,271,303	$1,280,278
Charter Service	$10,570		$21,096		$23,797		$14,809		$23,460	$23,802
3b. Increase hours by 1.2%	2,998,378		3,068,321		3,307,843	achieve 3.8M hours	3,434,404	achieve 3.5M hours	3,418,843	No longer a Standard
Motor Coach	1,277,082	1,283,877	1,406,602	1,422,880	1,544,416		1,681,844		1,601,044	
Trolley Coach	1,014,626	1,026,912	1,015,643	1,027,831	1,056,187		1,070,371		1,091,747	
LRV	474,018	479,700	518,097	524,314	571,349		577,018		587,898	
Cable Car	129,872	131,239	128,898	130,446	135,581		135,373		138,453	
Increase miles by 1.2%	24,298,284	24,589,863	24,735,581	25,032,408	26,613,598	achieve 25M miles	28,787,205	achieve 24M miles	28,842,803	No longer a Standard
Motor Coach	12,395,536	12,544,282	12,417,897	12,627,722	13,427,575		15,463,236		15,008,779	
Trolley Coach	7,064,874	7,149,652	7,024,834	7,109,132	7,281,248		7,367,756		7,537,161	
LRV	4,314,232	4,366,003	4,739,100	4,794,967	5,463,509		5,531,119		5,847,597	
Cable Car	522,847	529,926	494,650	500,586	441,265		405,091		451,368	
4b. Expenses in FY2001 to remain within budget	(FY2000 appd)	(FY2001 appd)		within budget		within Budget		within Budget		Provide Fully Allocated Costs Per Hr of Service
Motor Coach	$124.9 m	$136 m		TBD				TBD		
Trolley Coach	$77.1 m	$86.1 m		TBD				TBD		
LRV	$82.4 m	$92.0 m		TBD				TBD		
Cable Car	$30.2 m	$31.7 m		TBD				TBD		
Not allocated by mode	$60.6 m	$75.1 m		TBD				TBD		
C. STAFFING										
1c. Vacancy rate no more than 5%	7.1%	NO > 5%	4.5%	NO > 5%	3.7%	NO > 5%	4.2%	NO > 5%	3.2%	NO > 5%
3c. Attrition rate no more than 10% for new employees	10%	NO >10%	20.8%	NO >10%	78.8%	NO >10%	59.4%	NO >10%	34%	NO >10%
D. CUSTOMER SERVICE										
1d. Develop annual marketing plan	NA	Plan	Complete	Plan	Complete	Plan	Complete	Complete	Plan	Complete
2d. Publish timetable	NA	Publish timetable	Complete	Publish timetable	Complete	Publish timetable	Complete	Publish timetable	Awaiting Trapeze Implementation	Publish timetable
3d. Passenger service reports										
Resolve 75% within 30 days	NA	75% w/in 30 days	85%	75% w/in 30 days	73%	75% w/in 30 days	78%	75% w/in 30 days	88%	75% w/in 30 days
Reduce number by 10% annually	11,874	10,507	12,931	11,640	13,373	12,036	12,740	11,466	10,371	No longer a Standard
4d. Conduct annual rider survey	NA	Conduct survey	Complete	Conduct survey	Complete	Conduct survey	Complete	Conduct survey	Complete	Conduct survey
5d. Improve public information via survey feedback	NA	Conduct survey	Complete	Conduct survey	Complete	Conduct survey	Complete	Conduct survey	Complete	Conduct survey
6d. Driver training and accident follow-up										
Conduct 100,000 hours of driver training annually	NA	100,000	140,832	100,000	128,769	50,000 hours	62,099	50,000 hours		
5% reduction in accidents	3,006	2,880	3,043	2,891	2,913	2,767	2,868	2,818	2,575	2,826
7d. 5% reduction in crime incidents	2,463	2,340	2,827	2,781	2,655	2,522	2,401	2,281	2,289	2,175
E. EMPLOYEE SATISFACTION										
1e. Report quarterly on number of grievances	NA	Quarterly report	Complete	Quarterly report	Complete	Quarterly report	Complete	Quarterly report	Complete	Quarterly report
2e. Resolve 75% of grievances within 30 days	NA	75% w/in 30 days	75%	75% w/in 30 days	62%	75% w/in 30 days	68%	75% w/in 30 days	75%	75% w/in 30 days
3e. Annual report on longevity of employment	NA	Annual report	Complete	Annual report	Complete	Annual report	Complete	Annual report	Complete	Annual report
4e. Recognize honorees in specified programs	NA	Annual achievement	Complete	Annual achievement	Complete	Annual achievement	Complete	Annual achievement	Complete	Annual achievement
5e. Provide 50,000 hours per year of employee training	NA	40,000 hours	63,798	50,000 hours	60,000	50,000 hours	31,341	40,000 hours	36,883	42,000 hours

Performance

Generally, Muni is doing well in the areas of system performance and customer service, and showing improvement in the system reliability measures. Over 97% of scheduled service hours were delivered and less than 3% of vehicles were too full to board. Muni met the goals for the following measures:

- Vehicle availability (99% actual vs. 98.5% goal)
- Unscheduled absences for transit operators (4.9% actual vs. 10% goal)
- Overall miles between road failures
- Resolution of passenger service reports (88% resolved within 30 days)
- Reduction of accidents and increased driver training hours

However, in FY2004, only 68% of vehicles ran on time, short of the goal of 85%. This goal has proven difficult to meet. After rapid improvement in the first two years, on-time performance has hovered around 70%.

Muni was just short of the goal of increasing hours of service with 3.4 million hours against a goal of 3.5 million hours, and the goal of achieving 24 million miles of service was exceeded with 28.6 million miles for FY04. Despite this achievement, the system did not meet the ridership and revenue goals for FY2004. This is attributable in part to the economic downturn, which affects the resources available to the operating budget, and also changes rider behavior.

Evaluation

Under Prop E, every two years, the MTA is required to contract with a nationally recognized management or transportation consulting firm with offices in San Francisco for an independent review of its performance under Prop E. This includes the extent to which the MTA has met the goals, objectives, and performance standards the MTA is required to adopt under Proposition E, and the extent to which it is expected to meet those goals, objectives, and performance standards in the two fiscal years for which the review is submitted.

The first Municipal Transportation Quality Review since Proposition E was enacted was conducted for the period from July 1, 2000 through June 30, 2002. The auditors found that overall Muni has done an excellent job of fulfilling its Prop E mandate and that nearly all data were accurately recorded and reported. Performance was generally good and improved over time, although some areas require specific attention. The auditors found that Muni's performance for ten of the 27 service standards met or exceeded performance goals and milestones for the fiscal years that were being reviewed. Although the goals and milestones for ten other standards were not fully met, Muni's performance was on the right track in showing improvement. Of the remaining standards, the auditors stated that some of them could not reasonably be achieved.

The auditors made a series of recommendations pertaining to the service standards. Many of the recommendations were aimed at cleaning up the standards and methodology, eliminating duplicative measures, and refocusing measures that do not result in productive information. Some of the key recommendations include

- Evaluate routes to improve headway adherence.
- Target improvements directed at specific, under-performing lines.
- Develop a plan for maximizing service provision during "low availability periods."
- Establish realistic goals for ridership based on economic conditions as well as available services.
- Revise the performance measurement system to track fully allocated costs per hour of service by mode.

While Muni is implementing many of the recommendations, others require charter amendments or major resource commitments, which make it infeasible to implement them in the near future.

Muni 2005 Ridership Survey

Prop. E requires that Muni conduct an annual customer and employee satisfaction survey. The last Muni Ridership Survey was conducted in June 2005. Four hundred interviews were conducted of San Francisco residents aged 18 or older who had ridden Muni within the past six months. The interviews were conducted in English, Spanish, and Cantonese. Out of the 400 riders who participated in the survey, 65% stated that overall Muni service was Excellent/Good. This represented a slight increase over the previous year's survey where 64% of riders stated that Muni service was Excellent/Good.

Muni received high marks for safe operation of vehicles and accessibility for persons with disabilities. In 2005, 74% of riders stated that Muni operated vehicles in a safe manner and 71% stated that Muni was accessible to persons with disabilities. This represents improvements from 2004 when 67% of riders stated Muni vehicles were operated in a safe manner and 69% stated that Muni was accessible to persons with disabilities.

Security Plan

The purpose of the Security Plan is to address both short-term and long-term needs to improve security for passengers, employees, and property. This plan covers security improvements for Muni maintenance and operations facilities focusing on lighting, security cameras, monitoring consoles, access control, alarms, and fencing. The total cost for facility security improvements is approximately $7 million. Improvements include platform level security cameras at all Metro stations.

Video Surveillance

On-board security cameras for new motor coaches, trolley coaches, and LRVs are included in the vehicle procurements currently underway. Currently there are over 700 motor and trolley coaches, and LRVs in revenue service with digital video surveillance systems installed. Muni received a $1.8 million state grant to retrofit 59 New Flyer articulated trolley coaches and to buy needed support equipment**.** Installation is now complete. Some of the remaining funds are being used to install an additional camera over the operator's head, viewing out the front window and door, to help better document operator assaults and accidents. Security cameras were installed on 10 older articulated trolley coaches as part of a previous pilot program. The pilot program, which was conducted on the 14-Mission, resulted in a dramatic reduction of incidents on board vehicles equipped with cameras, and also assisted with the prosecution of individuals involved with on-board incidents.

Third Street/Metro East Facility

The Third Street Light Rail Project and the Metro East Facility includes plans for security cameras for the safety and security of passengers, employees, and equipment. Security cameras will be installed at all passenger platform stations. This network of cameras will be monitored at the Muni Security Office at Presidio with the capability for monitoring at Central Control and Metro East Facility as well.

Muni Transit Assistant Program (MTAP)

The Muni Transit Assistant Program **(MTAP)** first emerged in the Spring of 1996 as Together, United, Recommitted, Forever **(TURF),** a program conceived by Mayor Willie L. Brown Jr. The purpose of the program is to address crime on Muni's most problematic transit lines and address the need for crucial social services, as well as promotion of educational and employment opportunities within the disadvantaged areas of San Francisco. In addition, efforts are geared toward MTAP employees establishing a positive rapport and relationship with the general public in problem areas of the City, and to assist in deterring youth violence and diffusing acts of violence and vandalism, and assist the Muni operators with the enforcement of the American Disabilities Act. We are currently working with both middle and high schools to assist staff and students with safety issues while riding Muni bus lines.

MTAP employees also assist with the loading of passengers and enforcing the "no back door boarding" policy. Designated bus stops are identified and employees monitor trouble areas, reporting any suspicious activity or behavior to appropriate authorities. These efforts insure all Muni passengers arrive safely at

their destination and also provide safe passage for students and the general public who rely on public transportation. MTAP staff continues to meet with City departments as well as local community leaders throughout the City & County of San Francisco.

The current goals and objectives of the program include reducing youth violence and other disruptive behavior on San Francisco's Transit System; conducting interviews and meetings with youth organizations and leaders of local youth groups to garner support for Muni's anti-violence campaign; and employing residents of affected communities as Community Service Workers and training them for conflict resolution and community policing strategies.

In addition, the MTAP program lasts 18 or 24 months for employees and includes extensive case management along with review/recommendations, planning for long-term career options, and the requirement employees obtain their GED if they have not previously successfully completed high school. The program focuses on the development of strong working relationships with educational professionals, career planning, building inter-personal skills, job training, and mentoring.

MTAP goals and objectives are reviewed on a regular basis in order to assess the needs of the community as well as the needs of our employees. The primary goal of the MTAP program is to encourage and empower employees with skills for a lifetime of employability.

Since its inception the Transit Assistants Program has successfully completed training for a total of sixty-two participants. Muni Transit Assistants are currently paid at a pay rate of $10.36 per hour and are given forty hours of conflict resolution and law enforcement training provided by the San Francisco Police Academy and forty hours of orientations and presentations provided by Muni personnel and community leaders. All Muni Transit Assistants receive a certificate from the San Francisco Police Department upon completion of the conflict resolution and law enforcement training. Muni Transit Assistants also receive certificates from the Municipal Transportation Agency upon completion of MTAP training.

Muni Response Team (SFPD)

The San Francisco Police Department (SFPD) provides police services to assist and support the Muni Security Division. The SFPD deploys officers in a special Muni Response Team (MRT). The MRT is composed of one supervising sergeant and ten patrol officers. The MRT is under the command of the Commanding Officer of the Crime Prevention Company and provides regular police presence, as determined by the Director of Muni Security and the Commanding Officer of the SFPD Crime Prevention Company, for the purpose of reducing criminal opportunity and promoting safety and security on Muni public transit vehicles and related facilities.

Participation in Regional Agencies

The Director of Muni Security Programs coordinates Muni security needs with the following agencies:

- Metropolitan Transportation Commission
- American Public Transit Association (APTA)
    - Chair, APTA-Committee on Public Safety
    - Member, APTA Security Affairs Steering Committee
- Mayor’s Office of Emergency Services (Drills performed with all City agencies)
- California Anti-Terrorism Information Center (CATIC), Department of Justice
- Mayor’s Public Safety and Emergency Preparedness Sub-Committee

Title VI Report

In order to be eligible for Federal funding, each transit operator receiving Federal assistance must document that the transit service provided to minority residents of the service area is generally equivalent to the transit service provided to non-minority residents, in terms of convenience, speed, and geographic

coverage. The Title VI Compliance Program is monitored by FTA, to ensure that the provision of transit service complies with Section 601 of Title VI of the Civil Rights Act of 1964.

In September 2004, as part of the 2004 Triennial Review, Muni was audited for Title VI compliance and was found to be in compliance. An update to the December 2001 Title VI Compliance Program was submitted in December 2004.

FTA Triennial

In September 2004, the FTA conducted an on-site visit to Muni as part of its 2004 Triennial Review. In its final report issued in October 2004, the FTA found no deficiencies in 19 of the 20 areas reviewed. The report found deficiencies in the Satisfactory Continuing Control Area, in that Muni had an excessive fixed-route bus spare ratio, and the rail fleet plan was incomplete. In response, Muni agreed to track daily fleet information for a 3-month period. The information was analyzed to determine a spare ratio average. The revised Fleet Management Plan was submitted to the FTA Region IX Office in May 2005 and is included in Chapter 7 of this SRTP.

An advisory comment was made in the area of Safety and Security. The next FTA Triennial Review is scheduled for FY 2007.

MTC Programs

Productivity Improvement Program

The Metropolitan Transportation Commission (MTC) produces an annual Productivity Improvement Program (PIP) plan, which contains transit productivity projects developed in cooperation with the region's transit operators. These projects usually result from MTC's Triennial Performance Review. Further details are available in Muni's quarterly progress reports to MTC.

Community-based Transportation Planning Program

MTC's Community-Based Transportation Planning (CBTP) program evolved out of two reports completed for the 2001 Regional Transportation Plan (RTP) – the *Lifeline Transportation Network Report* and the *Environmental Justice Report*. The *Lifeline* report identified transit needs in economically disadvantaged communities throughout the San Francisco Bay Area, and established lifeline service objectives, including frequency of service and hours of operation. Likewise, the *Environmental Justice Report* identified the need for MTC to support local planning efforts in low income communities throughout the region.

MTC launched the pilot CBTP program in January 2003 with five communities: Ashland/Cherryland and South Hayward; Richmond, North Richmond and San Pablo; the city of Napa; East Palo Alto; and Dixon, in Solano County.

MTC is now proceeding with the second round of community-based transportation plans, which includes the Civic Center/ Little Saigon/Tenderloin area in San Francisco. Initial discussions have been held about the scope of work and participating stakeholders. The planning process for the Tenderloin is expected to get underway in the next few months, and will build on existing transit and pedestrian improvements. This project is led by the SFCTA.

Transit Coordination Implementation Plan

Over the last two years, Muni has been participating in MTC's Transit Connectivity Working Group to help develop a Bay Area Transit Connectivity Plan. The working group reviewed and commented on various aspects of the MTC's Transit Connectivity Study. One of Muni's concerns is that study should include the improvement of intra-agency transit connectivity as well as interagency connectivity; however MTC's current focus is on interagency connectivity. MTC produced an "MTC Transit Connectivity

Report," dated January 2005, which documents the current status of interagency transit connectivity in the Bay Area and recommends ways to improve it.

In early 2005, MTC initiated its Regional Measure 2 Transit Connectivity Plan project. The purpose of this project is to prepare a Transit Connectivity Plan consistent with the requirements of SB 916 and subsequent passage of Regional Measure 2. Muni will continue to participate with MTC on the TAC and review and comment on the MTC project to develop a Transit Connectivity Plan. One of Muni's concerns is that a higher priority for further consideration and ultimately for funding should be given for wayfinding signage at interagency hubs and other cost effective tools that will aid transferring and interagency connectivity.

Communications and Marketing

Communications

Providing easily-accessed information for our riders is the prime task of Muni's Community and Public Relations Department. Like other government departments, the Railway is directly affected by the economy and the fiscal state of the City. With such fluctuations, the Communications Department's role is even more significant, because it must let the public know about changes and improvements to the service we provide in our community.

Proposition E mandates that we produce a timetable booklet, which is just one of the materials produced to provide timely and useful information for our customers. An updated timetable booklet will be produced after the service adjustments are implemented and a new schedule is established. Other information includes service and construction updates, detailed maps, rider newsletters, pamphlets, and media advisories.

In addition to representing Muni at community and government meetings, our public relations efforts also include promoting Muni, hosting special events such as the Annual Cable Car Bell Ringing Contest, and the opening of service on the anticipated Third Street Light Rail Project.

Our ComMUNIty

Continuing Muni's focus on community, we launched our "At Work In My ComMUNIty" campaign in early 2005. The purpose of this campaign was to publicly show Muni's dedication and effort toward hiring local workers. The campaign featured many of the valuable employees that have been hired from the local communities along our Third Street Light Rail project. Unlike some of our prior campaigns, this project was not shot in the studio. The participants were photographed on the job in their actual work environments. Campaign elements included bus shelter ads, bus side billboards, and vehicle interior ads.

ComMUNIty Artists

For as long as anyone can remember, San Francisco was a city filled with burgeoning artists. Over the past year Muni has been doing its part to support these individuals through its Rolling Gallery projects. First was our partnership with the Academy of Art University, in which we turned 80 Muni buses into student rolling art galleries. Over 1,500 reproductions of fine art, photography, illustration, and sculpture were displayed throughout the Muni system. The second rolling gallery entitled "View From The 22," featured photography taken in and around our 22-Fillmore bus line. This project was also picked up by the San Francisco Art Commission and featured in its basement gallery at City Hall.

Signage

Currently, Muni is developing and implementing new public signage. The initial stage of the project focuses on the most heavily trafficked pedestrian areas around Muni service, such as the entrances to all of the underground Metro stations. These areas now have kiosks with informational posters and brochures detailing how to ride the system, safety issues, Muni pass vendor locations, and accessibility information. Wherever possible, signage will be in English, Chinese, and Spanish. The station agent booths are undergoing a significant face-lift and will soon be a symbol of Muni's new look. Muni is also

focusing on the bus stop signage which, in many places, has deteriorated. Signs were replaced first along the Van Ness corridor, and we are currently working on replacements along Market Street.

Marketing

Marketing is an important element of any large service organization. It is the process through which an organization informs its customers of its products and services, attracts new customers, and establishes a positive presence.

Proposition E required Muni to establish and implement an ongoing and evolving marketing plan for the organization. Muni produced the plan in 2001 and the MTA Board adopted it in 2002. It will be updated as needed and will require regular evaluations in terms of effectiveness and implementation. The plan has several focal points, delineating ways in which Muni can improve its public image, increase revenues, and improve communication with the riding public and the citizens of San Francisco.

THIS PAGE INTENTIONALLY LEFT BLANK

SERVICE PLANNING AND EXPANSION

- A Vision for Rapid Transit
- Bus Rapid Transit
- Rail Transit Expansion
- Historic Streetcar Expansion
- Transit Preferential Streets

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

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 though 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.

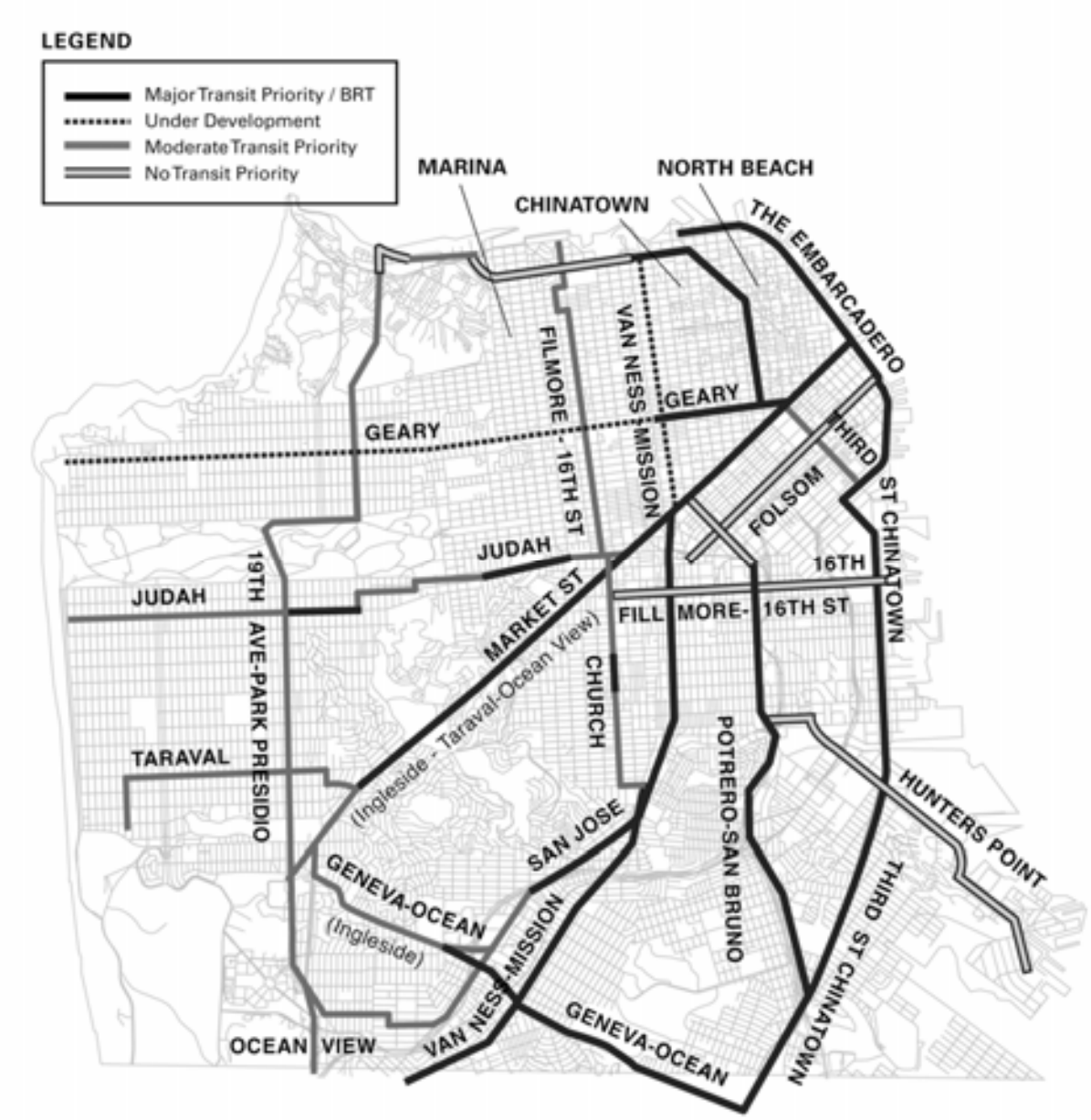
Five-Year Program

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.

OPERATING FINANCIAL PLAN

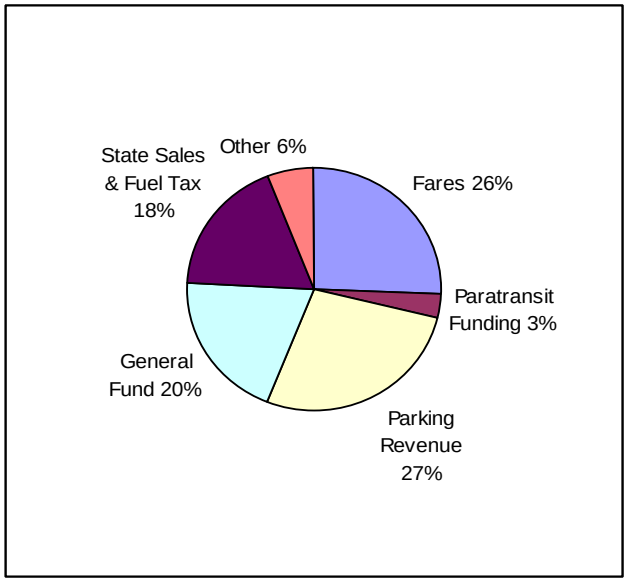
- What's New
- Operating Budget Process
- Fare Structure
- FY 2006 Operating Budget
- Forecast Methodology
- 20-Year Operating Budget

Chapter 6: Operating Financial Plan

Overview of Operating Budget

Muni's operating budget in FY05 was $487 million, and the projected budget for FY06 is $511 million. Of the FY06 budget, approximately 26% is covered by fares (regular and paratransit). Another 27% comes from parking revenues and fines. The General Fund provides 20% of this operating budget.

Figure 26: FY2006 Operating Revenue Sources



In terms of costs, the largest single item is salaries and fringe benefits, which accounts for 71% of the expenditures. Materials and supplies, including fuels, account for 6% of the budget.

Figure 27: FY2006 Operating Expenditures

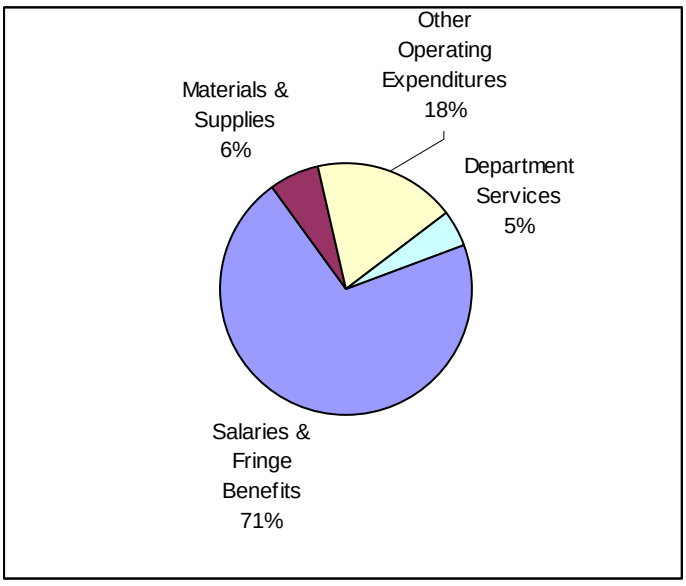


Figure 28 shows the operating budget history since 1985.

Figure 28: Historical Operating Budget, 1985-2004

	FY1985	FY1986	FY1987	FY1988	FY1989	FY1990	FY1991	FY1992	FY1993
OPERATING REVENUES									
Fare Revenues (fixed route and paratransit)	55,262	62,129	68,315	69,551	76,766	78,168	79,844	82,494	90,337
Parking Revenues	NA	NA	NA	NA	NA	NA	NA	62,163	56,605
State sales tax and fuel tax assistance	36,360	39,764	37,471	32,955	35,000	38,523	49,141	49,477	39,504
Dedicated Paratransit Funding	51	51	192	187	182	200	321	300	580
Transit Impact Development Fund	NA	NA	NA	5,289	500	1,211	1,942	2,420	25,371
General Fund Contribution	101,061	99,464	98,523	112,183	108,057	117,935	119,723	131,581	105,245
All other operating revenues	16,180	15,358	15,348	13,699	14,824	14,332	16,386	-46,403	-36,708
TOTAL OPERATING REVENUES	208,914	216,766	219,849	233,864	235,329	250,369	267,357	282,032	280,934
OPERATING EXPENDITURES									
Employee Salaries	115,557	121,769	124,292	131,723	128,425	140,215	149,600	150,491	151,886
Fringe Benefits	33,743	36,956	38,673	43,479	40,681	43,920	46,712	45,294	44,695
Judgements & claims	5,979	5,179	5,752	5,516	5,284	9,340	4,743	6,530	7,736
Paratransit contract	1,909	2,054	2,946	3,224	3,228	3,390	5,647	6,832	7,981
Materials and supplies, including fuel & tires	19,965	17,429	15,600	15,360	15,251	15,592	16,559	17,014	17,148
Workers' compensation	2,596	2,900	4,020	3,389	4,000	4,733	5,191	6,758	6,692
Other Operating Expenditures	29,165	30,477	28,565	31,172	34,223	37,074	38,208	36,463	34,796
TOTAL OPERATING EXPENDITURES	208,914	216,764	219,848	233,863	231,092	254,264	266,660	269,382	270,934

All Numbers in $000's
[1] Compound annual growth rate = (Last Year/First Year) ^ (1/# years) - 1)
[2] Includes STA, AB1107, and TDA

The SRTP Operating Financial Plan is a planning tool that is used to project long-term operating expenses (including expenses from capital projects) and revenues. Its purpose is to highlight the long-term implications of current trends in spending and revenue policy. This update includes a forecast through FY2025.

Because the Operating Financial Plan is based on estimates of long-term trends, it is not intended to project the operating budget for any given year. Short-term economic factors and the impact of the business cycle will have effects on annual operating revenues and expenses that are not captured in this Financial Plan. Instead, the Financial Plan generally uses simplifying assumptions that smooth out those cyclical factors over a 20-year period.

What's New and Different

Budget Shortfalls

Since the last SRTP was published, the financial situation has worsened for the City and both Muni and DPT. Muni had a $13 million shortfall in FY04, which was covered with a fare increase, parking fee and fine increases, and staff reductions.

In FY05, Muni's expenditures ran higher than budget because the service reductions that were approved as part of the FY05 budget were not implemented. The MTA eliminated about 270 positions in FY05 that resulted in approximately 100 layoffs. There is little opportunity to achieve additional savings through layoffs without substantially sacrificing service.

Figure 28: Historical Operating Budget, 1985-2004 CONTINUED

FY1994	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY85 - FY2004 Annual [1]
97,266	93,447	94,603	98,026	97,909	97,649	102,103	100,716	98,181	97,369	115,547	3.4%
64,666	71,408	78,971	79,898	83,598	91,962	103,635	104,174	114,254	113,094	131,339	6.3%
43,527	42,017	50,358	58,309	58,773	69,234	67,916	65,232	87,034	70,307	67,245	5.3%
1,348	2,071	1,691	5,318	5,572	6,624	8,514	14,562	14,790	15,162	19,193	39.6%
5,586	6,518	4,501	12,085	4,536	4,552	5,043	9,410	10,886	10,737	9,881	n/a
106,379	40,089	34,598	29,573	52,110	64,265	82,780	100,411	94,305	100,792	99,264	-0.4%
-40,679	23,234	19,882	5,202	6,811	4,475	9,085	21,752	19,781	34,075	31,174	1.2%
278,093	278,784	284,604	288,411	309,309	338,761	379,076	416,257	439,231	441,536	473,643	4.5%
156,800	162,226	167,230	175,004	185,659	194,178	213,506	230,639	254,876	259,134	274,103	4.8%
39,700	39,905	42,686	39,273	46,087	48,951	54,196	60,005	62,779	72,946	71,226	3.7%
9,500	9,051	9,050	7,385	9,283	9,719	3,657	7,783	10,638	6,867	6,212	3.4%
10,100	9,346	9,763	9,799	10,234	10,969	13,691	15,176	17,889	18,581	18,202	14.1%
20,000	21,294	23,646	20,869	22,518	27,361	35,030	34,682	31,619	26,097	26,846	2.7%
7,500	9,448	12,344	14,458	16,417	20,199	19,155	18,800	19,422	19,608	20,060	12.6%
35,417	25,327	19,803	20,623	19,111	27,384	39,841	49,172	42,008	38,303	56,994	2.2%
279,017	276,597	284,522	287,411	309,309	338,761	379,076	416,257	439,231	441,536	473,643	4.5%

The MTA budget was impacted in FY05 and FY06 by the failure to achieve voter approval of the tax measures on the November 2004 ballot. Moreover, projections for the FY06 operating budget show a sizeable anticipated deficit, with costs expected to increase and revenues to remain fairly flat. Contributing to cost increases are significant growth rates for health care costs and employer retirement contributions. On the revenue side, the Muni once again will be able to close the revenue gap with capital funds allocated in FY06 to cover operating costs. This is not a permanent solution to budget and MTA is seeking various options to reduce expenses and raise revenues for the short and long term.

Merger with DPT

While Muni and DPT have merged into a single MTA, the two departments' budgets are still separate, though the budgeting processes have been coordinated. Further integration is expected as the two departments are more fully merged in the coming years.

Transit Impact Development Fee

In May 1981, the Board of Supervisors adopted an ordinance that created the Transit Impact Development Fee. The TIDF was designed to recover the transit capital and operating costs associated with new office construction in downtown San Francisco by assessing a per-square-foot fee at the time an office development is occupied. The revenues derived from the TIDF could only be used to pay for the cost of expanded transit service to and from the downtown area that was above the level of Muni service in 1981.

The TIDF ordinance set the fee at $5.00 per square foot for office development within a defined downtown area. In annual studies conducted by the San Francisco Public Utilities Commission from 1984 through 1988, the cost of providing additional transit service was estimated to be from $8.36 to $11.67 per square foot, and the Bay Area Consumer Price Index has increased by 55% since 1988. However, the $5.00 per square foot fee remained unchanged since passage of the TIDF.

Following litigation over the imposition of the development fee, fees began to be collected from developers in the mid-1980s. Since then, fees from approximately 200 office developments totaling just over $100 million have been collected. The revenues are placed by the City Treasurer in an interest-bearing account and are appropriated by Muni in accord with the limitations described in the TIDF ordinance.

In 2004, the Board of Supervisors approved updated TIDF legislation that expanded the application of the fee with four main changes. First, it broadens types of development subject to the fee to include most non-residential land uses. This is consistent with Planning Department data showing that all non-residential developments have an impact on the transit system, both by generating additional riders on the transit system and by adding congestion to already busy streets. These impacts tend to slow transit services and require more resources to maintain existing service levels.

Second, the new TIDF broadens the geographic range of the fee area to cover new development throughout the City. Muni operates at capacity on many lines. Studies show that development outside of the downtown area may equally generate demand for new or expanded service.

Third, the new TIDF expands the use of revenues to fund capacity increases without limitation to a peak period. Muni is now able to expend fee revenue to increase the number of seats available during any time period to meet additional demand created by developments subject to the fee.

Finally, the new TIDF increased the fee schedule. The fee is now $10.00 per square foot for all land use categories, except production, distribution and repair facilities, and visitor services (hotels/motels), for which the fee is $8.00 a square foot.

Significant limitations remain as to the use of TIDF funds. Under California law, development fees may not be treated as general revenues, but rather must be used specifically to address the burdens imposed by the new development upon which they are levied. However, the new TIDF provides Muni additional revenue needed to expand transit services to meet the demand generated by new development.

Operating Budget Process

Proposition E created a Municipal Transportation Fund for the operation of the MTA, Muni, and the Department of Parking and Traffic (DPT). This fund establishes a stable minimum funding base for the MTA, setting a formula to determine the City's General Fund contributions to Muni operations. The formula uses a base year level, which is adjusted annually based on overall General Fund levels. Proposition E also initiated a separate budget process for the MTA in which the roles of the Mayor and the Board of Supervisors are different than their roles in the City's regular budget process for other departments. In this process, the Mayor may not make changes to MTA's base budget before submitting it to the Board of Supervisors, as long as Muni's budget request seeks only the General Fund support determined by the Proposition E formula. Any requests from Muni over the base budget are subject to the normal budgetary process. The Board of Supervisors must then vote on the MTA's budget as a whole, including any fare or service changes proposed in the budget. The Supervisors may approve this budget, allow it to go into effect without a vote, or reject it in its entirety with a two-thirds vote. The Board of Supervisors may not modify the Agency's budget.

Under Proposition E, the MTA Board must approve and transmit a balanced budget to the Mayor and the Board of Supervisors by March 1. As a result, the MTA budget planning process begins in the fall. Divisions within the MTA are asked to submit any requests they have to reallocate or adjust funding. Depending on the fiscal situation at the time, they may or may not make requests for new funding. These requests are reviewed by senior management.

In January or February a proposed budget is submitted to the MTA Board. Generally it is not yet balanced, awaiting policy direction from the Board. The Board meetings in January and February are

customarily taken up with consideration of the budget. By the end of February, the Board has approved a balanced budget.

Fare Structure

Passenger fares are one of the largest operating revenue sources for Muni, accounting for approximately 26% of total operating revenues. Muni's first fare increase since 1992 went into effect on September 1, 2003. Fares increased again effective September 1, 2005. Under Proposition E, both the MTA Board of Directors and the Board of Supervisors must approve fare changes. The criteria to justify a fare increase are discussed later in this section.

Regular Fares

The basic adult fare is $1.50 for regular service, which includes all bus and streetcar services. Transfers are issued for each cash fare paid on regular Muni services and are valid for 90 minutes in any direction. Frequent riders can purchase a monthly pass, which is valid for unlimited trips on all regular service and cable cars during the month indicated on the pass. Seniors 65 or over and disabled persons with valid ID qualify for the discount fare. The Lifeline Monthly Pass is a new initiative that is administered by the Human Services Agency (HSA) and is available to San Francisco's working poor. HSA will use annual income eligibility requirements similar to that of other programs that it administers.

Other fare instruments currently available include tokens, weekly passes, 1, 3 and 7-day Passports, special fares for Candlestick Park sporting events and special event service, and regional passes, tickets, and transfers. Effective September 1, 2005, the Cable Car All Day Pass is only accepted on cable cars. A 1, 3, or 7-day Passport, or a monthly pass, is required for unlimited travel on both cable cars and regular service. Muni also participates in the CityPass program, which combines admission to several San Francisco attractions with a 7-day Muni passport.

Figure 29: Muni Passenger Fares as of September 1, 2005

Major Fare Category	Current
Adult Cash Fare	$1.50
Discount Cash Fare (Senior and Disabled)	$0.50
Youth Cash Fare	$0.50
Adult Monthly Pass (Fast Pass®)	$45.00
Discount Monthly Pass (Senior and Disabled)	$10.00
Youth Monthly Pass	$10.00
Monthly Pass for General Assistance Recipients/Lifeline Pass	$35.00
Lifeline Monthly Pass	$35.00
Weekly Pass	$15.00
Cable Car Cash	$5.00
Transfer	Free
Cable Car All-Day Pass	$10.00
One-Day Passport	$11.00
Three-Day Passport	$18.00
Seven-Day Passport	$24.00
Tokens (Pack of 10)	$15.00
Weekly Pass cable car surcharge	$1.00
Special cable car fare for seniors and disabled from 9:00PM to 7:00AM	$1.00
School Coupon Booklet	$7.50

Special Event Roundtrip (adult fare)	$7.00 (w/Pass, $3,00)
Special Event Roundtrip (discount fare)	$5.00 (w/Pass, $3.00)

In the spring of 2001, Muni launched a "Class Pass" pilot program at the University of San Francisco (USF). Under the program, all USF undergraduate students pay a Muni fee of $18 per month for the school year, included as part of their bi-annual registration fees. Students receive a sticker that can be placed on their student ID cards and used as proof of payment on any Muni lines. Each year, USF students and the Board reconsider the continuation of the program for the next year. The pilot program has proved to be extremely successful, and Muni has engaged in discussions of the possibility of launching the program at other San Francisco colleges and universities. Muni hopes to see the expansion of the Class Pass program in the near future, helping to strengthen the ties between Muni and the larger community.

To integrate Muni service into the regional transit system, a number of inter-operator fare and transfer agreements have been established. The primary inter-operator fare instrument in use at Muni is the Fast Pass, which may also be used on BART within San Francisco. Figure 30 outlines the major features of each inter-operator agreement in which Muni participates.

Figure 30: Inter-operator Transfer Agreements

Transfer Type	Uses
Muni Fast Pass	In addition to providing unlimited rides on all regular Muni services, the Adult Fast Pass is valid for trips taken within San Francisco on BART at no additional charge to passengers. Youth, senior, lifeline, and disabled passes are not valid on BART.
BART/Muni Discount Ticket	Available inside the fare gates at all San Francisco BART stations, BART riders get a two- part transfer good for 25¢ off a trip from and back to BART on Muni. The yellow ticket dispensed only at the Daly City BART station is dispensed for free, and is valid only for trips from and back to the Daly City BART Station.
BART Plus	Allows unlimited rides on all regular Muni services, including cable cars, for the half-month period for which the ticket is valid, and functions as a stored value ticket on BART. Also allows unlimited local rides on SamTrans, CCCTA, and SCVTA.
Muni Sticker	The Muni Sticker is available at an additional charge to users of the AC Transit Transbay Pass, SamTrans Monthly Pass, Golden Gate Transit Commute Book Tickets, Vallejo Baylink Monthly Pass, and Caltrain Monthly Ticket. The Muni Sticker allows holders unlimited use of all regular Muni services, except cable cars. Effective September 1, 2005, all the agencies will pay Muni $35.00 for each sticker.
Golden Gate Ferry Transfer, Harbor Bay Ferry Ticket, and Oakland/ Alameda Ferry Ticket	Provides ferry riders with a free trip on Muni away from and back to the ferry.
AC Transit	AC Transit purchases a demagnetized Fast Pass® instead of a sticker for unlimited use of all regular Muni services, except cable cars. Effective September 1, 2005, this pass will cost $35.00.

Proof of Payment

Proof-of-Payment (POP) is a fare inspection and verification system in wide use throughout the United States on light rail systems, such as Muni Metro. Muni first began POP on October 23, 1993, at the M-Ocean View line platforms on 19th Avenue at San Francisco State University (SFSU) and the Stonestown Shopping Center. POP was expanded in January 1998 to the temporary E-Embarcadero shuttle line that operated between the Embarcadero Station and the Caltrain Depot. Muni extended POP on August 22,

1998 to include all Muni Metro subway stations and the entire N-Judah line, which replaced the E-Embarcadero shuttle. On June 10, 2000, Muni expanded POP to all Metro lines.

Passengers with a pass, transfer or fare receipt can now board through any door of any car. Except at subway stations, those passengers paying cash fares are required to enter at the front door of the lead car where the operator issues a fare receipt to each paying passenger. Muni Fare Inspectors, working in tandem, perform random fare inspections on board trains in the Metro system. A fine of up to $250 can be issued to any passenger not possessing valid proof-of-payment.

The primary benefits of POP are reduced dwell times at stops and reduction in operating costs by eliminating the need for an operator in the second car of multi-car trains. Another benefit is improved system security through the presence of fare inspectors. The initial experience with POP has been positive, with fare evasion rates ranging from 1.5% to 2.5% per month. This relatively low fare evasion rate is typical of agencies that base evasion rates on inspection procedures. Other agencies that rely on independent audits and surveys have fare evasion rates higher than 5%. Additionally, higher staffing ratios and periodic targeted fare inspections tend to result in lower evasion rates; the former simply due to the proportional increase in the number of passenger/Fare Inspector contacts (inspections) as the number of Inspectors rises, and the latter attributable to the surprise element in concentrating fare inspection officers in known areas - and periods - of passenger evasion activities.

Currently, Muni employs 16 inspectors and 2 supervisors to cover the entire Metro system. In FY2004, POP generated about $56,000 in revenue.

Many POP systems have barrier-free subway stations, unlike Muni Metro subway stations. As part of an investigation of options for conducting fare collection in the subway, Muni completed a preliminary analysis of the Wayside Fare Collection Equipment in the Muni Metro subway stations. Muni investigated issues related to the replacement of Muni's 25-year-old faregates and explored the potential cost implications of a barrier free system. Muni is recommending installation of new faregates and new Ticket Vending Machines (TVMs) in the subway. These gates will be compatible with TransLink®, described below.

TransLink®

TransLink® is a regional fare coordination program, designed to develop a single fare instrument that can be used on all of the region's public transportation services. One goal of the program is to make transferring between operators easier for riders through the use of a single fare instrument for multiple operators. Procurement is proceeding for a contactless "smart card" system, which the user will simply place in proximity to a card reader either onboard a vehicle or at a rail station.

A demonstration project using the smart card technology was completed in the fall of 2002, though passengers can still use the system. Muni and five other regional transit operators participated in the demonstration, which was sponsored by the Metropolitan Transportation Commission. Passengers participating in the demonstration project were able to use TransLink® cards on Muni's N-Judah line. Fare equipment to read the smart cards was placed at all Muni Metro Stations, and on-board all Breda LRVs. In addition to the benefits gained by riders, benefits to Muni of the TransLink® program could include

- Provide a widely available substitute for cash and tokens
- Reduce the number of fare instruments used on Muni
- Reduce cash handling
- Provide ability to verify monthly Fast Passes
- Reduce fraudulent use of paper transfers
- Reduce operator involvement in fare collection
- Facilitate or be compatible with a proof-of-payment system

- Improve collection of ridership data
- Speed boarding times
- Minimize fare collection equipment maintenance

MTC completed a thorough analysis of the TransLink® program based on the demonstration project. System-wide rollout is planned to occur beginning in 2005. TransLink® could have significant operating cost impacts for Muni in the future, though some savings are expected as well. Muni will need to pay for a portion of the administrative costs associated with the program based on the number of TransLink® transactions that occur on a Muni vehicle or in a Muni station. The financial impact of this is not known at this time but will be examined as part of the program evaluation.

Paratransit Fare Information

The paratransit fare structure was amended as part of Muni's FY05 budget process. See chart below for a comparison.

There were no paratransit fare change recommendations in the FY06 budget. The Executive Committee of the Paratransit Coordinating Council has recommended as part of its White Paper analysis that the Lift Van fare increases to $1.65 so that it will be equitable with the other van (ADA Access) service fare. Because of historical differences in the service development, the lift van fare has been much less than the ADA Access van fare. The increase of the lift van fare to $1.00 per trip was a step in the direction of fare equity with ADA Access. It is anticipated that Muni's FY06-07 budget proposal will include a proposal to increase the lift van fares to $1.65 per trip and thereby achieve full fare equity with ADA Access.

Figure 31: Paratransit Fares

Mode	Old Fare	Fare as of September 1, 2004
Lift Van	$10.00 for monthly pass or $0.40 per trip	$1.00 per trip [If customer purchases10 one-way ride coupons per month they will also receive upon request a $10 Muni fixed-route disabled sticker]
Group Van	$10.00 per month per average daily attendee	$1.00 per trip [$0.75 per trip for trips provided using agency supplied vehicles]
Taxi	$4.00 per $30 book of scrip	$4.00 per $30 book of scrip
ADA Access/ Intercounty Service	$1.65	$1.65

FY2006 Operating Budget

Revenues

Revenues include the following categories:

- Fares, including farebox receipts, pass sales, paratransit fares and BART feeder revenue
- Parking revenue, including parking taxes, fines, meter revenue, and revenue from City-owned garages
- Intergovernmental revenue, which includes Federal Transit Operating Assistance (5307); State Sales Tax (AB1107); TDA Sales Tax – Operating; and State Transit Assistance – Operating. In the FY06 budget are Regional Measure 2 Funds and Federal Job Access-Reverse Commute funding
- Appropriated fund balance includes Breda lease-leaseback funds in FY05, but not in FY06
- Miscellaneous revenue includes property rentals, transit advertising, miscellaneous transit operating revenues

Expenditures

The largest percentage of expenditures is salaries, which includes salaries and fringe benefits. Other operating expenditures include

- Materials and supplies
- Services of other departments
- Other non personal services
- Workers' Compensation
- Paratransit expenses

New expenditures in FY06 include service adjustments and efficiencies (savings) and Third Street operations.

Figure 32: FY06 Operating Budget (Adopted by MTA Feb. 2005)

Revenue	**FY2005 Approved**	**FY2006 Projected**
Unrestricted Revenue		
Fares	$121,927,059	$131,322,465
Parking	132,349,556	138,085,000
Local and Regional Taxes	81,554,815	93,200,937
Miscellaneous	4,492,154	5,748,455
General Fund Contribution	98,859,258	102,401,000
Appropriated Fund Balance	13,620,000	0
Interdepartmental Recoveries	5,173,734	5,214,475
TOTAL Unrestricted Revenue	***457,976,576***	***475,972,332***
Restricted Revenue & Fund Transfers		
Paratransit	$15,543,328	$15,599,714
Special Revenue Funds	13,097,686	10,368,366
Fund Transfers	0	8,854,641
TOTAL Restricted & Fund Transfers	***28,641,014***	***34,822,721***
TOTAL REVENUE	***$486,617,590***	***$510,795,053***
Expenditures	**FY2005 Approved**	**FY2006 Projected**
Salaries	$249,089,575	$256,841,679
Mandatory Fringe Benefits	93,364,555	105,130,937
Service Adjustments & Efficiencies	0	0
3rd Street	0	0
Non Personal Services	84,860,460	92,804,795
Materials & Supplies	29,112,922	33,317,237
Capital Outlay	1,959,525	1,613,361
Capital Projects	6,205,683	0
Facilities Maintenance	1,175,000	175,000
Allocated Charges	-6,175,798	-4,696,231
Services Of Other Departments	24,437,622	24,925,463
Operating Transfers Out	2,588,046	0
Cash Reserves	0	682,812
TOTAL EXPENDITURES	***$486,617,590***	***$510,795,053***
Projected Deficit		$0

Forecast Methodology

The 20-year Operating Financial Plan is based on a number of forecasts of revenues and expenditures. It utilizes Muni's adopted budget for FY06 as a baseline. Each line item is then adjusted in future years, based on assumptions described below and detailed in Figure 33.

Figure 33: Projected Growth Rates

		FY2007	FY2008	FY2009	FY2010	FY2011
Consumer Price Index Forecast for Bay Area (CPIBA) [1]		3.2%	3.2%	3.2%	3.2%	3.2%
Three Year Budget Projection		2.3%				
REVENUES	**Growth Rate based on**					
Fare Revenues (fixed route)	Fare increases every three years, starting in 2010, at least equal to 3.2%/year	0.0%	0.0%	0.0%	12.8%	0.0%
Paratransit Fare Revenue	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Muni Feeder to BART	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Parking Revenues	CPIBA, CPIBA+1 every 3 years	3.2%	3.2%	4.2%	3.2%	3.2%
Parking Tax Increase to 35% in 2009	CPIBA	-	-	-	3.2%	3.2%
New Congestion Mgmt Fee in 2008	CPIBA			3.2%	3.2%	3.2%
Intergovernmental Revenue [2]	From MTC through FY2015 then CPIBA	-	-	-	-	-
Misc. Operating Revenues	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Prop E - General Fund Formula	5.7% in 07 from Joint Report, then CPIBA	5.7%	3.2%	3.2%	3.2%	3.2%
Fund Balance	---	-	-	-	-	-
Breda Lease/Leaseback Fund	---	-	-	-	-	-
Interdepartmental Recoveries	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Dedicated Paratransit Funding	TA funding is fixed; other paratransit revenues increase CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Special Revenue - TIDF, etc	No growth until 2011, then CPIBA	-	-	-	-	3.2%
Capital Project Funds	---	-	-	-	-	-
Transfers In [3]	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
EXPENDITURES	**Growth Rate based on**					
Salaries & Fringe Benefits						
Platform Salaries	4% based on six year historical average	4.0%	4.0%	4.0%	4.0%	4.0%
Other Salaries	2.7% in 07 and 08, then CPIBA	2.7%	2.7%	3.2%	3.2%	3.2%
Fringe Benefits	CPIBA+1%	4.2%	4.2%	4.2%	4.2%	4.2%
Other Operating Expenditures						
Paratransit expenses	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Muni Fast Passes on BART	no growth	-	-	-	-	-
Contribution to Peninsula JPB (Caltrain)	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Workers' compensation	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Other nonpersonal services	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Materials and supplies, including fuel	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Capital/Facilities Expenditures	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Services of other departments	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%
Allocated Charges	CPIBA	3.2%	3.2%	3.2%	3.2%	3.2%

[1] CPI Forecast: the US Congressional Budget Office long-range CPI forecast for the US estimates CPI growth at 2.2% per year from FY07 through FY15. The Bay Area CPI growth rate has historically been one percentage point higher than that of the US.

[2] Incorporates TDA, AB 1107 and STA operating funding (revenue-based and Proposition 42). MTC expects STA Prop.42 funding to increase in FY2009 after the "off the top" contribution to Traffic Congestion Relief Program ends.

[3] Transfers In. Merger with DPT

Figure 33: Projected Growth Rates CONTINUED

FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
0.0%	9.6%	0.0%	0.0%	9.6%	0.0%	0.0%	9.6%	0.0%	0.0%	9.6%	0.0%	0.0%	9.6%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
4.2%	3.2%	3.2%	4.2%	3.2%	3.2%	4.2%	3.2%	3.2%	4.2%	3.2%	3.2%	4.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
-	-	-	-	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%
3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%

Given the long time horizon involved, and the sensitivity of the forecast to changes in assumptions, the out-year projections should be utilized as indicative of possible trends, rather than precise estimates of future year budgets.

The results of a long-range financial forecast depend heavily on the assumptions used in building the forecast. To the extent that these assumptions are changed, the results of the forecast can vary dramatically.

Growth Assumptions

Unless otherwise noted**,** all growth rates are Bay Area CPI (CPIBA) of 3.2 percent, which has historically been one percentage point higher than that of the U.S. rate of 2.2 percent.

Fare Revenues: From FY06 forward, the revenues are derived from a revised version of the fare model developed for the SRTP, with the first fare increase assumed in FY10 and occurring every three years thereafter. The model assumes that all fares, except for cash discount fares, will be increased in an amount equal to the cumulative growth rate during the three-year period (i.e., 1.032 x 1.032 x 1.032). The model also assumes a 2.4 percent drop in ridership for every 10 percent increase in fares. It is notable that following the fare increase in FY04, analysis of fare revenue receipts show the actual decline in ridership was 1.4% and was wholly recovered within one year.

Parking Revenues: The model assumes that parking revenues will increase by CPIBA each year, and by CPIBA plus one percentage point every three years. This is to account for changes in parking policy, including implementation of a parking meter debit card program, which will significantly increase meter collections, and various parking citation, rate and fee increases.

Parking Tax Increase: The model assumes that the parking tax will be increased 10 percent, from 25 to 35 percent in FY08, yielding revenue in FY09. Such revenue is assumed to grow by CPIBA thereafter.

States Sales Tax and Fuel Tax Assistance: MTC provided revenue projections for the SRTP for years FY07 through FY25.

Other Revenue Transfers and Non Operating Revenue: TIDF proceeds are assumed to grow by 3.2% annually, beginning in FY11.

Proposition K: The figures used were provided by SFCTA as part of the FY05 Prop K application process, and are offset by expenditures.

RM-2 Bridge Tolls: This is capped at $2.5 million per year per statute, with no inflator.

General Fund Contribution: The analysis assumes a 5.7 percent increase in the General Fund transfer in FY07, based on projections in the Joint Report, published annually by the Controller, Mayor, and Budget Analyst. Thereafter, the growth rate is assumed to be 3.2 percent, the CPIBA.

Fund Balance: It is assumed that there are no additional uses of fund balances after FY05.

Platform Salaries: FY07 forward assumes 4.0% annual growth.

Other Salaries: For FY07 and FY08, other salaries are assumed to increase by 2.7%. For the remainder of the forecast, the expenditure increases by 3.2% annually.

Fringe Benefits: Fringe benefits for FY06 and FY07 are calculated on the known increases per the recent MOUs to the Employer Retirement Contribution and the Employer pickup of the Employee Retirement Contribution. For FY08 forward, the report assumes fringe benefits will increase by CPI plus 1 percent.

Paratransit Contract: Paratransit expenses have been growing beyond the rate of inflation. For FY06 through FY09, the report assumes that Paratransit costs will increase by inflation plus 2 percent. Then the report assumes they will grow by the rate of inflation.

Fast Pass on BART: Expenditures for the Fast Pass on BART are assumed to be constant, with the assumption that the advent of Translink® and the demand for the extension of Fast Pass use on BART to seniors and disabled will result in a restructuring of the agreement between BART and the MTA.

Net Service Changes: These figures only include expenses for the Third Street LRT Project, both phases, including associated bus changes.

Expenses Supported by Prop K: These expenses offset the Prop K revenues, as provided by SFCTA.

Future Service Levels

Planned future service for the next 20 years is detailed in Figure 34, which shows the revenue hours for Third Street IOS, Central Subway, Mission Bay service, E-line, and F-line service increase. Figure 33 shows the corresponding revenue miles, hours and vehicles by mode.

20-year Operating Budget

The revenue and expenditure forecasts and future service data feed into the 20-year Operating Budget. The budget shows a shortfall in every year from FY07 through FY25, except in FY10.

Proposed Solutions for Long Term Financial Stability

As shown in Figure 37, the 20-year Muni operating plan will require new sources of revenue to keep the budget balanced, ranging from $4.5 million in FY11 to $53.4 in FY24. The Operating Plan indicates that Muni must implement significant financial policy changes in order to keep its budget balanced during the forecast period, while still meeting the resource requirements of the existing service plan and proposed major service additions. Possible policy options for increasing revenues are described below.

Sales Tax

The MTA could place a measure directly on the ballot, which could add a sales tax in the County of San Francisco in support of MTA transportation expenses. Because it would be a special tax for transportation, as opposed to a general tax, it would require two-thirds voter approval. A general tax that was placed on the November 2004 ballot, and which required a simple majority, failed.

Vehicle Environmental Impact Fee

The MTA could propose a local vehicle environmental impact fee (VEIF) based on an assessment of the cost to the City of private vehicle use. Currently, no such fee exists. Implementation of such a fee would require a citywide planning process and authorization from the state legislature. In Spring 2005 a bill was introduced in the State Assembly to authorize San Francisco to implement a VEIF. As of publication, the bill is still pending. It is estimated that this process would take approximately two years for approval and up to six months for implementation through the Department of Motor Vehicles. Any revenue generated through such a fee would not likely be realized until FY08. In addition, it is likely that any fees generated would have to be shared with the City.

Increasing Parking Tax Rate

Currently, the City and County of San Francisco levies a 25% parking tax on all parking facilities. Until this year, an amount equal to approximately 40% of the parking tax revenues was allocated to Muni (another 40% goes to the City's General Fund, and 20% to a Senior Citizens Fund). A recent court decision regarding the distribution of taxes has thrown this allocation into question and it may change in future years.

In FY2005, the parking tax is expected to yield approximately $21 million in operating revenues to Muni, and approximately $54 million in total revenue for the City. Revenue changes for Muni depend on the

scale of a rate increase. For instance, if the City's parking tax was increased to 35%, and parking demand were not reduced significantly as a result, then the total increase in annual revenue would be approximately $21 million at current parking rates. Under the current revenue allocation formula, Muni would receive an additional $8.6 million in annual revenue from the increase. However, under the Charter, an increase in the parking tax would require a reduction in the MTA's General Fund transfer equal to half the amount of the increase. For example, were a parking tax increase to generate $8.4 million in additional revenue, the MTA's General Fund transfer would be reduced by $4.3 million.

Any proposal to increase the parking tax with revenues directed to Muni would require two-thirds voter approval. The next scheduled election is in November 2005. If approved, the parking tax rate increase would become effective ten days after the Board of Supervisors certified the results of the election. A transition period would then be required to implement any necessary administrative changes related to collection of the tax. Taking into consideration these process requirements, it is currently estimated that a parking tax increase approved by the voters in November 2007 would generate revenue for FY09.

Imposition of a "Congestion Fee" on Vehicles Entering Specified Downtown Area

MTA may not impose a charge on private cars entering specified downtown areas. California cities have no authority over vehicle traffic except as expressly authorized by the Legislature. Moreover, charging a fee for use of certain streets would likely make those streets into toll roads as defined in Vehicle Code §611. The state Department of Transportation has exclusive jurisdiction over toll roads (Streets & Highways Code §§30800 et seq.). Thus, if the MTA were interested in pursuing this option, it would require action by the Legislature and/or coordination with, and approval from, the Department of Transportation. The MTA will cooperate with the San Francisco Country Transportation Authority on their study of this concept.

Establishing a Transit Assessment District

The City could establish a "Transit Assessment District" in order to assess property owners for their share of the cost of providing transit service. Such a district would be a type of special benefit assessment district. The use of revenues from the district could be used only to cover the costs of providing transit service to properties in the subject area, and the assessment imposed on each property could not exceed that property's proportional share of the special benefit received. There are six key steps required to form an assessment district. First, the Board of Supervisors may need to pass implementing procedural legislation. Second, the MTA would need to have an analysis prepared to quantify the cost of the special benefit that Muni services give to the affected property (as contrasted to the general benefit to the City and the public), and break down that cost on a per-parcel basis. Third, the Board of Supervisors would need to pass a resolution of intent to form the district. Fourth, property owners who would be subject to the assessment would have to be mailed a notice of the proposed assessment and a ballot to approve or disapprove establishment of the assessment district. Fifth, the Board of Supervisors would have to hold a public hearing on the proposed district. Finally, if the district were approved by property owners responsible for a majority of the assessment, the Board of Supervisors would adopt legislation creating the district.

Citywide Parcel Tax

The MTA Board could place a citywide parcel tax on the ballot for the purpose of supporting Muni improvements, maintenance, and operations. Such a measure would be a special tax and require two-thirds voter approval. Parcel taxes are typically allocated among properties based on a factor such as the size of the parcel, the number of units on the parcel, or the total square feet of improvements on the parcel. A parcel tax may not be imposed based on the value of the property. Such a measure must be submitted to the Department of Elections at least 90 days before an election. If approved by the voters, the tax would go into effect ten days after the Board of Supervisors certified the results of the election. However, it is not clear when the Tax Collector could begin to collect this tax, or at what point revenue generated by the tax could be distributed to the MTA. In addition, the parcel tax would need to provide

for a credit for amounts paid under the City's Transit Impact Development Fee. Unless the measure provided otherwise, in order to pass the cost of such an assessment on to tenants of property subject to the City's Residential Rent Stabilization and Arbitration Ordinance ("Rent Ordinance"), a landlord would need to submit a request for an arbitration hearing under §37.8 of the San Francisco Administrative Code.

Downtown Parcel Tax Approved by Voters Citywide

Alternatively, the MTA Board could consider a parcel tax on downtown property. The MTA Board may as an alternative also consider a parcel tax on buildings that could be presumed to have a significant effect on transit use because of their size and use. As with a citywide parcel tax, the tax would need to provide for a credit for amounts paid under the City's Transit Impact Development Fee.

Similarly, unless the measure provided otherwise, in order to pass the cost of such an assessment on to tenants of property subject to the City's Rent Ordinance, a landlord would need to submit a request for an arbitration hearing under §37.8 of the Administrative Code. As with a regular parcel tax, such a measure would be a special tax and require two-thirds voter approval.

Transit Impact Fee Imposed on Downtown Businesses

The MTA Board could place a fee measure on the ballot to impose a fee on business owners located in the downtown area. Such a fee would need to be justified by a nexus study establishing the benefit provided to business owners by Muni service, and the costs incurred in providing that service (adjusted for any payments that may have been made pursuant to the Transit Impact Development Fee). Imposition of such a fee raises enforcement concerns because delinquent fees could not be collected via liens on real property. The City would have limited leverage against individual business owners. Alternatively, property owners could be required to collect the fee from their tenants, in which case nonpayment could be enforced through lien proceedings. In order to avoid delay, the MTA Board may wish to consider putting forward a ballot measure that authorizes imposition of a fee not to exceed a specified amount, subject to the completion of a nexus study that would support such a fee. Approval of the ballot measure would be subject to a simple majority vote.

State-Level Initiatives

In terms of longer-term revenue measures being pursued, the MTA will actively work to support proposals that enhance transportation funding. In Sacramento, there are several new bills that directly address our funding needs:

- SB 1020 (Migden) would enable counties to place a measure on the local ballot to double Transportation Development Act funding. This measure alone would generate an additional $30M per year in operating funds for the MTA by increasing from 0.25% to 0.5% the state sales tax on the sale of all goods in San Francisco.
- AB 1208 (Yee) is a vehicle registration fee bill that would be directed to maintenance, operation and construction of local streets and roads; this measure will aid in funding activities of the MTA as well as the Department of Public Works.

These new proposals combined with the MTA's support to allow Proposition 42 funds to flow to transportation have the potential to produce a steady and permanent funding stream.

Figure 34: Planned Service Levels FY06-FY25

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
CURRENT SERVICE LEVEL [1]	3,102,491							
Third Street LRT								
Phase 1 IOS - LRV changes [2]	-	30,400	30,400	30,400	30,400	30,400	30,400	30,400
Phase 1 IOS - MC changes [2]	-	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)
Phase 2 - LRV changes (vs. IOS) [3]	-	-	-	-	-	-	-	
Phase 2 - TC changes (vs. IOS) [4]	-	-	-	-	-	-	-	
F-Line Service Increase	-	1,453	1,937	3,874	3,874	3,874	3,874	3,874
E-Line Service	-	16,013	21,350	42,700	42,700	42,700	42,700	42,700
Mission Bay TC Extension	-	-	-	-	-	-	29,490	29,490
Total Change in Revenue Vehicle Hours	-	17,765	23,587	46,874	46,874	46,874	76,364	76,364
TOTAL REVENUE HOURS	**3,102,491**	**3,120,256**	**3,126,078**	**3,149,365**	**3,149,365**	**3,149,365**	**3,178,855**	**3,178,855**

[1] Third Street costs incurred in FY06 are included in base figure.
[2] From Third Street IOS Operating Plan (March 2005), p. 5.5. LRV = Car hours
[3] From Central Subway Draft Operating Plan. Includes long line and short line each with one car at 5 minute headways. LRV = Car hours
[4] TC changes have not been established for Central Subway operating plan. This figure is from previous SRTP.

Figure 34: Planned Service Levels FY06-FY25 CONTINUED

FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
30,400	30,400	30,400	30,400	30,400	30,400	30,400	30,400	30,400	30,400	30,400	30,400
(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)	(30,100)
		22,400	22,400	22,400	22,400	22,400	22,400	22,400	22,400	22,400	22,400
		(31,100)	(31,100)	(31,100)	(31,100)	(31,100)	(31,100)	(31,100)	(31,100)	(31,100)	(31,100)
3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874	3,874
42,700	42,700	42,700	42,700	42,700	42,700	42,700	42,700	42,700	42,700	42,700	42,700
29,490	29,490	29,490	29,490	29,490	29,490	29,490	29,490	29,490	29,490	29,490	29,490
76,364	76,364	67,664	67,664	67,664	67,664	67,664	67,664	67,664	67,664	67,664	67,664
3,178,855	**3,178,855**	**3,170,155**	**3,170,155**	**3,170,155**	**3,170,155**	**3,170,155**	**3,170,155**	**3,170,155**	**3,170,155**	**3,170,155**	**3,170,155**

Figure 35: Projected Operating Data FY06-FY25

	FY2002 Actual	FY2003 Actual	FY2004 actual	FY2005 sched	FY2006	FY2007 [1, 2]	FY2008 [3]	FY2009 [4]	FY2010	FY2011	FY2012 [5]
MOTOR COACH											
Revenue Miles	13,427,575	15,463,236	15,006,779	14,025,145	14,025,145	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469
Revenue Hours	1,544,416	1,661,644	1,601,044	1,601,044	1,601,044	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944
Peak Vehicles	410	389	397	397	397	382	382	382	382	382	382
TROLLEY COACH											
Revenue Miles	7,281,249	7,367,759	7,537,161	7,467,549	7,467,549	7,467,549	7,467,549	7,467,549	7,467,549	7,467,549	7,669,261
Revenue Hours	1,056,197	1,070,371	1,091,747	1,091,747	1,091,747	1,091,747	1,091,747	1,091,747	1,091,747	1,091,747	1,121,237
Peak Vehicles	258	263	264	264	264	264	264	264	264	264	270
LIGHT RAIL (LRV + HISTORIC)											
Revenue Miles	5,463,509	5,531,119	5,647,597	5,647,787	5,647,787	6,107,772	6,163,719	6,387,508	6,387,508	6,387,508	6,387,508
Revenue Hours	571,349	577,016	587,699	587,699	587,699	635,564	641,386	664,673	664,673	664,673	664,673
Peak Vehicles	128	130	130	127	127	138	139	142	142	142	142
Peak - LRV	110	110	110	107	107	115	115	115	115	115	115
Peak - Historic	18	20	20	20	20	23	24	27	27	27	27
CABLE CAR											
Revenue Miles	441,265	405,091	451,366	450,433	450,433	450,433	450,433	450,433	450,433	450,433	450,433
Revenue Hours	135,581	125,373	139,453	139,453	139,453	139,453	139,453	139,453	139,453	139,453	139,453
Peak Vehicles	26	30	30	30	30	30	30	30	30	30	30
TOTAL											
Revenue Miles	26,613,598	28,767,205	28,642,903	27,590,916	27,590,916	27,787,225	27,843,172	28,066,960	28,066,960	28,066,960	28,268,671
Revenue Hours	3,307,543	3,434,404	3,419,943	3,419,943	3,419,943	3,437,708	3,443,530	3,466,817	3,466,817	3,466,817	3,496,307
Peak Vehicles	822	812	821	818	818	814	815	818	818	818	824
Revenue Miles and Hours in 000s											

[1] Third Street (+LRV, -MC)
[2] F-line phase 1, E-line phase 1
[3] F-line phase 2, E-line phase 2
[4] F-line phase 3, E-line phase 3
[5] Mission Bay TC Extension
[6] Third Street CS (+LRV, -TC)

Figure 35: Projected Operating Data FY06-FY25 CONTINUED

FY2013	FY2014	FY2015	FY2016 [6]	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469	13,761,469
1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944	1,570,944
382	382	382	382	382	382	382	382	382	382	382	382	382
7,669,261	7,669,261	7,669,261	7,456,537	7,456,537	7,456,537	7,456,537	7,456,537	7,456,537	7,456,537	7,456,537	7,456,537	7,456,537
1,121,237	1,121,237	1,121,237	1,090,137	1,090,137	1,090,137	1,090,137	1,090,137	1,090,137	1,090,137	1,090,137	1,090,137	1,090,137
270	270	270	259	259	259	259	259	259	259	259	259	259
6,387,508	6,387,508	6,387,508	6,602,772	6,602,772	6,602,772	6,602,772	6,602,772	6,602,772	6,602,772	6,602,772	6,602,772	6,602,772
664,673	664,673	664,673	687,073	687,073	687,073	687,073	687,073	687,073	687,073	687,073	687,073	687,073
142	142	150	161	161	161	161	161	161	161	161	161	161
115	115	123	134	134	134	134	134	134	134	134	134	134
27	27	27	27	27	27	27	27	27	27	27	27	27
450,433	450,433	450,433	450,433	450,433	450,433	450,433	450,433	450,433	450,433	450,433	450,433	450,433
139,453	139,453	139,453	139,453	139,453	139,453	139,453	139,453	139,453	139,453	139,453	139,453	139,453
30	30	30	30	30	30	30	30	30	30	30	30	30
28,268,671	28,268,671	28,268,671	28,271,211	28,271,211	28,271,211	28,271,211	28,271,211	28,271,211	28,271,211	28,271,211	28,271,211	28,271,211
3,496,307	3,496,307	3,496,307	3,487,607	3,487,607	3,487,607	3,487,607	3,487,607	3,487,607	3,487,607	3,487,607	3,487,607	3,487,607
824	824	832	832	832	832	832	832	832	832	832	832	832

Figure 36: Estimated Cost of New Service FY06-FY25

	FY2004 NTD RATE	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
Estimated Cost per Revenue Vehicle Hour [1]										
Light Rail	$179.92	$ 191.61	$ 197.75	$ 204.07	$ 210.60	$ 217.34	$ 224.30	$ 231.48	$ 238.88	$ 246.53
Motor Coach	$111.74	$ 119.01	$ 122.82	$ 126.75	$ 130.80	$ 134.99	$ 139.31	$ 143.77	$ 148.37	$ 153.12
Trolley Coach	$112.38	$ 119.69	$ 123.52	$ 127.47	$ 131.55	$ 135.76	$ 140.11	$ 144.59	$ 149.22	$ 153.99
Historic Streetcar	$179.92	$ 191.61	$ 197.75	$ 204.07	$ 210.60	$ 217.34	$ 224.30	$ 231.48	$ 238.88	$ 246.53
Est. Annual Cost of Service Changes										
Third Street LRT [2]										
Phase 1 (IOS) - LRV changes		$0	$6,011,500	$6,203,800	$6,402,400	$6,607,200	$6,818,700	$7,036,900	$7,262,100	$7,494,400
Phase 1 (IOS) - MC changes		$0	($3,696,800)	($3,815,100)	($3,937,200)	($4,063,200)	($4,193,200)	($4,327,400)	($4,465,900)	($4,608,800)
Phase 2 (CS) - LRV changes (vs. IOS)		$0	$0	$0	$0	$0	$0	$0	$0	$0
Phase 2 (CS) - TC changes (vs. IOS)		$0	$0	$0	$0	$0	$0	$0	$0	$0
F-Line Service Increase		$0	$287,300	$395,300	$815,900	$842,000	$868,900	$896,700	$925,400	$955,000
E-Line Service		$0	$3,166,400	$4,357,000	$8,992,800	$9,280,600	$9,577,500	$9,884,000	$10,200,300	$10,526,700
Mission Bay TC Extension		$0	$0	$0	$0	$0	$0	$4,264,000	$4,400,400	$4,541,200
Total Cost of Service Changes		**$0**	**$5,768,400**	**$7,141,000**	**$12,273,900**	**$12,666,600**	**$13,071,900**	**$17,754,200**	**$18,322,300**	**$18,908,500**

[1] Cost of service changes estimated using data on operating cost per revenue hour by mode from Muni's FY2004 National Transit Database Report, inflated to FY2006 dollars at 3.2% per year

[2] Assumes service implementation in April 2006 (three months of service in FY2006).

Figure 36: Estimated Cost of New Service FY06-FY25 CONTINUED

FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
$ 254.42	$ 262.56	$ 270.96	$ 279.63	$ 288.58	$ 297.81	$ 307.34	$ 317.18	$ 327.33	$ 337.80	$ 348.61
$ 158.02	$ 163.07	$ 168.29	$ 173.68	$ 179.23	$ 184.97	$ 190.89	$ 197.00	$ 203.30	$ 209.81	$ 216.52
$ 158.92	$ 164.01	$ 169.25	$ 174.67	$ 180.26	$ 186.03	$ 191.98	$ 198.12	$ 204.46	$ 211.01	$ 217.76
$ 254.42	$ 262.56	$ 270.96	$ 279.63	$ 288.58	$ 297.81	$ 307.34	$ 317.18	$ 327.33	$ 337.80	$ 348.61
$7,734,300	$7,981,800	$8,237,200	$8,500,800	$8,772,800	$9,053,500	$9,343,200	$9,642,200	$9,950,800	$10,269,200	$10,597,800
($4,756,300)	($4,908,500)	($5,065,600)	($5,227,700)	($5,394,900)	($5,567,600)	($5,745,700)	($5,929,600)	($6,119,400)	($6,315,200)	($6,517,300)
$0	$5,881,300	$6,069,500	$6,263,700	$6,464,200	$6,671,000	$6,884,500	$7,104,800	$7,332,100	$7,566,800	$7,808,900
$0	($5,100,600)	($5,263,800)	($5,432,200)	($5,606,100)	($5,785,400)	($5,970,600)	($6,161,600)	($6,358,800)	($6,562,300)	($6,772,300)
$985,600	$1,017,100	$1,049,700	$1,083,300	$1,118,000	$1,153,700	$1,190,600	$1,228,700	$1,268,100	$1,308,600	$1,350,500
$10,863,600	$11,211,200	$11,570,000	$11,940,200	$12,322,300	$12,716,600	$13,123,500	$13,543,500	$13,976,900	$14,424,200	$14,885,700
$4,686,500	$4,836,500	$4,991,300	$5,151,000	$5,315,800	$5,485,900	$5,661,500	$5,842,700	$6,029,600	$6,222,600	$6,421,700
$19,513,700	**$20,918,800**	**$21,588,300**	**$22,279,100**	**$22,992,100**	**$23,727,700**	**$24,487,000**	**$25,270,700**	**$26,079,300**	**$26,913,900**	**$27,775,000**

Figure 37: 20-Year Operating Budget

	Actual FY2004	Budget FY2005	Budget FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
REVENUES										
Fare Revenues (excluding Paratransit fares, Muni Fee	111,875,813	117,797,033	127,121,561	127,121,561	127,121,561	127,121,561	143,393,121	143,393,121	143,393,121	157,158,860
Paratransit Fares	1,271,203	1,778,288	1,778,288	1,835,193	1,893,919	1,954,525	2,017,070	2,081,616	2,148,228	2,216,971
Muni Feeder to BART	2,399,733	2,351,738	2,422,290	2,499,803	2,579,797	2,662,350	2,747,546	2,835,467	2,926,202	3,019,841
Parking Revenues	131,338,568	132,349,556	138,085,000	142,503,720	147,063,839	153,240,520	158,144,217	163,204,832	170,059,435	175,501,337
Parking Tax Increase						8,946,202	9,232,480	9,527,920	9,832,813	10,147,463
New Congestion Mgmt Fee					20,000,000	20,640,000	21,300,480	21,982,095	22,685,522	23,411,459
Intergovernmental Revenue	77,272,471	81,554,815	93,200,937	81,282,972	81,156,843	91,102,318	95,190,752	99,497,831	103,932,524	108,493,976
Miscellaneous Revenue	11,802,222	4,492,154	5,748,455	5,932,406	6,122,243	6,318,154	6,520,335	6,728,986	6,944,314	7,166,532
General Fund Contribution - Prop E Formula	99,263,563	98,859,258	102,401,000	108,237,857	111,701,468	115,275,915	118,964,745	122,771,617	126,700,308	130,754,718
Fund Balance	8,353,562	13,620,000								
Interdepartmental Recoveries	5,165,986	5,173,734	5,214,475	5,381,338	5,553,541	5,731,254	5,914,654	6,103,923	6,299,249	6,500,825
Dedicated Paratransit Funding	19,193,703	15,543,328	15,599,714	15,937,708	16,138,274	16,345,259	16,558,867	16,779,311	17,006,809	17,241,587
Special Revenue - TIDF	9,880,743	10,362,003	10,368,692	10,368,366	10,368,366	10,368,366	10,368,366	10,368,366	10,700,154	11,042,559
Capital Project Funds	-	2,735,683								
Transfers In	992,000		8,854,641	12,137,990	9,421,338	9,722,821	10,033,951	10,355,038	10,686,399	11,028,364
TOTAL REVENUES	**478,809,567**	**486,617,590**	**510,795,053**	**513,238,913**	**539,121,190**	**569,429,247**	**600,386,584**	**615,630,123**	**633,315,077**	**663,684,491**
EXPENDITURES										
Salaries & Fringe Benefits										
Platform Salaries	136,770,805	122,065,824	128,196,821	133,324,694	138,657,682	144,203,989	149,972,148	155,971,034	162,209,876	168,698,271
Other Salaries	137,332,387	127,023,751	128,644,858	132,118,269	135,685,462	140,027,397	144,508,274	149,132,539	153,904,780	158,829,733
Fringe Benefits	71,226,979	93,364,555	105,130,937	109,546,436	114,147,387	118,941,577	123,937,123	129,142,482	134,566,467	140,218,258
Sub-total Salaries and Fringe Benefits	345,330,171	342,454,130	361,972,616	374,989,399	388,490,531	403,172,963	418,417,546	434,246,055	450,681,122	467,746,262
Other Operating Expenditures										
Paratransit expenses	18,202,765	20,073,976	20,073,976	20,716,343	21,379,266	22,063,403	22,769,432	23,498,053	24,249,991	25,025,991
Muni Fast Passes on BART	8,466,800	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653
Contribution to Peninsula Joint Powers Board (Caltra	8,552,826	6,337,070	6,337,070	6,539,856	6,749,132	6,965,104	7,187,987	7,418,003	7,655,379	7,900,351
Workers' compensation	21,119,429	20,500,000	23,104,800	23,844,154	24,607,167	25,394,596	26,207,223	27,045,854	27,911,321	28,804,484
Other nonpersonal services	51,508,568	28,511,761	33,851,296	34,934,537	36,052,443	37,206,121	38,396,717	39,625,412	40,893,425	42,202,014
Materials and supplies, including fuel	26,846,528	29,112,922	33,317,237	34,383,389	35,483,657	36,619,134	37,790,946	39,000,257	40,248,265	41,536,209
Capital/Facilities Expenditures	1,638,959	9,340,208	1,788,361	4,845,589	1,902,816	1,963,706	2,026,545	2,091,394	2,158,319	2,227,385
Services of other departments	21,771,968	24,437,622	24,925,463	25,723,078	26,546,216	27,395,695	28,272,357	29,177,073	30,110,739	31,074,283
Operating Transfers Out	-	2,588,046	-							
Allocated Charges	(5,055,600)	(6,175,798)	(4,696,231)	(4,846,510)	(5,001,599)	(5,161,650)	(5,326,823)	(5,497,281)	(5,673,194)	(5,854,736)
Cash Reserve			682,812							
Sub-total Other Operating Expenditures	153,052,243	144,163,460	148,822,437	155,578,088	157,156,751	161,883,762	166,762,037	171,796,418	176,991,898	182,353,634
Repay Breda Money				1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,300,000
Service Plan Changes				5,768,400	7,141,000	12,273,900	12,666,600	13,071,900	17,754,200	18,322,300
TOTAL OPERATING EXPENDITURES	**498,382,414**	**486,617,590**	**510,795,053**	**537,335,887**	**553,788,281**	**578,330,625**	**598,846,183**	**620,114,373**	**646,427,220**	**669,722,196**
Projected Operating Surplus (Deficit)		-	-	(24,096,974)	(14,667,092)	(8,901,378)	1,540,402	(4,484,251)	(13,112,143)	(6,037,705)

Figure 37: 20-Year Operating Budget CONTINUED

FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
157,158,860	157,158,860	172,246,111	172,246,111	172,246,111	188,781,738	188,781,738	188,781,738	206,904,784	206,904,784	206,904,784	226,767,644
2,287,914	2,361,127	2,436,683	2,514,657	2,595,126	2,678,170	2,763,872	2,852,315	2,943,590	3,037,784	3,134,994	3,235,313
3,116,475	3,216,203	3,319,121	3,425,333	3,534,944	3,648,062	3,764,800	3,885,273	4,009,602	4,137,910	4,270,323	4,406,973
181,117,379	188,724,309	194,763,487	200,995,919	209,437,748	216,139,755	223,056,228	232,424,589	239,862,176	247,537,766	257,934,352	266,188,251
10,472,182	10,807,292	11,153,125	11,510,025	11,878,346	12,258,453	12,650,724	13,055,547	13,473,324	13,904,471	14,349,414	14,808,595
24,160,626	24,933,766	25,731,646	26,555,059	27,404,821	28,281,775	29,186,792	30,120,769	31,084,634	32,079,342	33,105,881	34,165,269
113,247,773	118,069,050	121,847,260	125,746,372	129,770,256	133,922,904	138,208,437	142,631,107	147,195,302	151,905,552	156,766,530	161,783,059
7,395,861	7,632,528	7,876,769	8,128,826	8,388,948	8,657,394	8,934,431	9,220,333	9,515,383	9,819,876	10,134,112	10,458,403
134,938,869	139,256,913	143,713,134	148,311,954	153,057,937	157,955,791	163,010,376	168,226,708	173,609,963	179,165,482	184,898,777	190,815,538
6,708,851	6,923,535	7,145,088	7,373,730	7,609,690	7,853,200	8,104,502	8,363,846	8,631,489	8,907,697	9,192,743	9,486,911
17,483,878	17,733,922	17,991,967	18,258,270	18,533,095	18,816,714	19,109,409	19,411,470	19,723,197	20,044,899	20,376,896	20,719,517
11,395,921	11,760,590	12,136,929	12,525,311	12,926,121	13,339,756	13,766,629	14,207,161	14,661,790	15,130,967	15,615,158	16,114,843
11,381,271	11,745,472	12,121,327	12,509,209	12,909,504	13,322,608	13,748,932	14,188,897	14,642,942	15,111,516	15,595,085	16,094,128
680,865,861	**700,323,567**	**732,482,648**	**750,100,777**	**770,292,646**	**805,656,321**	**825,086,868**	**847,369,755**	**886,258,178**	**907,688,046**	**932,279,049**	**975,044,444**
175,446,202	182,464,050	189,762,612	197,353,116	205,247,241	213,457,130	221,995,416	230,875,232	240,110,241	249,714,651	259,703,237	270,091,367
163,912,284	169,157,477	174,570,517	180,156,773	185,921,790	191,871,287	198,011,168	204,347,526	210,886,647	217,635,019	224,599,340	231,786,519
146,107,425	152,243,937	158,638,182	165,300,986	172,243,627	179,477,860	187,015,930	194,870,599	203,055,164	211,583,481	220,469,987	229,729,726
485,465,911	503,865,464	522,971,311	542,810,875	563,412,658	584,806,277	607,022,514	630,093,357	654,052,052	678,933,151	704,772,564	731,607,612
25,826,823	26,653,281	27,506,186	28,386,384	29,294,748	30,232,180	31,199,610	32,197,997	33,228,333	34,291,640	35,388,972	36,521,419
9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653	9,437,653
8,153,162	8,414,063	8,683,313	8,961,179	9,247,937	9,543,871	9,849,275	10,164,452	10,489,714	10,825,385	11,171,798	11,529,295
29,726,227	30,677,466	31,659,145	32,672,238	33,717,750	34,796,718	35,910,213	37,059,339	38,245,238	39,469,086	40,732,097	42,035,524
43,552,479	44,946,158	46,384,435	47,868,737	49,400,537	50,981,354	52,612,757	54,296,366	56,033,849	57,826,932	59,677,394	61,587,071
42,865,368	44,237,060	45,652,646	47,113,530	48,621,163	50,177,041	51,782,706	53,439,752	55,149,825	56,914,619	58,735,887	60,615,435
2,298,661	2,372,219	2,448,130	2,526,470	2,607,317	2,690,751	2,776,855	2,865,714	2,957,417	3,052,054	3,149,720	3,250,511
32,068,660	33,094,857	34,153,893	35,246,817	36,374,715	37,538,706	38,739,945	39,979,623	41,258,971	42,579,258	43,941,794	45,347,932
(6,042,088)	(6,235,435)	(6,434,968)	(6,640,887)	(6,853,396)	(7,072,705)	(7,299,031)	(7,532,600)	(7,773,643)	(8,022,400)	(8,279,117)	(8,544,048)
187,886,945	193,597,323	199,490,432	205,572,121	211,848,424	218,325,569	225,009,982	231,908,297	239,027,357	246,374,228	253,956,198	261,780,792
18,908,500	19,513,700	20,918,800	21,588,300	22,279,100	22,992,100	23,727,700	24,487,000	25,270,700	26,079,300	26,913,900	27,775,000
692,261,356	**716,976,487**	**743,380,543**	**769,971,296**	**797,540,182**	**826,123,946**	**855,760,196**	**886,488,653**	**918,350,109**	**951,386,679**	**985,642,662**	**1,021,163,404**
(11,395,496)	(16,652,920)	(10,897,895)	(19,870,519)	(27,247,536)	(20,467,625)	(30,673,328)	(39,118,899)	(32,091,931)	(43,698,633)	(53,363,614)	(46,118,959)

THIS PAGE INTENTIONALLY LEFT BLANK

FLEET PROGRAM

- Clean Air Plan
- Vehicle Demand
- Spare Ratio
- Revenue Fleet
- Fleet Replacement
- Fleet Plan
- Reserve Fleet
- Fleet Accessibility

Chapter 7: Fleet Program

The San Francisco Municipal Railway (Muni) provides transit service to 686,000 riders each weekday, nearly the entire population of San Francisco. To meet this need, Muni operates 80 lines, providing transit service throughout San Francisco, 24 hours a day, 365 days a year. Muni's service design goal is to have all residential locations in San Francisco be within approximately one-quarter mile of a Muni route that operates at least 19 hours per day. This service is provided using four primary modes: motor coaches, trolley coaches, light rail vehicles, including historic streetcars, and cable cars. Within each of these modes there are a number of vehicle types utilized, making Muni one of the most diverse transit operators in the country. Muni also provides Paratransit services through a broker contract.

The Fleet Plan provides a systematic approach to the phased rehabilitation and replacement of Muni's vehicles. It takes into account the anticipated changes in service, vehicle demand, fleet composition, and ridership. These are some of the factors that determine the number and mix of vehicles Muni needs to meet its peak demand. This in turn drives the programming of funds for vehicle replacements and potential fleet expansions. The Fleet Plan demonstrates that Muni is able to maintain the vehicle fleet needed to provide for the level of service necessary to meet anticipated demand. It also demonstrates that sufficient resources are available to maintain and replace the vehicle fleet.

Background

Muni is nearing the end of a process to replace the majority of the revenue vehicle fleet. Muni has procured 330 Neoplan motor coaches, 273 ETI trolley coaches, and 151 Breda LRVs. Also, Muni recently put a 10th Milan Historic Streetcar into service. This investment in new vehicles represents a significant improvement in the quality of service to Muni's 686,000 daily riders. It will also help improve the dependability of the fleet and in turn should raise the reliability of Muni service on the street. However, replacing such a large percentage of vehicles at one time has also come with a number of issues to be resolved. Of major concern at the present time are retrofits to several fleets to address fleet defects or to improve unforeseen aspects of the vehicles. There is also a large step up in technology compared to the vehicles these new fleets have replaced. For these reasons, a plan to stagger fleet procurements more evenly over time was considered. This could involve extending the useful life of a portion of the fleet to create smaller, regularly spaced procurements. This issue will need to be revisited as individual sub-fleets come due for replacement.

Muni is also looking to the future, with the impending start of Third Street light rail service. LRVs will replace motor coaches along Third Street, and a number of other changes to motor coach routes will also be implemented. Construction will soon start on new facilities. Muni Metro East will provide maintenance and storage space for the LRVs needed for Third Street and help to relieve overcrowding at the Green Division. Islais Creek will provide a modern motor coach maintenance facility to replace Kirkland Division. Muni is also building the historic streetcar fleet in anticipation of future E-line service along The Embarcadero. Finally, Muni is moving forward with a number of projects to carry out the Clean Air Plan.

With the passage of Proposition K in November 2003, Muni has a reliable source of matching funds to carry out vehicle replacement projects in the future. These matching funds help to leverage federal funds, typically on a four to one basis. Regularly replacing Muni's fleet of over one thousand vehicles is one of the most cost-effective ways to provide high quality service to its customers.

Clean Air Plan

Muni is an acknowledged industry leader in terms of average vehicle emissions per-passenger, and is committed to increasing the number of clean fuel vehicles it operates. Through FY2003, over 52% of Muni's fleet was electrically powered, and nearly 60% of all unlinked passenger trips were taken on electric vehicles. Furthermore, almost 55% of all revenue service hours were operated by electrically powered vehicles. Muni continues to be in full compliance with all state and federal emissions requirements.

To ensure continued reductions in emissions output, Muni developed the Clean Air Plan entitled "Zero Emissions 2020". The primary goals of the Clean Air Plan are:

- To encourage ridership through reliable and efficient service
- To achieve a zero emission fleet by 2020
- To replace old buses with the most modern clean air technologies possible
- To minimize bus emissions fleet-wide

The Clean Air Plan sets out a course for Muni to achieve the lowest possible fleet emissions, with the goal of a 100% zero emission fleet by the year 2020. This strategy includes replacing diesel buses with electric drive vehicles, and retrofitting any remaining diesel buses with state-of-the-art low-emission diesel coaches. In the near term Muni will significantly reduce Particulate Matter (PM) and NO_x (Oxides of Nitrogen) by installing new low-emission engines on older buses and adding PM/NO_x reduction devices to all low-emission diesel buses.

Proposition I

In March 2004, San Francisco voters passed Proposition I, which directs Muni to replace all diesel buses purchased before 1991 with cleaner, low-emissions vehicles.

Muni has recently purchased 45 "clean diesel" Gillig buses from AC Transit. Purchase of these buses will allow Muni to remove from revenue service 45 1989 New Flyer 40-foot diesel buses once the Gillig buses arrive. By 2007, Muni plans to replace the remainder of the 40-foot and all the 30-foot pre-1991diesel buses with hybrid electric buses (see Figure 51). Finally, Muni plans to rehabilitate 12 of 24 1991 diesel articulated coaches with clean diesel engines in 2006-07; the other 12 New Flyer articulated coaches have been retired.

Action Plan

Muni, the San Francisco Board of Supervisors, the Bay Area Air Quality Management District (BAAQMD), the California Air Resources Board (CARB), and local environmental groups have been cooperating to achieve the 85% reduction in PM emissions since 1997 and continue on an aggressive plan to reduce Muni's total fleet emissions even further by:

- Reducing emissions from new and existing diesels through advanced emissions reduction technologies, cleaner fuel, and revised service plans;
- Replacing the oldest diesels with alternative fuel buses and moving toward the fleet-wide use of electric drive vehicles; and
- Moving towards the goal of a 100% zero emission fleet by 2020.

The first step in this process was the evaluation of alternative fuel buses and emission reduction technologies. The information and experience gained from these evaluations helped Muni make informed decisions about using these technologies for future motor coach procurements and retrofits. Muni completed an Alternative Fuel Pilot Program (AFPP) made up of six 40-foot buses using alternative technologies: two powered by Compressed Natural Gas (CNG), two hybrid diesel-electrics, and two conventional diesels fitted with exhaust particulate matter (PM) filters. Over a period of two years, Muni evaluated the vehicles' performance on San Francisco's hilly terrain; their reliability rates; their operating, capital, and lifecycle costs; and vehicle safety issues. Further, in partnership with the University of

California at Davis, Muni performed pioneering research by being the first transit agency ever to test and evaluate heavy-duty vehicle emissions on hills.

Muni supplemented the original six alternative fuel prototypes by performing limited evaluations of newer hybrid-electric, battery-electric, and compression-ignition liquid natural gas (LNG) technologies. Based on conclusions gained from the AFPP, and new CARB regulations, Muni determined that hybrid-electric buses would best address Muni's short-term fleet goals. Purchase of hybrid-electric buses will enable Muni to retire the older, diesel buses, and will also lead Muni towards a fleet composed of all electric drive vehicles, the most effective and efficient drives for hilly terrain.

The next steps in the process include actions to replace the oldest diesels and address future bus procurements:

- Initiate the purchase of hybrid-electric buses: The MTA Board has authorized the award of a contract for 56 40-foot hybrid-electric buses to Orion Bus. Muni is also preparing a request for proposals to procure 30-foot hybrid-electric buses.
- Include safety provisions for lighter-than-air fuel in the new Islais Creek bus maintenance facility. Lighter-than-air fuels include natural gas and hydrogen. It is anticipated that lighter than air fuels will be used to power a portion of Muni's motor coach fleet during the next 20 years.

Actions to reduce emissions from existing diesels include:

- Complete the retrofit of diesel buses purchased since 1999 with PM (particulate matter) filters and NO_x (oxides of nitrogen) reduction devices. These installations will reduce each vehicle's PM by 85% and NOx by 25%. To comply with state regulations, Muni is required to complete the PM filter retrofits no later than January 1, 2007. Muni has already converted the entire motor coach fleet over to ultra low sulfur diesel (ULSD) fuel, which is a prerequisite for the PM filter retrofits. ULSD has roughly one-tenth the sulfur content of conventional diesel fuel.
- Develop an electric trolley coach expansion plan, with support from the SFCTA (See Route Electrification Study).
- Deploy the least-polluting buses in neighborhoods most afflicted by multiple pollutant sources. All neighborhoods will eventually benefit from substantially cleaner bus technology.

Actions that will move Muni toward the eventual goal of a 100% zero emission fleet include:

- Build fleet-wide experience with the use of electric drive propulsion technologies.
- Participate in fuel cell bus demonstration programs, in cooperation with regional transit agencies.

Current Service Structure

Muni's service structure is based on a number of specific service design standards. These standards guide decisions to determine the spacing of routes throughout the city, the frequency of buses and streetcars, the spacing of stops along a line, and the average loads experienced by passengers on vehicles. The standards also guide development of other programs that contribute to improved transit service.

A. Facilitate multi-destination travel that allows most trips to be made with a maximum of one transfer by maintaining a modified grid route network with a radial grid of lines serving downtown, with circumferential cross-town and feeder lines on a general north/south and east/west orientation at approximately one-half mile spacing throughout the City, except where constrained by geography or the street grid;

B. All residential locations in San Francisco should be within approximately one-quarter mile of a Muni route that operates at least 19 hours per day;

C. Muni's policy headways represent the maximum amount of time allowed between vehicle arrivals for the various line types as shown in Figure 38. When ridership warrants, more frequent service may be operated than provided by these standards;

Figure 38: Policy Headways

Weekday	Peak	Base	Evening	Owl
Radial	10	15	20	30
Express	10	--	--	--
Cross-town	15	15	20	30
Feeder	20	30	30	--
Weekend		**Base**	**Evening**	**Owl**
Radial		15	20	30
Cross-town		20	30	30
Feeder		30	30	--

D. Operate service such that the peak period passenger load factor does not exceed the service standard goal of "no greater than 85% of combined seating and standing capacity," as shown in Figure 39;

Figure 39: Passenger Load Factor Standards

Fleet	Vehicle Capacity	85% Load Standard
Motor Coach		
-Small (30')	45	38
-Standard (40')	63	54
-Articulated (60')	94	80
Trolley Coach		
-Standard (40')	63	54
-Articulated (60')	94	80
Light Rail Vehicle	119	101
Historic Streetcar	119	101
Cable Car	63	54

E. Provide passenger stop spacing of approximately 800-1000 feet on motor coach and trolley coach lines except where there are steep grades (over 10%), and a stop spacing of 1000-1200 feet between stops on LRV surface lines;

F. Construct appropriate transit guideways in major corridors to reduce transit travel time and increase capacity;

G. Provide increased capacity at equal or lower cost by substituting articulated vehicles where loads and frequencies warrant; and

H. Reduce service (without exceeding policy headways) on lines that continuously experience diminished ridership.

Service Demand

Revenue vehicle demand is based on running times, ridership levels, load factors, and the operating demands and constraints of the transportation system. The number of revenue vehicles needed to provide daily service is best expressed as the peak vehicle demand. Peak vehicle demand is defined as the number of vehicles operated in maximum service. Generally speaking this is the largest number of vehicles out

on the streets providing service at a single moment during a day. As of January 2005, Muni required 818 peak vehicles to provide daily service. These vehicles are used on the 80 lines Muni operates.

Service demand is guided by a number of factors. Trends and projections of demographic factors such as population and employment provide an indication of how much and where future growth may occur. Ridership trends and projections help predict future transit needs. Load factors help to identify the level of crowding and can indicate where service could be adjusted. Finally, planned service changes are developed with these other factors in mind.

Demographic Trends

San Francisco is a roughly 49-square mile city that is almost fully built out, at nearly 26 persons per gross acre. In 2000, San Francisco's population was 776,733 according to the US Census. In terms of employment, 444,851 San Franciscans were employed in 2000. The city had a total of 634,430 jobs in 2000, or 16.9% of the region's total.

In 2000, the city reached its highest population count 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 8.5% since 1970, when 715,674 people lived in the city. San Francisco's daytime population, including workers and visitors, is estimated at 1.1 million 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.

In terms of employment, 444,851 San Franciscans were employed in 2000. The city had a total of 634,430 jobs in 2000, or 16.9% of the region's total. 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.

These trends are shown in Figure 40.

Figure 40: San Francisco Job and Population Trends

	2000	2005	2010	2015	2020	2025	2030
Total Jobs							
San Francisco	634,430	635,480	686,480	728,220	755,870	786,020	815,680
Change from 2000		0.2%	8.2%	14.8%	19.1%	23.9%	28.6%
SF Bay Region	3,753,670	3,848,870	4,199,670	4,509,840	4,751,990	4,982,800	5,226,400
Change from 2000		2.5%	11.9%	20.1%	26.6%	32.7%	39.2%
Population							
San Francisco	776,733	798,600	812,900	827,200	848,100	889,800	935,100
Change from 2000		2.8%	4.7%	6.5%	9.2%	14.6%	20.4%
SF Bay Region	6,783,762	7,193,900	7,527,500	7,840,200	8,168,300	8,457,800	8,780,300
Change from 2000		6.0%	11.0%	15.6%	20.4%	24.7%	29.4%

Ridership

Muni ridership fluctuated between 214 million and 219 million riders annually through FY1999. From FY2000 through FY2002, ridership increased substantially with the economic boom during those years. With the recent economic downturn, ridership has returned to pre-2000 levels. Future projections indicate that the system will experience only modest increases in ridership over the next 20 years. The most significant changes to ridership will come from the two-phase Third Street Light Rail project. In 2025, Phase 1, Initial Operating Segment, is projected to carry 40,518 daily riders. With Phase 2, Central Subway, ridership is anticipated to increase to 60,970 daily riders.

Figure 41: Annual Ridership FY95-FY04

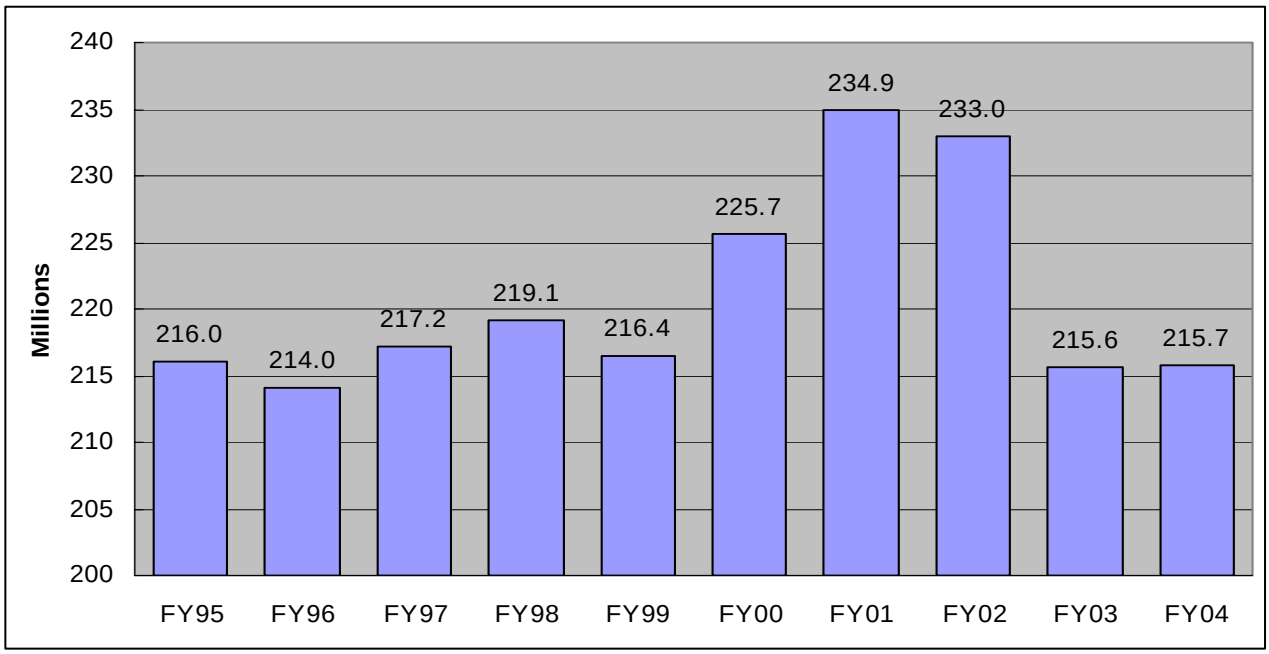


Figure 42: Historical Annual Ridership (millions)

	Motor Coach	Trolley Coach	LRV	Cable Car	Total
FY95	90.6	79.3	37.2	8.8	216.0
FY96	89.9	77.8	36.7	9.6	214.0
FY97	89.8	80.8	36.7	9.8	217.2
FY98	92.8	77.5	38.9	9.9	219.1
FY99	93.0	78.3	35.7	9.5	216.4
FY00	96.4	78.5	41.6	9.2	225.7
FY01	96.0	80.9	49.7	8.3	234.9
FY02	98.6	78.8	47.9	7.7	233.0
FY03	90.9	74.4	42.9	7.4	215.6
FY04	87.5	75.2	45.2	7.9	215.7

Load Factors

Muni has a peak period passenger load factor service standard goal of "no greater than 85% of combined seating and standing capacity." Each line is checked twice a year based on a random selection process.

Figure 43: Load Factor Standards

Fleet	Vehicle Capacity	85% Load Standard
Motor Coach		
-Small (30')	45	38
-Standard (40')	63	54
-Articulated (60')	94	80
Trolley Coach		
-Standard (40')	63	54
-Articulated (60')	94	80
Light Rail Vehicle	119	101
Historic Streetcar	119	101
Cable Car	63	54

Figure 44: Peak Period Load Factor Performance

	FY2002	FY2003	FY2004	FY2005 Q2
# of Lines Checked	176	178	169	84
# of Lines Over 85%	23	10	14	9
% of Lines Over 85%	13.1%	5.6%	8.3%	10.7%

Service Plans

Changes to service are made in response to ridership trends, demographic changes, and load factors. The need for service must be balanced with budget constraints. In FY06, Muni has proposed making a number of service adjustments to reduce operating expenses. Also in FY06, the Third Street Initial Operating Segment will open, providing additional passenger capacity in the Third Street corridor.

FY06 Service Adjustments

The adopted FY06 Operating Budget is predicated on adjustments to Municipal Railway service that will achieve a net savings for the year of $13 million. This will be accomplished through a combination of line restructuring, lengthened headways (beyond policy in some cases), and labor efficiencies. The changes were discussed with the public, scheduled for approval by the MTA board in May, and were implemented in September 2005.

These changes are intended to be temporary; that is, when operating revenues increase to a certain level, service will be restored, although not necessarily in the same places from which it was reduced. If these service adjustments become permanent, Muni will need to revisit the Fleet Plan, and make changes accordingly.

Third Street Light Rail Line

The Third Street Light Rail Line Phase 1, Initial Operating Segment (IOS), will replace the current 15-Third motor coach line. At the same time a number of lines, most significantly the 9X series, will be adjusted to meet service needs previously covered by portions of the 15-Third line that will not be served by the IOS. The net result of these changes is an increase of 5 peak LRVs and a reduction of 15 peak motor coaches.

At this time the plan for Phase 2 of the Third Street Light Rail Line, the Central Subway, would increase LRV peak demand by 3 vehicles. At the same time, the 30-Stockton short line that operates between Columbus & Powell and the Caltrain Depot at Fourth & King streets will be eliminated. This change will reduce the peak demand for trolley coaches by 11 vehicles.

Maintenance Demand

Maintenance demand can be broken down into four primary areas: 1) Running Repair, 2) Modification and/or Retrofit, 3) Overhauls or Major Repairs, and 4) Preventive Maintenance.

Running repair consists of vehicles that are not out of service for a scheduled maintenance activity such as a major repair or preventive maintenance. Running repair is comprised of defects identified by an in service breakdown, defects noted on an Operator Defect card, unscheduled cleaning of debris or bodily fluids and minor accident damage. Most of these tasks are completed and the coach is returned to revenue service within an hour or two, but frequently the workload can back up due to staffing or volume. This is an ongoing activity that remains fairly constant over time.

Modifications and retrofits require that coaches be kept out of revenue service to allow this work to be done. Retrofits can include technology upgrades such as video surveillance camera installation or environmental modifications like the installation of clean air traps on the diesel fleet.

Overhauls and major repairs are labor intensive and require considerable material resources. Heavy repair can include engine and transmission overhauls, vehicle body rehabilitation, and maintaining brake, cooling and other systems.

Preventive maintenance is a mainstay of Muni's maintenance efforts. In spite of the accumulation of the work backlog in other areas, Muni has seen its reliability improving steadily over the past three years. It is Muni's intention to constantly improve the PM program to enable us to move from a position of reactive maintenance to a better planned, more consistent and more proactive maintenance operation. With the implementation of new Maintenance Management software, we project an ability to plan our scheduled maintenance more accurately, plan better resource utilization and build a more cost effective maintenance program.

Spare Ratio

The spare ratio is calculated by dividing the number of spare vehicles by the peak demand. The number of spare vehicles is the difference between the total fleet and the peak demand. The peak demand is the number of vehicles operated in maximum service. Vehicles operated in maximum service is defined as the revenue vehicle count during the peak season of the year, on the week and day that maximum service is provided. It excludes atypical days and one-time special events. FTA standard guidelines state that the spare ratio for motor coaches should not exceed 20 percent of the vehicles operated in maximum service. This restriction does not apply to other vehicles, such as trolley buses and rail vehicles. For those vehicles, FTA requires that Muni provide a reasonable justification for the spare ratio assigned to those modes. Current spare ratios are shown in Figure 45.

Muni is now working through a process to eliminate some of the oldest vehicles from the fleet. 12 New Flyer Articulated buses have been retired, and 10 Orion 30-foot buses will be retired and will not be replaced for at least one lifecycle, about 12 years. This reduction in vehicles will bring Muni's spare ratio within FTA's standard. The service changes that will be implemented at the start up of IOS will result in an increase of 5 peak LRVs and a reduction of 15 peak motor coaches. The procurement of 151 Bredas was sized to accommodate the additional LRV demand for Third Street, thus the current spare ratio is relatively high, but no additional vehicles are needed to operate the IOS. Also with the IOS, motor coach demand will decrease and 20 standard coaches will be moved to the reserve fleet, and 20 of the oldest coaches will be removed from the reserve fleet and retired. In the trolley coach fleet, future extensions to existing trolley coach lines, or conversions of motor coach to trolley coach lines could be accomplished without having to purchase additional vehicles, if the maintenance demand can be brought down.

Figure 45: Spare Ratio Summary

Fleet	Fleet Size	Peak Demand	Spares	Spare Ratio
Motor Coach	495	397	98	24.7%
Trolley Coach	333	264	69	26.1%
Light Rail Vehicle	151	110	41	37.3%

Revenue Fleet

Muni's fleet consists of five modes, with 2-3 vehicle types in most modes, making the Muni fleet one of the most diverse in the country. Muni operates and maintains a fleet of revenue vehicles sized to meet its service schedule. The revenue fleet is composed of a variety of vehicle types each suited to address a different service need. The fleet size is a factor of peak vehicle demand and desired spare ratio. Peak vehicle demand is the maximum number of vehicles needed to meet scheduled service throughout the day. The spare ratio is the number of vehicles beyond the peak vehicle demand that are out of service for maintenance and repairs. The current fleet composition is shown in Figure 46.

Figure 46: Summary of Revenue Vehicle Fleets

Fleet	Vehicles
Motor Coach	495
Trolley Coach	333
Light Rail Vehicle	151
Historic Streetcar	26
Cable Car	40
Total Revenue Fleet	1,045
Motor Coach Reserve	45
Paratransit Accessible Vans	54

Fleet Replacement

FTA establishes guidelines for the frequency with which revenue vehicles can be replaced using federal funds. These replacement cycles establish the useful life over which the vehicle must operate. If an operator chooses to remove vehicles from revenue service operation before their useful life has been reached, the operator must reimburse the FTA for the unused portion of the vehicle's life. In addition, MTC establishes policies at the regional level that govern fleet replacement cycles. Under the MTC Transit Capital Priorities guidelines, a transit operator is only eligible to program funds for vehicle replacement once the vehicle has reached the end of its useful life. Thus, due to the time needed to develop specifications, award the procurement, and to test and receive the vehicles, transit vehicles must effectively remain in revenue service for two years beyond their useful life. It is this combination of FTA and MTC requirements that establish the effective replacement cycles for Muni's revenue fleet as shown in the table below:

Figure 47: Vehicle Life

Fleet	FTA Useful Life	MTC Effective Life
Motor Coach	12	14
Trolley Coach	18	20
Light Rail Vehicle	25	27

Fleet Mid-life Rehabilitation

To ensure that the revenue fleet can operate reliably and efficiently throughout its useful life, a regular program of vehicle mid-life rehabilitation should be scheduled. Each fleet has its own rehabilitation cycle based on its useful life and the industry standards for that fleet. These are shown in the table below.

Figure 48: Fleet Rehabilitation

Fleet	Rehabilitation
Motor Coach	At 7 years
Trolley Coach	Every 6 years
Light Rail Vehicle	Every 5 years

Due to funding constraints, Muni has not historically scheduled midlife rehabilitations through the capital program, but has instead relied on operating funds to rebuild vehicles and vehicle components as needed.

Muni also operates two fleets that are unique to the transit industry: Historic Streetcars and Cable Cars. Due to their unique nature, established replacement guidelines do not exist for these fleets. Instead of replacement cycles, Muni has developed rehabilitation cycles based on past experience as shown in the table below.

Figure 49: Special Fleet Rehabilitation

Fleet	Rehabilitation
Historic Streetcar	Every 10 years
Cable Car	Every 15 years

MTC's Transit Capital Priorities guidelines require that rail vehicles useful life be extended for 20 years to receive federal funds for these types of rehabilitation projects. The Operating Budget or some non-federal capital source will need to be used in combination with the infusion of federal funds every 20 years.

Fleet Expansion

Several fleet expansion projects are currently planned. In the LRV fleet, four additional vehicles will be needed for Third Street Phase 2-Central Subway operation, 10 vehicles to provide supplemental service to Mission Bay on the Third Street line, and 10 vehicles to provide additional capacity on the existing Metro lines (J, K, L, M, and N). The revenue vehicle needs for the various phases of the Third Street project will be reassessed as part of the Supplemental Environmental document being prepared for the Central Subway project, expected to be completed in June 2006. In the Historic Streetcar fleet, a tenth Milan car has been rehabbed, bringing the revenue fleet to 27 streetcars. Up to 18 additional Historic Streetcars will be needed for E-line service and additional capacity on the F-line.

Fleet Plan

Characteristics of the current and future revenue vehicle fleets are shown in Figure 50.

Figure 51 shows the 20-year fleet plan. It describes how various vehicle fleets move into and out of the revenue fleet. It graphically displays the replacement and retirement of individual vehicle fleets. It also provides a summary of many key statistics of the fleets, including overall size, peak vehicle demand, spare ratio, and average vehicle age. Each of the fleets is described in greater detail in the sections that follow.

Figure 50: Muni Revenue Vehicle Fleet Characteristics

FLEET CHARACTERISTICS								
Manufacturer	Vehicles	In Service	Retire	Mode of Power	Seating Capacity	Standing Capacity	Total Capacity	Wheelchair Positions
MOTOR COACH								
Small MC (30ft/9.1m)								
1990 - Orion (9001-9045)	45	1991	2005	Diesel	26	24	50	1
2007 - New (replaces 1991-Orion)	30	2007	2021	Hybrid	27	24	51	1
2019 - New (not replaced in 2007)	10	2019	2033	ZEV	27	24	51	1
2021 - New (replaces 2007-New)	25	2021	2035	ZEV	27	24	51	1
Standard MC (40ft/12.2m)								
1988 - New Flyer (8801-8850)	50	1988	2002	Diesel	40	37	77	1
1989 - New Flyer (8901-8956)	55	1989	2003	Diesel	40	37	77	2
1999 - NABI (8001-8045)	45	1999	2013	Diesel	38	36	74	2
1999 - Neoplan/Option (8101-8235; 8301-8304)	139	2002	2016	Diesel	43	37	80	2
1999 - Neoplan Option (8305-8371)	67	2003	2017	Diesel	43	37	80	2
1993 - AC Transit Gilligs	45	2005	2007	Diesel	44	48	92	2
2006 - New Hybrid (replaces 1989-New Flyer)	51	2006	2020	Hybrid	35	38	73	2
2006 - New Hybrid (replaces 1990-Orion)	20	2006	2020	Hybrid	35	38	73	2
2013 - New (replaces 1999-NABI)	45	2013	2027	Hybrid	35	38	73	2
2016 - New (replaces 1999-Neoplan/Option)	139	2016	2030	Hybrid	35	38	73	2
2017 - New (replaces 1999-Neoplan Option)	67	2017	2031	Hybrid	35	38	73	2
2020 - New (replaces 2006-New)	51	2020	2034	Hybrid	35	38	73	2
2020 - New (replaces 2006-New)	20	2020	2034	Hybrid	35	38	73	2
Articulated MC (60ft/18.3m)								
1991 - New Flyer Rehab (9101-9124)	12	2005	2012	Diesel	52	81	133	1
2001 - Neoplan (6200-6225)	26	2002	2016	Diesel	57	53	110	2
2001 - Neoplan (6226-6299)	74	2003	2017	Diesel	57	53	110	2
2002 - Neoplan Option (6401-6424)	24	2003	2017	Diesel	57	53	110	2
2012 - New (replaces 1991-New Flyer)	12	2012	2026	Hybrid	57	53	110	2
2016 - New (replaces 2000-Neoplan)	26	2016	2030	Hybrid	57	53	110	2
2017 - New (replaces 2000-Neoplan)	74	2017	2031	Hybrid	57	53	110	2
2017 - New (replaces 2002-Neoplan Option)	24	2017	2031	Hybrid	57	53	110	2
2019 - New (not replaced in 2007)	12	2019	2033	Hybrid	57	53	110	2
TROLLEY COACH								
Standard TC (40ft/12.2m)								
2000 - ETI (5401-5481)	81	2002	2022	Electric	50	54	104	2
2000 - ETI (5482-5640)	159	2003	2023	Electric	50	54	104	2
2022-New (replaces 2000-ETI)	81	2022	2042	Electric	50	54	104	2
2023-New (replaces 2000-ETI)	159	2023	2043	Electric	50	54	104	2
Articulated TC (60ft/18.3m)								
1992 - New Flyer (7000-7059)	60	1994	2014	Electric	53	81	134	2
2003 - ETI (7101-7133)	33	2003	2023	Electric	55	70	125	2
2014-New (replaces 1992-New Flyer)	60	2014	2034	Electric	55	70	125	2
2023-New (replaces 2003-ETI)	33	2023	2043	Electric	55	70	125	2
RAIL								
Light Rail Vehicle								
1995 - Breda (1400-1424)	25	1997	2024	Electric	60	160	220	4
1995 - Breda (1425-1451)	27	1998	2025	Electric	60	160	220	4
1995 - Breda (1452-1475)	24	1999	2026	Electric	60	160	220	4
1995 - Breda (1476-1481)	6	2000	2027	Electric	60	160	220	4
1995 - Breda (1482-1508)	27	2001	2028	Electric	60	160	220	4
1995 - Breda (1509-1534)	26	2002	2029	Electric	60	160	220	4
1995 - Breda (1535-1550)	16	2003	2030	Electric	60	160	220	4
2009 - New - Expansion (Mission Bay)	10	2011	2038	Electric	60	160	220	4
2009 - New - Expansion (NCS)	4	2011	2038	Electric	60	160	220	4
2013 - New - Expansion (JKLMN)	10	2015	2042	Electric	60	160	220	4
2022 - New - Replacement	25	2024	2051	Electric	60	160	220	4
2022 - New - Replacement	27	2025	2052	Electric	60	160	220	4
Historic Streetcar								
1928 - Milan Peter Witt	10	Varies	NA	Electric	29	68	97	2
1946 - SEPTA PCC (1050-1063)	17	Varies	NA	Electric	47	50	97	2
1948 - Muni Dbl End PCC	3	Varies	NA	Electric	46	40	86	2
2006 - NJT PCCs	11	2006	NA	Electric	42	46	88	2
2007 - New/Rehab (Seg. 4)	7	Varies	NA	Electric	50	34	84	2
2008 - New/Rehab (Seg. 3)	7	Varies	NA	Electric	50	34	84	2
2007 - New/Rehab (N.O. #952)	1	Varies	NA	Electric	50	34	84	2
Cable Car								
Powell Cars (1-28)	28	Varies	NA	Electric	30	20	50	0
California Cars (49-60)	12	Varies	NA	Electric	34	25	59	0

Note: seating capacity + standing capacity = maximum capacity; this does not equal the maximum load for planning purposes.

Figure 51: Fleet Plan

Fleet	In Service	Retire	2004	2005	2006	2007	2008	2009	2010	2011
MOTOR COACH INVENTORY										
Small MC (30ft/9.1m)										
1990 - Orion (9001-9045)	1990	2004	45	35	35					
2007 - New (replaces 1990-Orion) [1]	2007	2021				30	30	30	30	30
2019 - New (replaces 1990-Orion)	2019	2033								
2021 - New (replaces 2007-New)	2021	2035								
Revenue Fleet			45	35	35	30	30	30	30	30
New Vehicles			-	-	-	30	-	-	-	-
Retired Vehicles			-	10	-	35	-	-	-	-
Moved to Reserve Fleet			-	-	-	-	-	-	-	-
Standard MC (40ft/12.2m)										
1989 - New Flyer (8901-8956)	1989	2003	51	6						
1999 - NABI (8001-8045)	1999	2013	45	45	45	25	25	25	25	25
1999 - Neoplan/Option (8101-8235; 8301-8304)	2002	2016	139	139	139	139	139	139	139	139
1999 - Neoplan Option (8305-8371)	2003	2017	67	67	67	67	67	67	67	67
1993 - AC Transit Gilligs	1993	2007		45	31					
2006 - New Alt. Fuel (replaces 1989-New Flyer)	2006	2020				51	51	51	51	51
2006 - New Alt. Fuel (replaces 1990-Orion)	2006	2020				5	5	5	5	5
2013 - New (replaces 1999-NABI)	2013	2027								
2016 - New (replaces 1999-Neoplan/Option)	2016	2030								
2017 - New (replaces 1999-Neoplan Option)	2017	2031								
2020 - New (replaces 2006-New)	2020	2034								
2020 - New (replaces 2006-New)	2020	2034								
Revenue Fleet			302	302	282	287	287	287	287	287
New Vehicles			-	45	-	56	-	-	-	-
Retired Vehicles			-	-	-	26	-	-	-	-
Moved to Reserve Fleet			-	45	20	25	-	-	-	-
Articulated MC (60ft/18.3m)										
1991 - New Flyer (9101-9124)	1991	2005	24							
1991 - New Flyer Rehab (9101-9124) [2]	2005	2012		12	12	12	12	12	12	12
2001 - Neoplan (6200-6225)	2002	2016	26	26	26	26	26	26	26	26
2001 - Neoplan (6226-6299)	2003	2017	74	74	74	74	74	74	74	74
2002 - Neoplan Option (6401-6424)	2003	2017	24	24	24	24	24	24	24	24
2012 - New (replaces 1991-New Flyer)	2012	2026								
2016 - New (replaces 2000-Neoplan)	2016	2030								
2017 - New (replaces 2000-Neoplan)	2017	2031								
2017 - New (replaces 2002-Neoplan Option)	2017	2031								
2019 - New (replaces 1991-New Flyer)	2019	2033								
Revenue Fleet			148	136	136	136	136	136	136	136
New Vehicles			-	-	-	-	-	-	-	-
Retired Vehicles			-	12	-	-	-	-	-	-
Moved to Reserve Fleet			-	-	-	-	-	-	-	-
Motor Coach Summary										
Revenue Fleet-Start of FY			495	495	473	453	453	453	453	453
New Vehicles			-	45	-	86	-	-	-	-
Retired Vehicles			-	22	-	61	-	-	-	-
Moved to Reserve Fleet			-	45	20	25	-	-	-	-
Revenue Fleet-End of FY			495	473	453	453	453	453	453	453
Peak Demand			397	397	397	382	382	382	382	382
Spare Ratio			24.7%	19.1%	14.1%	18.6%	18.6%	18.6%	18.6%	18.6%
Avg. Vehicle Age			4.9	4.8	5.4	3.9	4.9	5.9	6.9	7.9
SCE (Capacity)			569	541	521	521	521	521	521	521

Notes:

[1] 10 vehicles traded for preventive maintenance funds in FY06. Vehicles eligible to return to fleet in FY19.

[2] 12 vehicles traded for preventive maintenance funds in FY06. Vehicles eligible to return to fleet in FY12.

Figure 51: Fleet Plan CONTINUED

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
30	30	30	30	30	30	30	30	30					
							10	10	10	10	10	10	10
									30	30	30	30	30
30	30	30	30	30	30	30	40	40	40	40	40	40	40
-	-	-	-	-	-	-	10	-	40	-	-	-	-
-	-	-	-	-	-	-	-	-	30	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
25													
139	139	139	139										
67	67	67	67	67									
51	51	51	51	51	51	51	51						
5	5	5	5	5	5	5	5						
	25	25	25	25	25	25	25	25	25	25	25	25	25
				139	139	139	139	139	139	139	139	139	139
					67	67	67	67	67	67	67	67	67
								51	51	51	51	51	51
								5	5	5	5	5	5
287	287	287	287	287	287	287	287	287	287	287	287	287	287
-	25	-	-	139	67	-	-	56	-	-	-	-	-
-	-	-	-	114	42	-	-	31	-	-	-	-	-
-	25	-	-	25	25	-	-	25	-	-	-	-	-
26	26	26	26										
74	74	74	74	74									
24	24	24	24	24									
12	12	12	12	12	12	12	12	12	12	12	12	12	12
				26	26	26	26	26	26	26	26	26	26
					74	74	74	74	74	74	74	74	74
					24	24	24	24	24	24	24	24	24
							12	12	12	12	12	12	12
136	136	136	136	136	136	136	148	148	148	148	148	148	148
12	-	-	-	26	98	-	12	-	-	-	-	-	-
12	-	-	-	6	78	-	-	-	-	-	-	-	-
-	-	-	-	20	20	-	-	-	-	-	-	-	-
453	453	453	453	453	453	453	453	475	475	485	485	485	485
12	25	-	-	165	165	-	22	56	40	-	-	-	-
12	-	-	-	120	120	-	-	31	30	-	-	-	-
-	25	-	-	45	45	-	-	25	-	-	-	-	-
453	453	453	453	453	453	453	475	475	485	485	485	485	485
382	382	382	382	382	382	382	382	382	382	382	382	382	382
18.6%	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%	24.3%	24.3%	27.0%	27.0%	27.0%	27.0%	27.0%
8.7	8.9	9.9	10.9	6.8	2.7	3.7	4.5	3.9	3.9	4.9	5.9	6.8	7.8
521	521	521	521	521	521	521	549	549	549	549	549	549	549

Figure 51: Fleet Plan CONTINUED

Fleet	In Service	Retire	2004	2005	2006	2007	2008	2009	2010	2011
TROLLEY COACH INVENTORY										
Standard TC (40ft/12.2m)										
2000 - ETI (5401-5481)	2002	2022	81	81	81	81	81	81	81	81
2000 - ETI (5482-5640)	2003	2023	159	159	159	159	159	159	159	159
2022-New (replaces 2000-ETI)	2022	2042								
2023-New (replaces 2000-ETI)	2023	2043								
Revenue Fleet			240	240	240	240	240	240	240	240
New Vehicles			-	-	-	-	-	-	-	-
Retired Vehicles			-	-	-	-	-	-	-	-
Articulated TC (60ft/18.3m)										
1992 - New Flyer (7000-7059)	1994	2014	60	60	60	60	60	60	60	60
2003 - ETI (7101-7133)	2003	2023	33	33	33	33	33	33	33	33
2014-New (replaces 1992-New Flyer)	2014	2034								
2023-New (replaces 2003-ETI)	2023	2043								
Revenue Fleet			93	93	93	93	93	93	93	93
New Vehicles			-	-	-	-	-	-	-	-
Retired Vehicles			-	-	-	-	-	-	-	-
Trolley Coach Summary										
Revenue Fleet-Start of FY			333	333	333	333	333	333	333	333
New Vehicles			-	-	-	-	-	-	-	-
Retired Vehicles			-	-	-	-	-	-	-	-
Revenue Fleet-End of FY			333	333	333	333	333	333	333	333
Peak Demand			264	264	264	264	264	264	264	264
Spare Ratio			26.1%	26.1%	26.1%	26.1%	26.1%	26.1%	26.1%	26.1%
Avg. Vehicle Age			2.9	3.9	4.9	5.9	6.9	7.9	8.9	9.9
SCE (Capacity)			380	380	380	380	380	380	380	380
LIGHT RAIL VEHICLE INVENTORY										
1995 - Breda (1400-1424)	1997	2024	25	25	25	25	25	25	25	25
1995 - Breda (1425-1451)	1998	2025	27	27	27	27	27	27	27	27
1995 - Breda (1452-1475)	1999	2026	24	24	24	24	24	24	24	24
1995 - Breda (1476-1481)	2000	2027	6	6	6	6	6	6	6	6
1995 - Breda (1482-1508)	2001	2028	27	27	27	27	27	27	27	27
1995 - Breda (1509-1534)	2002	2029	26	26	26	26	26	26	26	26
1995 - Breda (1535-1550)	2003	2030	16	16	16	16	16	16	16	16
2013 - New - Expansion (Mission Bay)	2016	2043								
2013 - New - Expansion (CS)	2016	2043								
2013 - New - Expansion (JKLMN)	2015	2042								
2022 - New - Replacement	2024	2051								
2022 - New - Replacement	2025	2052								
Revenue Fleet-Start of FY			151	151	151	151	151	151	151	151
New Vehicles			-	-	-	-	-	-	-	-
Retired Vehicles			-	-	-	-	-	-	-	-
Revenue Fleet-End of FY			151	151	151	151	151	151	151	151
Peak Demand			110	110	110	115	115	115	115	115
Spare Ratio			37.3%	37.3%	37.3%	31.3%	31.3%	31.3%	31.3%	31.3%
Avg. Vehicle Age			4.2	5.2	6.2	7.2	8.2	9.2	10.2	11.2
SCE (Capacity)			151	151	151	151	151	151	151	151

Figure 51: Fleet Plan CONTINUED

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
81	81	81	81	81	81	81	81	81	81				
159	159	159	159	159	159	159	159	159	159	159			
										81	81	81	81
											159	159	159
240	240	240	240	240	240	240	240	240	240	240	240	240	240
-	-	-	-	-	-	-	-	-	-	81	159	-	-
-	-	-	-	-	-	-	-	-	-	81	159	-	-
60	60												
33	33	33	33	33	33	33	33	33	33	33			
		60	60	60	60	60	60	60	60	60	60	60	60
											33	33	33
93	93	93	93	93	93	93	93	93	93	93	93	93	93
-	-	60	-	-	-	-	-	-	-	-	33	-	-
-	-	60	-	-	-	-	-	-	-	-	33	-	-
333	333	333	333	333	333	333	333	333	333	333	333	333	333
-	-	60	-	-	-	-	-	-	-	81	192	-	-
-	-	60	-	-	-	-	-	-	-	81	192	-	-
333	333	333	333	333	333	333	333	333	333	333	333	333	333
270	270	270	270	259	259	259	259	259	259	259	259	259	259
23.3%	23.3%	23.3%	23.3%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%	28.6%
10.9	11.9	9.3	10.3	11.3	12.3	13.3	14.3	15.3	16.3	12.4	1.9	2.9	3.9
380	380	380	380	380	380	380	380	380	380	380	380	380	380
25	25	25	25	25	25	25	25	25	25	25	25		
27	27	27	27	27	27	27	27	27	27	27	27	27	
24	24	24	24	24	24	24	24	24	24	24	24	24	24
6	6	6	6	6	6	6	6	6	6	6	6	6	6
27	27	27	27	27	27	27	27	27	27	27	27	27	27
26	26	26	26	26	26	26	26	26	26	26	26	26	26
16	16	16	16	16	16	16	16	16	16	16	16	16	16
				10	10	10	10	10	10	10	10	10	10
				4	4	4	4	4	4	4	4	4	4
			10	10	10	10	10	10	10	10	10	10	10
												25	25
													27
151	151	151	151	161	175	175	175	175	175	175	175	175	175
-	-	-	10	14	-	-	-	-	-	-	-	25	27
-	-	-	-	-	-	-	-	-	-	-	-	25	27
151	151	151	161	175	175	175	175	175	175	175	175	175	175
115	115	115	123	134	134	134	134	134	134	134	134	134	134
31.3%	31.3%	31.3%	30.9%	30.6%	30.6%	30.6%	30.6%	30.6%	30.6%	30.6%	30.6%	30.6%	30.6%
12.2	13.2	14.2	14.2	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	18.2	15.0
151	151	151	161	175	175	175	175	175	175	175	175	175	175

Figure 51: Fleet Plan CONTINUED

Fleet	In Service	Retire	2004	2005	2006	2007	2008	2009	2010	2011
HISTORIC STREETCAR INVENTORY										
1946 - PCC (1050-1063)			14	14	14	14	14	14	14	14
1948 - Muni Double-Ended PCC			3	3	3	3	3	3	3	3
1928 - Milan Peter Witt			10	10	10	10	10	10	10	10
2006 - NJT PCC			-	-	11	11	11	11	11	11
2007 - New/Rehab (Seg. 4)			-	-	-	7	7	7	7	7
2008 - New/Rehab (Seg. 3)			-	-	-	-	7	7	7	7
2007 - New/Rehab (N.O. #952)			-	-	-	1	1	1	1	1
Revenue Fleet-Start of FY			27	27	27	38	46	53	53	53
New Vehicles			-	-	11	8	7	-	-	-
Retired Vehicles			-	-	-	-	-	-	-	-
Revenue Fleet-End of FY			27	27	38	46	53	53	53	53
Peak Demand			19	20	20	23	24	27	27	27
Spare Ratio			42.1%	35.0%	90.0%	100.0%	120.8%	96.3%	96.3%	96.3%
Avg. Vehicle Age			NA	NA	NA	NA	NA	NA	NA	NA
SCE (Capacity)			27	27	38	46	53	53	53	53
CABLE CAR INVENTORY										
Powell Cars (1-28)			28	28	28	28	28	28	28	28
California Cars (49-60)			12	12	12	12	12	12	12	12
Revenue Fleet-Start of FY			40	40	40	40	40	40	40	40
New Vehicles			-	-	-	-	-	-	-	-
Retired Vehicles			-	-	-	-	-	-	-	-
Revenue Fleet-End of FY			40	40	40	40	40	40	40	40
Peak Demand			30	30	30	30	30	30	30	30
Spare Ratio			33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Avg. Vehicle Age			NA	NA	NA	NA	NA	NA	NA	NA
SCE (Capacity)			40	40	40	40	40	40	40	40
MOTOR COACH RESERVE INVENTORY										
Reserve Standard Bus (40ft/12.2m)										
1988 - New Flyer (8801-8850)	1988	2002	45							
1989 - New Flyer (8901-8956)	1989	2003		45	31					
1999 - NABI (8001-8045)	1999	2013				20	20	20	20	20
1999 - Neoplan/Option (8101-8235; 8301-8304)	2002	2016								
1999 - Neoplan Option (8305-8371)	2003	2017								
1993 - AC Transit Gilligs	1993	2007			14	25	25	25	25	25
2006 - New Alt. Fuel (replaces 1989-New Flyer)	2006	2020								
Reserve Fleet			-	45	45	45	45	45	45	45
New in Reserve Fleet			-	45	14	31	-	-	-	-
Retired from Reserve			-	45	14	31	-	-	-	-
Reserve Articulated Bus (60ft/18.3m)										
1991 - New Flyer (9101-9124)	1991	2005								
1991 - New Flyer Rehab (9101-9124)	2005	2012								
2001 - Neoplan (6200-6225)	2002	2016								
2001 - Neoplan (6226-6299)	2003	2017								
2002 - Neoplan Option (6401-6424)	2003	2017								
Reserve Fleet			-	-	-	-	-	-	-	-
New in Reserve Fleet			-	-	-	-	-	-	-	-
Retired from Reserve			-	-	-	-	-	-	-	-
Reserve Summary										
Reserve Fleet-Start of FY			45	45	45	45	45	45	45	45
New in Reserve Fleet			-	45	14	31	-	-	-	-
Retired from Reserve			-	45	14	31	-	-	-	-
Reserve Fleet-End of FY			45	45	45	45	45	45	45	45
SCE (Capacity)			-	45	45	45	45	45	45	45

Figure 51: Fleet Plan CONTINUED

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
14	14	14	14	14	14	14	14	14	14	14	14	14	14
3	3	3	3	3	3	3	3	3	3	3	3	3	3
10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	11	11	11	11	11	11	11	11	11	11	11	11	11
7	7	7	7	7	7	7	7	7	7	7	7	7	7
7	7	7	7	7	7	7	7	7	7	7	7	7	7
1	1	1	1	1	1	1	1	1	1	1	1	1	1
53	53	53	53	53	53	53	53	53	53	53	53	53	53
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	53	53	53	53	53	53	53	53	53	53	53	53	53
27	27	27	27	27	27	27	27	27	27	27	27	27	27
96.3%	96.3%	96.3%	96.3%	96.3%	96.3%	96.3%	96.3%	96.3%	96.3%	96.3%	96.3%	96.3%	96.3%
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
53	53	53	53	53	53	53	53	53	53	53	53	53	53
28	28	28	28	28	28	28	28	28	28	28	28	28	28
12	12	12	12	12	12	12	12	12	12	12	12	12	12
40	40	40	40	40	40	40	40	40	40	40	40	40	40
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	40	40	40	40	40	40	40	40	40	40	40	40	40
30	30	30	30	30	30	30	30	30	30	30	30	30	30
33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
40	40	40	40	40	40	40	40	40	40	40	40	40	40
20	45	45	45										
				25									
					25	25	25						
25													
								25	25	25	25	25	25
45	45	45	45	25	25	25	25	25	25	25	25	25	25
-	20	-	-	25	25	-	-	25	-	-	-	-	-
-	20	-	-	45	25	-	-	25	-	-	-	-	-
				20									
					20	20	20	20	20	20	20	20	20
-	-	-	-	20	20	20	20	20	20	20	20	20	20
-	-	-	-	20	20	-	-	-	-	-	-	-	-
-	-	-	-	-	20	-	-	-	-	-	-	-	-
45	45	45	45	45	45	45	45	45	45	45	45	45	45
-	20	-	-	45	45	-	-	25	-	-	-	-	-
-	20	-	-	45	45	-	-	25	-	-	-	-	-
45	45	45	45	45	45	45	45	45	45	45	45	45	45
45	45	45	45	55	55	55	55	55	55	55	55	55	55

Motor Coaches

Muni operates a fleet of 495 motor coaches in revenue service, providing service on 54 lines, carrying nearly 282,000 riders each weekday. The motor coach fleet is a combination of 30-foot small, 40-foot standard, and 60-foot articulated vehicles, as shown in Figure 52.

Figure 52: Motor Coach Fleet

Motor Coach Fleet	Vehicles
Small (30ft)	45
Standard (40ft)	302
Articulated (60ft)	148
Total	495

Current Activities

Clean Air Devices: Muni is currently retrofitting 375 diesel buses with PM (particulate matter) filters and NO_x (oxides of nitrogen) reduction devices. These installations will reduce each vehicle's PM by 85% and NO_x by 25%. By the end of July 2005, Muni expects that 257 devices will be installed. The remaining units should be installed by the end of October 2005. Clean air devices will also be installed on the 45 Gillig buses purchased from AC Transit and the 12 New Flyer articulated vehicles that will undergo an end-of-life rehabilitation.

Hybrid procurements: Muni is completing the replacement of its motor coach fleet with clean air technologies. The first step is to purchase 56 standard electric-diesel hybrids. The production contract award is anticipated to be finally approved by August 2005. Muni is currently preparing specifications for a negotiated procurement of 30 small electric-diesel hybrids. This latter procurement was originally for 40 vehicles, but the remaining 10 coaches have been traded for preventive maintenance funding. Through an arrangement with MTC, these 10 coaches must not be replaced before one useful life cycle has expired.

AC Transit Gilligs: To replace its oldest diesel engines with modern, ultra-low emission engines, Muni has purchased 45 1993 Gillig buses from AC Transit. The 1993 Gilligs have been repowered with modern diesel engines that are nearly identical to the engines in Muni's existing fleet of 375 Neoplan buses. These low emission engines will also be retrofitted with clean air devices, allowing them to reach 2007 regulatory requirements for new engine PM emissions. These vehicles will initially be used in revenue service allowing Muni to retire almost all of the 1988/1989 New Flyers out of the revenue fleet. After the hybrid procurements are complete, the Gilligs will be used in the reserve fleet.

Rehabilitate 12 New Flyer Articulated Motor Coaches: To increase the carrying capacity of the fleet, 12 New Flyer articulated coaches will be rehabilitated to extend their useful life by 7 years. This project was originally scoped to rehabilitate 24 coaches, but the remaining 12 coaches have been traded for preventive maintenance funding. Through an arrangement with MTC, these 12 coaches must not be replaced before one useful life cycle has expired.

Vehicle Retirements: In an effort to remove some of its oldest buses from the revenue fleet, Muni will be retiring a number of vehicles. The first group will be 12 New Flyer Articulated coaches that originally went into service in 1991. Another group of 10 Orion 30-foot buses will also be retired. Together, these retirements will reduce the motor coach fleet from 495 to 473.

Service Reductions: The FY2006 Operating Budget anticipated service reductions. When such reductions are implemented, they will be submitted as an update to the Fleet Plan. If the service reductions are anticipated to be permanent, the size of future vehicle procurements will be adjusted downward accordingly. If the service reductions are temporary, once revenues increase, service will be

reinstated. Specific service change proposals have not been approved and therefore are not included in this Fleet Plan.

Preventive Maintenance Funds: To help address the shortfall in the FY2006 Operating Budget, Muni will forego the replacement of two subfleets of motor coaches. As described previously, the 30-foot Hybrid procurement has been reduced from 40 vehicles to 30, with the funding for 10 vehicles being converted to preventive maintenance funds (PM). Also the 24 New Flyer Articulated Motor Coach Rehabilitation project has been reduced from 24 to 12 vehicles, with the 12 being converted to PM. Muni will be allowed to bring these vehicles back into the revenue fleet using regional federal funds once the vehicles have been out of the program for one useful life cycle. For the 12 articulated coaches this would be in 2019, and 2021 for the 10 30-foot vehicles. As these dates approach, the need for these vehicles will be reassessed based on ridership trends and vehicle demand.

Motor Coach Replacement

FTA requires that motor coaches purchased using federal funds operate in revenue service for a minimum of 10 years for small vehicles and 12 years for standard and articulated vehicles. At the regional level, MTC allows transit agencies to program federal funds for the replacement of motor coaches when they have reached their 12th year in revenue service, for all types of vehicles. Due to the time needed to develop and award the procurement, and to test and receive the vehicles, motor coaches must effectively remain in revenue service for 14 years. It is with these replacement cycles that motor coach procurements are scheduled in Muni's Fleet Plan (See Figure 51). As mentioned previously, Muni is nearing completion of replacement of a significant portion of the motor coach fleet. The remaining 96 coaches are anticipated to be replaced with alternative fuel vehicles, as discussed in greater detail below.

Motor Coach Rehabilitation

To ensure that the fleet of motor coaches is able to function in good working order throughout their service life, it is prudent to conduct a midlife rehabilitation of major vehicles systems. The fleet plan includes midlife rehabilitation projects scheduled at 7 years in revenue service, although the funding for these projects has not been identified in the Capital Plan.

At this time, fleet rehabilitation projects that only allow the vehicle to reach the end of its useful life are placed relatively low on the region's funding priorities. This means that these types of rehabilitation projects must be funded by non-federal sources. However, vehicle rehabilitation that extends the life of the vehicle by at least half of its useful life ranks high on the region's funding priorities, comparable to fleet replacement projects. Muni has funded midlife rehabilitations through the Operating Budget on an as needed basis.

Motor Coach Expansion

At this time there are no expansions anticipated for the motor coach fleet. However there are two efforts that Muni is exploring which may impact the number of vehicles in the motor coach fleet. The first is the Schedule and Headway Adherence Study, which recommends that Muni procure 17 additional motor coaches to increase the number of peak vehicles available. These vehicles will not provide additional service; rather they are required to maintain the existing service schedules. By updating the schedules and expanding the fleet, Muni could significantly improve service reliability. Before this type of expansion could be contemplated, Muni would need to identify operating resources needed to fund these additional operating costs. The second is the Route Electrification Study, which identifies a number of potential conversions of motor coach lines to electric trolley operation. It is anticipated that a conversion project of this type would allow for trolley coaches to replace motor coaches equal in number to those needed to operate the line. Thus, while the trolley coach fleet would increase, the motor coach fleet would decrease by a similar number of vehicles (also see Trolley Coach Expansion and Route Electrification Study). As these proposals develop they will be incorporated into future revisions to the Fleet Plan.

Bus Rapid Transit

New, different types of vehicles may be added to Muni's fleet as part of the Bus Rapid Transit program. Bus Rapid Transit (BRT) is a high quality, state-of-the-art bus service that reduces travel time, increases reliability and improves passenger comfort. BRT combines the flexibility of buses and the quality of light rail at a fraction of the cost. A key feature of BRT systems across the US and the world are high-capacity buses, designed to mimic light rail vehicles. BRT vehicles are designed with wider doors for faster boarding and exiting, low floors or special equipment for level boarding, and more comfortable interiors. BRT vehicles will use alternative fuels. The Geary Corridor BRT and Van Ness BRT studies will assess the benefits and costs of acquiring new vehicles, including the costs of related infrastructure and facilities upgrades. While new buses are desirable, it is possible to implement BRT with existing buses and transition to new vehicles at the end of the useful life of the current fleet.

Peak Demand

Peak demand is the revenue vehicle count during the peak season of the year, on the weeks and days that maximum service is provided. It excludes atypical days and one-time special events. Current peak demand is 397. The only planned change at this time to motor coach demand comes with changes associated with the startup of Third Street Phase 1, the IOS. The current 15-Third motor coach line will be replaced with light rail service. At the same time a number of lines, most significantly the 9X series, will be adjusted to meet service needs previously covered by the 15-Third line that will not be served by the IOS. This results in a net reduction of 15 peak vehicles, for a peak demand of 382.

Figure 53: Motor Coach Change in Peak Demand

Service	MC Demand
Pre-IOS Start Up	397
IOS Change	-15
Post-IOS Start Up	382

Maintenance Demand

Current Maintenance Demand

To determine the total vehicles required for the peak period for both the maintenance and service requirements, Muni tracked current maintenance demand between December 2004 and March 2005. The source of the data is Muni's "Shop History and Online Parts System" (SHOPS). This software is transit specific for maintenance and inventory tracking and is an off the shelf product from Spear Technologies. Vehicle availability data is saved twice daily in SHOPS by each of the seven maintenance facilities. The status of each revenue vehicle is saved prior to 8 a.m. for the AM Availability and prior to 4 p.m. for the PM Availability, and then measured against peak demand requirements. Vehicle availability data used for calculating the averages was for weekdays only, excluding holidays and weekends. The data was extracted from the SHOPS Facility Control Module, which provides a breakdown by type of vehicle holds. The AM Availability data was used exclusively for this exercise.

Motor coach management falls into four areas:

- Running Repair
- Modification and/or Retrofit
- Overhauls or Major Repairs
- Preventive Maintenance

Running Repair

Running repair includes coaches that are not in the shop for a scheduled activity such as a major repair or preventive maintenance. Running repair is comprised of defects made known by an in-service breakdown, a defect noted on an Operator Defect Card, unscheduled cleaning of debris or bodily fluids

and minor accident damage. Most of these tasks are completed and the coach is returned to revenue service within an hour or so, but frequently the workload can back up due to staffing or volume. This is an ongoing activity that remains fairly constant over time.

Modification / Retrofit

Modifications fall into two main categories and four subcategories of technology upgrades:

1. Neoplan retrofit program
2. Technology upgrade installations (avg. 4 coaches out of service)
    a. Cleaire or equivalent Particulate trap
    b. Video
    c. NextBus® (future daily requirements unknown)
    d. TransLink® (future daily requirements unknown)

These all presently or will soon require that coaches be kept in from revenue service to allow for this work to be done.

Overhauls / Major Repairs

Heavy repairs fall into four categories:

1. Engines
2. Transmissions
3. Frame cracks
4. Brakes/Cooling/etc.

These repairs are labor intensive and require considerable material resources. A significant challenge in this area is eliminating the backlog of heavy repair needs. In addition to addressing the individual failure of an engine, Muni also addresses future transmission failures on the coach by assembling engine modules comprised of a rebuilt engine and transmission package.

There is currently a backlog of engine overhauls needed for 1988/1989 New Flyer motor coaches. These vehicles have operated beyond their useful life and are due for replacement. Two efforts are currently underway to remove the last of these vehicles from the revenue fleet. The first is the purchase of 45 1993 Gilligs from AC Transit. These vehicles recently underwent an engine overhaul and are in good working condition. The few remaining New Flyers will be replaced by the procurement of hybrid coaches scheduled for delivery starting in October 2006.

The Orion fleet has operated beyond its useful life and is due for replacement. While a replacement project is moving forward, retirement of the Orion fleet may not occur until 2007. In the meantime, the Orion frame has developed cracks, leading to a large number of these vehicles being held out of daily service.

Brakes, cooling, heaters, and other systems all require routine repairs that can at times put a strain on the maintenance capability of the system. These are often seasonal (heaters and defrosters in winter or cooling problems in the summer), and require intense efforts to keep maximum fleet availability.

Preventive Maintenance

Preventive maintenance is a mainstay of Muni's maintenance efforts, with reliability improving steadily over the past three years in spite of the accumulation of the work backlog this Recovery Plan addresses.

Muni intends to constantly improve this PM program to move from a position of reactive maintenance to a better planned, more consistent and more proactive maintenance operation. With the implementation of the new Maintenance Management software, Muni projects an ability to schedule maintenance more accurately, plan better resource utilization, and build a more cost-effective maintenance program.

Figure 54: Motor Coach Maintenance Average Daily Demand Summary

Maintenance Demand	FY05	FY06	FY07	FY08	FY09
Running Repair	42	42	42	42	42
Mod/Retrofit	15	10	10	10	0
Overhauls/Major Repairs	64	27	25	25	25
Preventive Maintenance	7	7	7	7	7
Total	128	86	84	84	74

Recovery Plan

Daily motor coach availability has been negatively affected by four factors:

1. Neoplan retrofit program (10 coaches out of service)
2. Neoplan transmission problems (avg. 15 coaches out of service)
3. Orion frame and engine failures (avg. 15 coaches out of service)
4. Technology upgrade installations (avg. 4 coaches out of service)
    - Cleaire Particulate Matter/NO_x Traps
    - Video Surveillance Systems
    - NextBus® (future)
    - TransLink® (future)

In the past Muni has maintained service levels by utilizing its reserve fleet to bridge the gap between available equipment and service demand. Muni recognizes the importance of discontinuing this practice. The following recovery measures outline Muni's efforts that are now underway to restore fleet availability to acceptable levels.

Establish In-House Transmission Repair Capability for the B-500 Allison

Muni purchased Allison certified Transmission Diagnostic and Rebuild training for the B-400 and B-500 transmissions.

Transmissions that can be rebuilt by Muni are being installed at both the Woods Shop and at the Allison Distributor's shop at the rate of two (2) per week. The present backlog of work will extend into early July of 2005. However, the present failure rate is about two (2) per week, so resolution of the transmission problem will not be realized until the whole fleet has had updated components installed, pushing final resolution out to approximately November 2008. As of April 2005 Muni has completed 114 unit transmission change-outs.

Outsource Orion Frame Repairs

Out of the fleet of 45 Orions, 11 have recently developed frame cracks. As described previously, the Orions are operating past their useful life and are due for replacement. A procurement project is moving forward, but vehicle delivery may be some time off. The Orion frame cracks are a short-term problem that will be resolved by the end of the FY05. Muni had six Orion coaches repaired by Complete Coach Works at a cost of $25,000 each. Muni has five additional Orions needing frame repair, but these will be included in the 10 Orions slated for retirement. This will resolve the current backlog of vehicles, allowing Muni to identify and resolve possible future frame cracks in a timely basis.

Increase Engine Repair Capacity

Muni has arranged for the purchase of sound used engine blocks from Seattle and some miscellaneous 6V92 engines for the New Flyer fleet. New Flyer engine replacements have not been a priority because they will be replaced by the AC Transit coaches. However, Muni expects that by the end of 2005, the New Flyer hold count for engines will be abated, provided there are not heavy failures during the summer

months. The current failure rate is about one per month, with Shop production at two per month. There is also a current backlog that Maintenance will eliminate by January 2006. Once the backlog is eliminated, Maintenance will be able to address any failures on the few remaining New Flyer coaches without affecting the number of vehicles available to meet peak demand.

Brakes/Cooling/Heaters

The retrofit by Neoplan and the installation of the Young/Touchstone units should reduce future fleet defects. Nevertheless, these types of repairs are always in house and represent considerable allocation of the systems skilled resources and material expenditures.

Figure 55: Motor Coach Maintenance Recovery Plan

Year	FY05	FY06	FY07	FY08	FY09
Maintenance Demand	128	86	84	84	74
Peak Demand	397	382	382	382	382
Revenue Fleet	495	453	453	453	453
Vehicle Surplus/Deficit	-30	-15	-13	-13	-3

Fleet Size

A number of changes to the composition of the motor coach fleet are planned in the next few years. Muni started 2005 with 495 motor coaches. As the economy has cooled off, the pressure for Muni to provide additional service has subsided. Also, Muni is making a commitment to operate with a 20% spare ratio, which will require reducing the size of the fleet. The first step is to retire 10 Orion (30-ft) and 12 New Flyers (60-ft) in 2005. This will bring the spare ratio down to 20% for motor coaches. The change will also provide the operating budget with $6M, as vehicle replacement funds are swapped for preventative maintenance dollars. When the IOS begins service, motor coach demand will further decrease. This will allow Muni to further reduce the motor coach fleet by 20 vehicles in 2006. Finally, the hybrid procurements will shift the fleet mix by reducing the small 30-foot fleet by 5 vehicles and increasing the standard 40-foot fleet by 5 vehicles. This will not change the overall fleet size, but will increase carrying capacity. These changes are summarized in Figure 56.

Figure 56: Motor Coach Planned Changes in Fleet Size

	As of Jan. 2005	Retire 22 vehicles	IOS Startup	Hybrid Procurement
Small	45	35	35	30
Standard	302	302	282	287
Articulate	148	136	136	136
Total	495	473	453	453

Spare Ratio

As of January 2005, Muni had 495 motor coaches with a peak demand of 397 vehicles. This resulted in a 24.7% spare ratio. To bring the spare ratio within the 20% FTA required level, Muni will retire 10 Orion (30-ft) and 12 New Flyers (60-ft). This will bring the spare ratio down to 20%. At IOS startup, peak demand will decrease by 15 vehicles, allowing 20 additional motor coaches to be retired from the revenue fleet and moved into the reserve fleet to remain at a 20% spare ratio. Finally the hybrid procurement will shift the fleet mix in favor of larger capacity vehicles, and will not change the spare ratio. These adjustments are summarized in Figure 57.

Figure 57: Motor Coach Spare Ratio Changes

	As of Jan. 2005	Retire 22 vehicles	IOS Startup	Hybrid Procurement
Fleet Size	495	473	453	453
Peak Demand	397	397	382	382
Spares/Float	98	76	71	71
Spare Ratio	24.7%	19.1%	18.6%	18.6%

Trolley Coaches

The trolley coach fleet carries over 236,000 riders each weekday. Trolley coaches are rubber-tired vehicles, powered electrically through overhead wires above the street right-of-way. Trolley coaches are zero-emission vehicles, operate with very little noise, and can perform effectively on grades far steeper than motor coaches or most rail vehicles. Currently, Muni operates the largest trolley coach fleet in the United States. The trolley coach fleet is a mix of 40-foot standard and 60-foot articulated coaches. With the completion of the ETI procurement, the trolley coach fleet mix is as shown in Figure 58.

Figure 58: Trolley Coach Fleet

Manufacturer	Year	Type	Vehicles
ETI	2000	Standard (40ft)	240
New Flyer	1992	Articulated (60ft)	60
ETI	2003	Articulated (60ft)	33
Total			333

Trolley Coach Replacement

Muni recently completed the replacement of 295 1976-Flyer coaches with 240 standard and 33 articulated ETI coaches. FTA requires that trolley coaches purchased using federal funds operate in revenue service for a minimum of 18 years. MTC requires that the vehicle be in service for 18 years before replacement funds can be programmed. As with the motor coach replacement projects, this generally adds two years to the effective life of the vehicle to allow for procurement and delivery. This sets the schedule for trolley coach replacement at 20 years as shown in Figure 51.

Trolley Coach Rehabilitation

To ensure that the fleet of trolley coaches is able to function in good working order throughout their 20-year service life, it is prudent to conduct a periodic rehabilitation of major vehicle systems. It is currently anticipated that rehabilitation campaigns should be conducted at 6 and 12 years in service. At this time, fleet rehabilitation projects that only allow the vehicle to reach the end of its useful life are placed relatively low on the region's funding priorities. This means that these types of rehabilitation projects must be funded by non-federal sources. For these reasons the midlife rehabilitation program is currently not funded through the capital program. However, vehicle rehabilitation which extends the life of the vehicle by at least half of its useful life rank high on the region's funding priorities, comparable to fleet replacement projects.

Trolley Coach Expansion

With the recent ETI trolley coach procurement completed, the total number of trolley coaches decreased from 355 to 333 vehicles, as a number of standard coaches were replaced with articulated vehicles. There are no expansions to the trolley coach fleet that are funded at this time. However there are two efforts that Muni is exploring which may impact the number of vehicles in the trolley coach fleet. The first is the Schedule and Headway Adherence Study, which recommends that Muni procure 21 additional trolley coaches to increase the number of peak vehicles available. These vehicles will not provide additional

service; rather, they are required to maintain the existing service schedules. By updating the schedules and expanding the fleet, Muni could significantly improve service reliability. However, before this type of expansion could be contemplated, Muni would need to identify operating resources needed to pay for this additional service.

The second effort is the Route Electrification Study, which identifies a number of potential trolley coach extensions and conversions of motor coach lines to electric trolley coach operation. The length of the trolley coach extension would determine the number of expansion coaches needed to maintain current service frequencies on the line. In the case of converting motor coach lines to electric trolley operation, it is anticipated that motor coaches could be replaced with a comparable number of trolley coaches. Thus, the trolley coach fleet would increase, while the motor coach fleet would decrease by a similar number of vehicles. The primary constraint on an expansion to the trolley coach fleet is the availability of storage and maintenance space. The two current trolley coach facilities, Presidio and Potrero, are at capacity. Muni would need to build a new trolley coach facility or convert a portion of a motor coach facility to accommodate additional trolley coaches in the fleet. As these proposals develop they will be incorporated into future revisions to the Fleet Plan.

Peak Demand

As of January 2005, Muni had 333 trolley coaches with a peak demand of 264 vehicles. When ridership demand warrants, service on the 30-Stockton or 45-Presidio line will be extended into Mission Bay, increasing peak demand by 6 trolley coaches. With the opening of the Central Subway, the "short line" trips on the 30-Stockton line will be eliminated, decreasing peak vehicle demand by 11 vehicles. These changes are summarized in Figure 59.

Figure 59: Trolley Coach Changes in Peak Demand

Service Scenario	Change	Result
Jan. 2005		264
Mission Bay	+6	270
Central Subway	-11	259

Fleet Size

There are currently no planned changes to the size of the trolley coach fleet. If future increases in trolley coach service are developed, one strategy would be to reduce the maintenance demand on the fleet. If the current spare ratio of about 26% could be brought down around 20%, then about 12 additional peak vehicles will be available. As future service proposals that increase peak demand are developed, the Fleet Plan will be updated accordingly.

Spare Ratio

As of January 2005, Muni had 333 trolley coaches with a peak demand of 264 vehicles. This resulted in a 26.1% spare ratio. There are no planned changes to the number of vehicles in the trolley coach fleet at this time. When ridership demand warrants, service on the 30-Stockton or 45-Presidio line will be extended into Mission Bay, increasing peak demand by 6 trolley coaches, resulting in a 23.3% spare ratio. With the opening of the Central Subway, the "short line" trips on the 30-Stockton line will be eliminated, decreasing peak vehicle demand by 11 vehicles. This will result in a spare ratio of 28.6%. These changes are summarized in Figure 60.

Figure 60: Trolley Coach Changes in Spare Ratio

	As of Jan. 2005	Mission Bay	Central Subway
Fleet Size	333	333	333
Peak Demand	264	270	259
Spares/Float	69	63	74
Spare Ratio	26.1%	23.3%	28.6%

Light Rail Vehicles

Light rail vehicles are used in operation of the five Muni Metro Lines (J, K, L, M, and N), and the Castro Shuttle during peak periods only, carrying about 132,000 riders a day. These lines operate in conditions which range from exclusive right-of-way in the Muni Metro Subway, to mixed flow operation on city streets. LRVs provide an efficient, high capacity means of transporting large numbers of passengers.

LRV Replacement

In April 2003, Muni took delivery of the last of 151 new Breda LRVs. These vehicles replaced Muni's old Boeing SLRVs, and provided additional vehicles for operation on the Muni Metro Turnback, Muni Metro Extension, and for the Third Street Light Rail Phase 1-Initial Operating Segment. FTA requires that light rail vehicles purchased using federal funds operate in revenue service for a minimum of 25 years. As with the other fleets, MTC allows transit agencies to program federal funds for replacement vehicles when they have reached the end of their useful life, in this case 25 years. Due to the time needed to develop and award the procurement, and to test and receive the vehicles, LRVs must effectively remain in revenue service for 27 years. This sets the schedule for LRV replacement at 27 years as shown in Figure 51.

LRV Modification

Work is underway under three modifications to the Breda Contract, Modifications Nos. 9, 11 and 12. The work under these modifications is currently being performed by Breda at its facility in Pittsburg, California.

Modification No. 9: 3rd Brake control unit/Step extension/Video camera/Primary truck suspension: There are 20 cars to be completed under the Mod. 9 retrofit. Muni anticipates that they will be completed in February 2006.

Modification No. 11: Video camera installation on LRV fleet: There are approximately 75 cars included in the Mod. 11 work. Muni anticipates that this work will be completed by December 2005. .

Modification No. 12: Mod. 12 to the Breda Contract adds Brake Monitoring and Control Devices (EBALD) and brake overhaul and video surveillance equipment to the Breda fleet. This work is estimated to cost about $14 million, with about $10 million of this total to be funded using revenues from a Breda lease leaseback transaction. Funding is available to equip 151 cars with EBALD and perform a brake overhaul on 23 older LRVs. The Metro Support shop is engaged in a campaign to overhaul 23 air supply units with a new air dryer to support the brake overhaul. The brake overhaul is scheduled for completion by March 2006. Muni anticipates that the Mod. 12 EBALD element will be completed by November 2007, most of which will be performed by Breda at Green Division.

A number of other Breda safety modification projects have been grouped into the Breda Safety Modification program shown in the table below. At this time, funding for this program has not yet been identified.

Figure 61: Breda Safety Modifications ($2002)

Phase	Cost Est.
Interlock Step Cutout/Door	$1,350,000
Master Controller Mod	$2,750,000
Sensitive Edge Body Seals	$750,000
Emergency Door Release	$750,000
Lighting Ballasts Replace	$3,341,100
Auto Drop Pantograph	$3,000,000
Crew Door Control Switch	$55,000
Onboard Event Recorder	$3,000,000
Total	$14,996,100

LRV Rehabilitation

Based on industry standards, a regular program of rehabilitation projects should be scheduled for every five years the vehicle is in service. The rehabilitation of major components helps to ensure that the vehicles can operate with reliability and efficiency throughout their life. Each vehicle rehabilitation project would include rehabilitation or replacement of brakes, trucks, couplers, and HVAC system. However, as described earlier for the other modes, the region's federal program does not fund these types of midlife rehabilitation projects. Therefore, although these projects are included in the CIP, there are no available funds programmed in the capital program to perform the work.

LRV Expansion

There are currently three anticipated expansions to the LRV fleet. The first would require 10 additional vehicles to serve the developing Mission Bay Area as a short line operation on Third Street. Second, the Central Subway will require 4-5 additional vehicles. Finally, it is anticipated that an additional 10 vehicles will be needed to meet future service demand on existing Muni Metro lines (J, K, L, M, and N). These increases are included in the LRV Inventory in Figure 51.

In addition to these planned expansions to the LRV fleet, Muni has considered a number of light rail transit expansion projects, such as the Geary Corridor and Chinatown/North Beach. The additional LRVs required by these projects are not included in the LRV Inventory at this time. However, an estimate of the capital cost to procure the additional vehicles is included in the respective expansion project. As these expansion projects develop, their associated vehicle needs will be added to the LRV Inventory. Also, the expansion of the LRV fleet needed for a major corridor project such as Geary would require a new maintenance and storage facility.

Peak Demand

Current peak vehicle requirements on the J, K, L, M, N, and Castro Shuttle lines are 110 LRVs. When the Third Street IOS begins service in June 2006, peak demand will increase by 5 vehicles, as the K-line is extended along the Third Street line. When ridership demand warrants, a separate line will operate to the Mission Bay loop. Initially, this could be an extension of one of the existing Muni Metro lines, most likely the J-Church. Once the Central Subway is constructed, a separate Third Street "short line" would operate between Chinatown and the Mission Bay loop. Either of these options would require an additional 8 peak vehicles. When the Central Subway is operational, peak demand will increase by 3 vehicles. Finally, as passenger demand grows on the Muni Metro System, additional vehicles will be needed to expand capacity. This would add up to 8 peak vehicles to the system. These changes are summarized in Figure 62.

Figure 62: LRV Planned Changes in Peak Demand

Service Scenario	Change	Result
Jan. 2005		107
Third Street IOS	+8	115
Mission Bay	+8	123
Central Subway	+3	126
J,K.L,M,N Expansion	+8	134

Maintenance Demand

To determine the total vehicles required for the peak period for both the maintenance and service requirements, Muni tracked current maintenance demand between December 2004 and March 2005. The source of the data is Muni's SHOPS software (see Maintenance Demand section under Motor Coach discussion). The AM Availability data was used exclusively for this exercise.

Support Shop Services: The Support Shop performs all major component replacements, and heavy repair work. The scope of work includes repairing or replacing trucks, HVAC, couplers, pantographs, pneumatic packages, brakes, and wheel profiling. In addition, the Support Shop is engaged in vehicle reliability campaigns. There are typically five cars on hold for Support Shops on a daily basis.

Paint and Body Shop Services: The Paint & Body Shops perform ongoing fleet appearance programs and repair accident damage. There are typically two cars in the paint shop and one car in body repair at all times.

Preventive Maintenance: Preventive Maintenance Inspections are scheduled based on vehicle mileage. Inspections ensure the LRV equipment remains in good working order and equipment is inspected, adjusted, serviced and/or repaired to prevent premature failure due to fatigue and aging. Minor defective equipment is replaced during the inspection. There are four cars on inspection hold on average per day.

10-year Vehicle Overhaul: A ten-year vehicle overhaul is planned to begin in FY 2007. A systematic overhaul of all light rail vehicles is required every five years for the life of the vehicle to maintain reliability. This is a systematic overhaul of vehicle equipment that includes HVAC, brakes, couplers, pantograph, propulsion equipment, doors, suspension, wiring, electrical system, car body, cab, seats, and other equipment.

Figure 63: LRV Average Daily Maintenance Demand Summary

Maintenance Demand	FY05	FY06	FY07	FY08	FY09
Retrofits & Modifications	7	7	5	0	0
Corrective Maintenance	20	17	16	18	13
Accident Repairs	4	3	2	2	2
Support Shop Services	5	5	5	5	5
Paint & Body Shop Services	3	3	3	3	3
Preventive Maintenance	4	4	4	4	4
10-year Overhaul	0	0	0	4	4
Total	43	39	35	36	31

Recovery Plan

LRV availability has been negatively affected primarily by three factors:

1) Breda Retrofit and Modification Programs (7 LRVs out of service)
2) Corrective Maintenance (~30 LRVs out of service)
3) Accident Repairs (4 LRVs out of Service)

Retrofit and Modifications

Upon the completion of the work under Modification No.11 to the Breda Contract, currently forecast for December 2005, Muni will reduce the cars out of service for modification at any one time from 7 to 6. Upon the completion of the work required under Modification No. 9 to the Breda Contract in February 2006, Muni will reduce the number of cars out of service from 6 to 5.

Mod 9-3rd Brake control unit/Step extension/Video camera/Primary truck suspension: There are 27 cars to be completed under the Mod 9 retrofit. It is anticipated the 27 cars will be completed in February 2006.

Mod 11-Video camera installation on LRV2 & LRV3: There are approximately 75 cars included in Mod 11. It is anticipated that this work will be completed by December 2005. It is important to point out that Mod 11 work runs concurrent with Mod 9 and Mod 12 work.

Mod 12-EBALD / Brake Overhaul: There are 151 LRVs included in the Mod 12 program. Funding is available for 151 EBALD cars and 23 LRV2 cars for the Brake Overhaul. The Metro Support shop is engaged in a campaign to overhaul 23 Air Supply units with a new air dryer to support the Brake Overhaul. The Brake Overhaul is scheduled for completion by March 2006. It is anticipated that the Mod 12 EBALD element will be completed by November 2007.

Articulation Cracks: Due to a fleet defect, there is an articulation yoke repair program currently underway affecting the entire LRV fleet. Of the 151 cars in the fleet, 30% have been completed. Anticipated completion of this repair program is April 2006.

Corrective Maintenance

Muni is planning on a service demand of 112 vehicles when the Third Street IOS is opened for revenue service. In order to meet this demand, at a minimum the corrective maintenance hold must be reduced from 35 to 25 vehicles. In anticipation of the 2005 and 2006 baseball seasons and the Third Street IOS, Muni has several fleet reliability campaigns in progress. Unless otherwise indicated, these campaigns will continue for the life of the vehicle in five-year cycles, or until a vehicle overhaul program takes place.

V-Tag transponders & Control units: There is an ongoing fleet inspection to ensure V-tag functionality of the fleet. To date we have repaired/replaced 73 failed transponders/control units. This is an ongoing fleet campaign and will continue for the life of the vehicle in five-year cycles, or until a vehicle over haul program takes place.

P1/P2 Train line connectors: There is an ongoing fleet inspection to ensure electrical integrity of the P1/P2 train line connectors, which tend to fail primarily during winter months. To date, one car is on hold for train line connector related defects. The anticipated completion of repairs for these four cars is April 2005. This is an ongoing fleet campaign and will continue for the life of the vehicle in five-year cycles, or until a vehicle over haul program takes place.

Couplers: There is an ongoing coupler/draft gear overhaul and rebuild program in place at Muni to ensure a safe coupling operation, increase reliability and to extend service life of the unit. Support shop personnel remove, rebuild and replace couplers at the rate of four units per month. It is anticipated the fleet will be cycled out by April 2008. This is an ongoing fleet campaign and will continue for the life of the vehicle in five-year cycles, or until a vehicle over haul program takes place.

Pantographs: There is an ongoing weekly inspection and replacement program in place to ensure serviceability of pantograph rocker assembly carbons. Running repair replaces approximately 20 rocker assemblies per week. In addition, there is an ongoing pantograph assembly overhaul program in the Support Shop. Support Shop personnel replace worn or defective assemblies on the car at the rate of four pantograph assemblies per month. It is anticipated the pantograph assemblies on the fleet will be replaced by September 2008. This is an ongoing fleet campaign and will continue for the life of the vehicle in five-year cycles, or until a vehicle over haul program takes place.

HVAC: There is an ongoing HVAC unit repair and replacement program in the Metro Support Shop. The Support Shop repairs two defective units per month. In addition, Muni has a contract in place with Complete Coach Works to overhaul and upgrade 59 air conditioning units at the rate of four units per month. Upgrades include installing a scroll compressor, soldering all joints and installing a redesigned fresh air box. The upgrades will improve reliability, reduce maintenance and prolong service life. To date 24 units have been returned and installed on Muni LRVs. Muni is seeking additional funds to overhaul and upgrade the remaining units in the fleet. It is anticipated the fleet will be cycled out by September 2009. This is an ongoing fleet campaign and will continue for the life of the vehicle in five-year cycles, or until a vehicle overhaul program takes place.

Articulation Wiring Harnesses: There is an ongoing articulation harness repair/replacement program of the seven articulation cables on the roof of the LRV. The articulation harness failures are identified and we are installing an interim fix as prescribed by Fleet Engineering to return cars to revenue service. The scope of work for the interim fix requires 40 to 60 man-hours per car. To date the interim fix has been installed on 20 cars on an as failed basis. At the current rate of repair it is anticipated the fleet will be completed by December 2007. This is an ongoing fleet campaign and will continue until a vehicle over haul program takes place, at which time a permanent fix will be installed.

Unscheduled/Running Repairs: This is unscheduled or running maintenance for breakdowns and defects reported while the vehicle is in service. The Running Repair unit performs defect repairs that typically include propulsion, brakes, doors/steps, ATCS, train line issues, and couplers. In addition, Running Repair performs weekly inspections of specific car borne equipment, fleet preparation (includes functionality checks of safety critical elements), yard set-up for service pull-outs, train movements in the yard, vehicle modification installations, ongoing reliability campaigns and support to Fleet Engineering.

Accident Repairs

There are currently four vehicles on long-term hold due to accidents. Muni has received a quotation from Breda for the repair of one vehicle, Car #1541. It will be shipped to Breda for repair in April 2005. Anticipated return to Muni is September 2005. Muni intends to ship a second accident hold vehicle and anticipates that that vehicle will be returned to service June 2006. The remaining two accident vehicles have sustained extensive structural damage. The cost to repair these two vehicles may be fiscally prohibitive and it is recommended they be removed from the fleet and used for spare parts.

Figure 64: LRV Maintenance Recovery Plan

Year	FY05	FY06	FY07	FY08	FY09
Maintenance Demand	43	39	35	36	31
Peak Demand	107	115	115	115	115
Revenue Fleet	151	151	151	151	151
Vehicle Surplus/Deficit	1	-3	1	0	5

Fleet Size

The current LRV fleet consists of 151 Bredas. This includes 136 vehicles for the existing Muni Metro lines (J, K, L, M, N, and Castro Shuttle) and 15 LRVs for the Third Street line. Procurement of 10 LRVs will be needed to operate the Mission Bay short line. Finally, the Central Subway project will purchase 4 LRVs. These changes are summarized in Figure 65.

Figure 65: LRV Changes in Fleet Size

	As of Jan. 2005	Third St IOS	Mission Bay	Central Subway	J,K,LM,N Expansion
LRVs	151	151	161	165	175

Spare Ratio

As of January 2005, Muni had 151 motor coaches with a peak demand of 110 vehicles. This resulted in a 37.3% spare ratio. This spare ratio is relatively high since the fleet includes vehicles that will soon be required for the Third Street IOS. When the IOS starts operation the spare ratio will drop under 31%. The spare ratio will remain at this level for the foreseeable future as future service expansions will include the procurement of the required fleet. As part of the 3rd Street Phase 2 Central Subway supplemental EIS now underway, Muni will examine if the need for additional cars should be reduced. The changes to spare ratio over time are summarized in Figure 66.

Figure 66: LRV Changes in Spare Ratio

	As of Jan. 2005	Third St IOS	Mission Bay	Central Subway	J,K,L,M,N Expansion
Fleet Size	151	151	161	165	175
Peak Demand	110	115	123	126	134
Spares/Float	41	36	38	39	41
Spare Ratio	37.3%	31.3%	30.9%	31.0%	30.6%

Historic Light Rail Vehicles

The historic streetcar fleet is a collection of electric rail vehicles used on the F-Market & Wharves line, carrying nearly 14,000 trips per weekday. These include 17 Presidents' Conference Committee Cars (PCCs), 10 cars with a Peter Witt design from Milan, Italy, and other historic streetcars from the U.S. and around the world as shown in Figure 69. Muni currently runs 27 Historic Light Rail Vehicles (HLRVs) in regular revenue service. There are an additional 6 vehicles available for special service.

Milan Enhancements

The 10 Milan streetcars will undergo a series of enhancements to be performed in house by Muni maintenance staff. The enhancements include: installing an electro-pneumatic valve to electrically apply brakes, a switch to act in a dead-man function, a treadle switch on center door outboard step, a sensitive edge switch to center door panels, a manual override switch, a circuit breaker panel, a multi-speed backup controller with an interface to the brakes, a new Operator's cab heater, an air horn, and an air bell. This work is scheduled to be complete in 2007.

HLRV Rehabilitation

Due to their historic nature, the HLRV fleet is not replaced on a regular schedule. This makes a program of regular rehabilitation critical to the long-term operation of this fleet. Major overhauls are currently scheduled for every ten years a vehicle is in service. These overhauls extend the useful life of each vehicle, as well as ensuring ongoing reliable operation. The subfleet of 17 PCCs will begin the 10-year overhaul program in 2007.

Fleet Size/HLRV Expansion

The current historic streetcar fleet consists of 17 PCCs and 10 Milan cars. The popularity of the F-line and planned future expansion service requires Muni to add vehicles to the historic fleet. There are several procurement and rehabilitation projects moving forward to expand the size of the historic streetcar fleet.

In the next phase, Muni will rehabilitate 6 historic vehicles to meet CPUC and ADA requirements, and perform a major overhaul of one vehicle (#189). This project is fully funded and will bring the revenue fleet of HLRVs to 34 streetcars when complete in 2007.

In another phase, Muni will rehabilitate 6 PCCs to meet CPUC and ADA requirements, and perform a major overhaul of Historic Car #1. This project will bring the revenue fleet of HLRVs to 41 streetcars when complete in 2007.

Muni purchased 11 PCCs from New Jersey Transit. These vehicles are currently undergoing rehabilitation by Brookville Equipment Co. in Brookville, PA, and will be available for revenue service in 2006. Addition of the New Jersey Transit PCCs will bring the historic fleet up to 52 vehicles.

Finally, Muni has received funding through SFMRIC to purchase and rehabilitate a New Orleans streetcar. This will bring the total operational historic streetcar fleet to 53 vehicles.

This group of rehabilitation projects will provide additional vehicles so that Muni can expand F-line service, relieve pressure on some of the vintage vehicles now in daily use, and provide for future E-line service as described below.

These changes are summarized in Figure 67.

In addition to providing service to meet current F-line needs, there are plans to operate a separate historic streetcar line between Fisherman's Wharf and the Caltrain terminal at Fourth & King streets. The E-line would require 12 additional vehicles, increasing peak demand by 9 streetcars with three maintenance spares. To allow for this new line, low-level boarding platforms have been added at the stations along the MMX. One issue that is still to be resolved is how the streetcars will turn around when they reach the terminal at Fourth & King. The options are to construct an MMX terminal loop or limit operation to the double-ended vehicles in the historic fleet. Since funding for a terminal loop has not been identified, at this time E-line service would be constrained by the number of double-ended vehicles in the fleet. Currently Muni has nine double-ended HLRVs available for revenue service, although six of these require two operators, adding significantly to the cost of operations. It is anticipated that E-line service could be phased in beginning in 2006 if resources can be identified to cover the projected additional operating expenses.

Finally, an effort is currently underway to explore the possibility of extending the proposed historic streetcar extension from Fisherman's Wharf through National Park Service lands in Aquatic Park and Fort Mason. From Fort Mason, further extension of historic streetcar service to The Presidio is also under consideration. This effort is being lead by a partnership of non-profit agencies, the National Park Service and Muni. Additional vehicles required by this project will need to be identified as the study effort progresses. Also a funding strategy will need to be developed at that time.

Figure 67: Historic Streetcar Changes in Fleet Size

	Subfleet	Total
PCCs	17	17
Milan	10	27
NJT PCCs	11	38
6 ADA/CPUC + #189	7	45
6 ADA/CPUC + #1	7	52
New Orleans car	1	53

Peak Demand

Current peak demand on the F-line is 21 vehicles. There are a range of potential E-line service schedules. A minimum demonstration weekend only service would operate 8 hours a day at 44 minute frequencies, requiring 2 streetcars. A more frequent demonstration line could operate on weekends only at 30 minute frequencies with 3 peak vehicles. The minimum E-line service would operate 20-hours per day, seven days a week, at roughly 22 minute headways, requiring 4 peak vehicles. Finally the optimum E-line service would operate 20 hours per day, seven days a week, at 15 minute peak headways, requiring 6 additional peak vehicles. These service scenarios are show in Figure 68.

Figure 68: Historic Streetcar Peak Demand

Service Plan Alternatives	Peak Demand	Weekday Maintenance Demand	Total Fleet Requirement
F-line (w/ Shuttle)	21	6	27
Weekend Demo 1	2	2	4
Weekend Demo 2	3	2	5
E-line 1	4	2	6
E-line 2	6	3	9

Maintenance Demand/Spare Ratio

The current historic streetcar fleet consists of 27 vehicles. With a peak vehicle demand of 20, the historic streetcar fleet has a 35.0% spare ratio. The historic streetcar fleet has a relatively high spare ratio due to the historic nature of the fleet. These vehicles are largely "one-of-a-kind" and often require handcrafting replacement parts. For this reason it can take significantly longer to bring a historic streetcar back into service than a modern LRV. Also due to their historic nature a number of streetcars cannot run continuous 20-hour runs, seven days a week, though the demands of operating the F-line require vehicle assignments like any other trunk line in the system. Thus the fleet has been divided between workhorse streetcars that can run in daily service, and limited service vehicles which can only operate at about a third of a workhorse load.

Fleet Size

The current historic streetcar fleet consists of 17 PCCs and 10 Milan cars. There are several procurement and rehabilitation projects moving forward to expand the size of the historic streetcar fleet.

Muni purchased 11 PCCs from New Jersey Transit. These vehicles are currently undergoing a rehabilitation program and will be available for revenue service in 2006. This will bring the fleet up to 38 vehicles.

The next phase to be undertaken will rehabilitate 6 historic vehicles to meet CPUC and ADA requirements, and perform a major overhaul of one vehicle (#189). This project is fully funded and will bring the revenue fleet of HLRVs to 45 streetcars when complete in 2007.

Another group of 6 PCCs will be rehabilitated to meet CPUC and ADA requirements, and perform a major overhaul of Historic Car #1. This project will bring the revenue fleet of HLRVs to 52 streetcars when complete in 2007.

Finally, Muni has received funding through SFMRIC to purchase and rehabilitate New Orleans streetcar #952. This will bring the total historic streetcar fleet to 53 vehicles.

These changes are summarized in Figure 69.

Figure 69: Historic Streetcar Changes in Fleet Size

	Subfleet	Total
PCCs	17	17
Milan	10	27
NJT PCCs	11	38
6 ADA/CPUC + #189	7	45
6 ADA/CPUC + #1	7	52
New Orleans #952	1	53

As previously described, the historic streetcar fleet has a relatively high spare ratio due to the historic nature of the fleet. These vehicles are largely "one-of-a-kind" and often require handcrafting replacement parts. For this reason it can take significantly longer to bring a historic streetcar back into service than a modern LRV. Also due to their historic nature a number of streetcars cannot run continuous 20-hour runs, seven days a week. Thus the fleet has been divided between workhorse streetcars that can run in daily service, and limited service vehicles which can only operate at about a third of a workhorse load.

Figure 70: Historic Vehicle Fleet Inventory

Car No.	Year	Manufacturer	Origin/Description	In Service	Notes
Regular Service Vehicles – 27					
Single Ended (24 cars)					
1050	1946	St. Louis Car	PCC, former SEPTA, Muni wings scheme	1994	
1051	1946	St. Louis Car	PCC, former SEPTA, Muni simplified	1994	
1052	1946	St. Louis Car	PCC, former SEPTA, LA Rwy scheme	1994	
1053	1946	St. Louis Car	PCC, former SEPTA, Brooklyn scheme	1994	
1054	1946	St. Louis Car	PCC, former SEPTA, PTC silver/cream	1994	
1055	1946	St. Louis Car	PCC, former SEPTA, PTC green/cream	1994	
1056	1946	St. Louis Car	PCC, former SEPTA, Kansas City scheme	1994	
1057	1946	St. Louis Car	PCC, former SEPTA, Cincinnati scheme	1994	
1058	1946	St. Louis Car	PCC, former SEPTA, CTA scheme	1994	
1059	1946	St. Louis Car	PCC, former SEPTA, Boston Elevated scheme	1994	
1060	1946	St. Louis Car	PCC, former SEPTA, Newark PSCT scheme	1994	
1061	1946	St. Louis Car	PCC, former SEPTA, PE Rwy scheme	1994	
1062	1946	St. Louis Car	PCC, former SEPTA, Louisville scheme	1994	
1063	1946	St. Louis Car	PCC, former SEPTA, Baltimore scheme	1994	
1807	1928	Accaio	Milan - purchased 1998 (formerly 1507)	2005	
1011	1920	Accaio	Milan - purchased 1990 (formerly 1911)	2000	
1814	1928	Accaio	Milan - purchased 1998	2000	
1815	1928	Accaio	Milan - purchased 1998 (formerly 1515)	2000	
1010	1920	Accaio	Milan - purchased 1990	2000	
1856	1928	Accaio	Milan - purchased 1998 (formerly 1556)	2000	
1859	1928	Accaio	Milan - purchased 1998	2000	
1868	1928	Accaio	Milan - purchased 1998 (formerly 1586)	2000	
1803	1928	Accaio	Milan - purchased 1998 (formerly 1793)	2000	
1895	1928	Accaio	Milan - purchased 1998 (formerly 1795)	2000	
Double-Ended (3 cars)					
1007	1940	St. Louis Car	PCC - double ended, Red Arrow scheme	1994	
1010	1948	St. Louis Car	PCC - double ended, Muni blue/yellow	1994	
1015	1948	St. Louis Car	PCC - double ended, Illinois Term scheme	1994	
Special Service Vehicles – 6					
Double-Ended (6 cars)					
1	1912	W.L. Holman	Muni's first car (2 person operation)		CPUC/ADA needed
130	1914	Jewett Car Co.	Muni (2-person operation)		CPUC/ADA needed
220	1934	English Electric	Blackpool "Boat" - open car (2-person operation)		CPUC/ADA needed
496	1930	Melbourne	Melbourne semi convertible (2 person operation)		CPUC/ADA needed
5785	1895	John Hammond	Market St Rwy (2-person operation)		CPUC/ADA needed
952	1923	Perley A. Thomas	New Orleans (2-person operation)		CPUC/ADA needed
Cars being Rehabilitated – 11					
New Jersey PCCs (11 cars)					
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	
			PCC, former New Jersey Transit	2006	

Figure 70: Historic Vehicle Fleet Inventory CONTINUED

Non-active Vehicles – 41					
Single Ended (21 cars)					
106	1922	Colanna	Moscow/Orel, Russia (2-person operation) (stored Du		
1023	1951	St. Louis Car	PCC (stored outside Pier 72)		
1025	1951	St. Louis Car	PCC (stored outside Pier 72)		
1031	1951	St. Louis Car	PCC (stored outside Pier 72)		
1038	1951	St. Louis Car	PCC (stored outside Pier 72)		
1040	1952	St. Louis Car	PCC, Muni (last PCC built in US) (stored inside Pier 80)		
1100			(stored inside Pier 00)		
1105	1946	St. Louis Car	PCC (stored inside Pier 80)		Sold????
1109	1946	St. Louis Car	PCC (stored inside Pier 80)		Sold????
1115	1946	St. Louis Car	PCC (stored inside Pier 00)		
1125			PCC (stored outside Pier 72)		
1139	1946	St. Louis Car	PCC (stored inside Pier 80)		
1155	1946	St. Louis Car	PCC (stored inside Pier 80)		Sold????
1150			PCC (stored inside Pier 00)		
1168	1946	St. Louis Car	PCC (stored inside Pier 80)		
1704	1946	St. Louis Car	PCC (formerly 1128) (stored at Geneva)		
1834	1928	Accaio	Milan - purchased 1984 (Parts Car)		
1979	1928	Accaio	Milan (stored inside Pier 72) (Parts Car)		Parts Car
2133	1946	St. Louis Car	PCC, SEPTA (stored outside Marin)		
2147	1946	St. Louis Car	PCC, SEPTA (stored inside Pier 80)		
3557	1951	LHD	Hamburg (stored outside Marin)		
Double-Ended (10 cars)					
96	1931	Milan	Milan Interurban (stored Pier 80)		Sold
151	1927	Kawasaki	Hankei/Osaka (2-person operation) (stored Pier 80)		
180	1912	J.G. Brill Co.	Oporto, Portugal open car (2-person operation) (store		
351	1926	St. Louis Car	Johnstown PA (2 person operation) (stored Pier 80)		
578J	1927	Fuginagata	Kobe/Hiroshima (2-person operation) (stored Duboce		
596	1930	Melbourne	Melbourne semi-convertible (2-person operation) (stor		
798	1924	Market St Rwy	Muni (2-person operation) (stored Pier 80)		
1006	1948	St. Louis Car	PCC - Muni - double ended (stored outside Marin)		
1009	1948	St. Louis Car	PCC - Muni - double ended (stored outside Pier 72)		
1011	1940	St. Louis Car	PCC - Muni - double ended (stored inside Pier 72)		Sold????
New (8 cars)					
162			From Orange Empire		Needs ADA/PUC
1026			From S. Lake Tahoe (stored outside Marin)		Needs ADA/PUC
1027			From S. Lake Tahoe (stored outside Marin)		Needs ADA/PUC
1028			From S. Lake Tahoe (stored outside Marin)		Needs ADA/PUC
1033			PCC from Orange Empire		Needs ADA/PUC
1039			PCC from Orange Empire		Needs ADA/PUC
4008			From Pittsburgh, PA	1990	Needs ADA/PUC
4009			From Pittsburgh, PA	1990	Needs ADA/PUC
Status Unknown (2 cars)					
1121					Sold????
1130			PCC (stored inside Pier 80)		
TOTAL HISTORIC VEHICLE FLEET = 74					

Figure 70: Historic Vehicle Fleet Inventory CONTINUED

Other Vehicles = 12					
Work Cars (3 cars)					
304	1907	United Railroads of SF	Line Car		Work Car
1008	1948	St. Louis Car	PCC - Muni - double ended		Work Car
C-1	1917	Municipal Railway	Flatbed Work Motor		Work Car
Cars on Loan (9 cars)					
109					Bay Area Electric Ry Museum
1014					Sydney Tramway Museum
1030					CTA
1129					Kansas City RR Museum
1146					Kansas City RR Museum
1150					Merced
1153					Bay Area Electric Ry Museum
1159					Oregon Electric Ry
1164					Transport Museum of St. Louis

Cable Cars

Cable cars operate on three lines: Powell/Mason, Powell/Hyde, and California. Weekday ridership on the three cable car lines totals 21,600. The current fleet of cable cars includes 28 Powell type cars and 12 California type cars, for a total of 40 vehicles as shown in Figure 70. For additional information on the cable car system and its capital requirements, please see Muni's Cable Car System Capital Plan (Nov. 1998).

Cable Car Rehabilitation

The Cable Car Vehicle Rehabilitation Program provides for the phased overhaul and reconstruction of the cable car fleet. The estimated service life of a cable car falls between 60 and 70 years, with a midlife major overhaul scheduled at 30 to 35 years in service. In addition, minor overhauls are scheduled for 15 years in service.

At any given time, up to four cable cars can undergo rehabilitation: two in reconstruction, one major overhaul, and one minor overhaul. The reconstruction process takes approximately 18 months and can include replacement or upgrades to all major vehicle components such as trucks, frame, woodwork, glass, roof, and floors. A major overhaul takes about 9 months, beginning with a full vehicle inspection to determine the work that needs to be accomplished. This can include upgrades to the frame and supports, woodwork replacement, glass replacement, metal parts refinishing, roof work, floors, electrical wiring, and painting. Finally, the minor overhauls take about 6 months to complete and include replacement of any rotted wood, electrical work, and painting.

Each cable car is unique so parts must often be fabricated for the individual vehicles. The Woods Carpentry Shop and the Special Machine Shop at 700 Pennsylvania carry out this work. While Muni has a goal of standardizing the cable cars across each fleet, currently the vehicle components that need replacement must be used to fabricate the replacement part. This leads to long down time when a car requires maintenance, which explains the relatively high float for this fleet.

Cable Car Expansion

Over the years a number of extensions to the cable car system have been proposed. Currently, none of these proposals are being developed. Nor has Muni identified funding for the proposals. As these proposals are developed, the capital needs associated with their implementation will be added to the capital program.

Cable Car Extension to Fisherman's Wharf. This project would extend the Powell/Mason cable car line one block north to North Point. This project could improve service for the many riders who are heading to Fisherman's Wharf. It may also improve passenger safety and traffic circulation in the area.

California Street Cable Car extension to Japantown. The California line currently ends at Van Ness. This proposal would extend the line along California Street to a turnback somewhere in the vicinity of Fillmore Street.

Figure 71: Cable Car Fleet Inventory

Car No.	Year Built	Manufacturer	Last Rehab	Notes
Powell Cars				
1	1973	SF Muni	1997	
2	1894	Carter Bros.	1984	
3	1894	Carter Bros.	1999	Undergoing Minor Overhaul
4	1994	SF Muni	NA	
5	1894	Carter Bros.	1982	Undergoing Major Overhaul
6	1894	Carter Bros.	2000	Candidate for Reconstruction
7	1894	Carter Bros.	1999	Undergoing Minor Overhaul
8	1894	Carter Bros.	1958	Scheduled Overhaul 2002
9	1998	SF Muni	NA	
10	1894	Carter Bros.	2001	Undergoing Major Overhaul
11	1894	Carter Bros.	1983	
12	1894	Carter Bros.	1983	Undergoing Minor Overhaul
13	1992	SF Muni	2001	
14	1964	SF Muni	1984	
15	1894	Carter Bros.	1984	
16	1894	Carter Bros.	2000	Reconstructed by Muni in 1990
17	1887	Mahoney Bros.	1998	Undergoing Minor Overhaul
18	1962	SF Muni	1984	
19	1906	SF Muni	2000	
20	1894	Carter Bros.	1984	
21	1992	SF Muni	NA	
22	1887	Mahoney Bros.	1982	
23	1890	Ferries & Cliff	1983	
24	????	Mahoney Bros.	NA	Reconstructed by Muni in 1997
25	1890	Ferries & Cliff	1980	
26	1890	Ferries & Cliff	1975	Candidate for Reconstruction
27	1887	Mahoney Bros.	1983	Undergoing Reconstruction
28	1887	Mahoney Bros.	1984	
Total	**27**			
California Cars				
49	1992	SF Muni	NA	Scheduled Overhaul 2002
50	1910	CA St. Cable	1999	Major Overhaul Completed
51	1906	W.L. Holman	1982	Candidate for Reconstruction
52	1996	SF Muni	NA	Scheduled Overhaul 2002
53	1906	W.L. Holman	1982	
54	1906	John Hammond & Co.	1983	
55	1906	John Hammond & Co.	1983	Candidate for Reconstruction
56	1913	CA St. Cable	1984	
57	1914	CA St. Cable	1982	
58	1914	CA St. Cable	1983	
59	1998	SF Muni	NA	Scheduled Overhaul 2002
60	1906	John Hammond & Co.	2001	Reconstructed in 2003
Total	**12**			

Reserve Fleet

In addition to the fleet of revenue vehicles, Muni maintains a 45-vehicle motor coach reserve fleet. Currently the reserve fleet is housed at the Woods facility. FTA has questioned the advisability of this arrangement as it is difficult to distinguish between revenue and reserve fleets, and it makes it fairly easy for a reserve fleet coach to be used in revenue service. In the long run, Muni would like to be able to better separate the reserve fleet from the revenue fleet, to alleviate these concerns. A leading candidate would be 1399 Marin Street, a leased facility that Muni may seek to purchase. This facility is just across the street from the future Islais Creek facility. Upgrades to the Marin Street facility would probably be needed, and funding has not yet been identified for this purpose. In addition to housing the reserve fleet, Marin may also include a training center, operator parking for Islais Creek, and storage.

The reserve fleet is an operations tool that allows Muni to accommodate service anomalies which may occur due to civil construction projects, emergency agency actions, natural disasters, sporting events, or fleet warranty retrofit campaigns. These vehicles are not part of the revenue fleet and should not be used in regular service. Their function is to have vehicles available to substitute for fixed guideway services (trolley coach, light rail vehicle, and cable car) in the event of service disruptions and for special services. These service disruptions could be planned, such as a track or overhead rehabilitation project, or unexpected, such as a power outage or track blockage. The vehicles in Muni's reserve fleet have been in revenue service for a minimum of 14 years before being transferred into the reserve fleet. As such, an end-of-life overhaul is necessary to ensure that the vehicles can operate when called upon. Since these vehicles will not operate in regular revenue service, this type of end of life overhaul is not eligible for federal formula funds from the region, and is not funded through the capital program, but has instead relied on operating fund to overhaul vehicles and vehicle components as needed.

FTA Circular 9030.1C mandates that a grantee with more than 50 or more fixed-route buses must have a contingency plan for its contingency (reserve fleet). FTA defines a contingency fleet as follows:

> *Buses may be placed in an inactive contingency fleet --stockpiled -- in preparation for emergencies. No bus may be stockpiled before that vehicle has reached the end of its minimum normal service life. Buses held in a contingency fleet must be properly stored, maintained, and documented in a contingency plan, updated as necessary, to support the continuation of a contingency fleet. A contingency plan is not an application requirement, although FTA may request information about the contingency fleet during application review. Contingency plans are subject to review during triennial reviews required for the Urbanized Area Formula Program. Any rolling stock not supported by a contingency plan will be considered part of the active fleet. Since vehicles in the contingency fleet are not part of the active fleet, they do not count in the calculation of spare ratio.*

Basically, FTA permits a grantee to use its reserve fleet for local emergencies provided:

- The grantee has a plan for using its reserve fleet;
- The grantee stores and maintains its reserve fleet; and
- All of the vehicles in the contingency fleet have reached the end of their minimum useful life.

Generally, three major events trigger Muni's use of the reserve fleet.

1. Motor Coach substitution – Used for re-railing projects, subway projects, street construction, overhead lines maintenance and overhaul and power outages in order to prevent service interruption.
2. Short-Term Extra Service – If there is an extra demand for service for a short timeframe, the reserve fleet may be used to meet the increased demand. In any given week in San Francisco, special events such as sporting events, marathons, bike races, parades, marches, street festivals, fireworks displays, holiday celebrations, national and international conferences, etc., occur,

requiring extra service. One example of extra service is the annual the Bay-to-Breakers Run, in which thousands of participants are shuttled to and from the race.

3. Catastrophic fleet defect, fleet recall, or unanticipated warrantable fleet defect - In the event that a widespread fleet defect were to occur suddenly, the reserve fleet would be used to supplement service while the defect is repaired.

This plan supplements the reserve fleet Plan that was submitted in January 2002. This current plan is consistent with FTA's guidelines for acceptable use of a grantee's reserve fleet.

Fixed Guideway Disruption

Muni's operating model is more diverse than most agencies with a total of five different modes being employed to provide transportation daily. Of these, four modes depend upon fixed guideways (Trolley Coach, Light Rail Vehicle, Historic Streetcar, and Cable Car). When any of these four modes are disrupted by construction projects, fire or police activity or natural disaster, the normal transit service capacity must be made up by pressing motor coaches into service from the reserve fleet. Once the disrupting anomaly has been corrected, the reserve fleet vehicles are then placed back into ready status until such time as they might be required again. Muni fixed guideway construction projects can require the substitution of up to 33 motor coaches from the reserve fleet.

49er Game Day Service

The City of San Francisco is home to the 49ers NFL team which plays its home games at Monster Stadium (Candlestick Park). During any of the home games, both preseason and regular season, as many as 65 to 70 motor coaches are required to provide the necessary additional ridership capacity to transport the game-time crowd. These additional motor coaches are required in addition to the normal daily service demands, so the extra coaches are made available through a combination of reserve fleet coaches and coaches expedited through the normal preventive maintenance cycle by working overtime. These football service requirements are infrequent and usually predictable, but the reserve fleet of 45 motor coaches is critical to Muni's ability to provide the extra game day service in addition to normal daily service.

Fleet Retrofit Campaign Support

During the course of fleet replacement procurements it is not uncommon for Muni to declare fleet defects, which are governed by the warranty provisions of the contract with the vehicle manufacturer. The resulting campaign(s) necessary to correct fleet wide defects often result in such large numbers of vehicles out of service as to hinder Muni's ability to provide daily service. Muni has experienced this phenomenon during its diesel fleet replacement procurement on more than one occasion. During these retrofit campaigns the contractor has kept as many as 30 to 50 coaches out of service for weeks or even months at a time. During these extended periods of retrofit campaign work, Muni is only able to maintain its daily service obligations by utilizing the reserve fleet. Once these warranty issues have been corrected, the reserve fleet will be placed back into ready reserve status awaiting the next service call.

If Muni were to change the fleet mix substantially toward a higher percentage of fixed guideway vehicles, for example through route conversions to rail or trolley coach operation, the potential substitution needs would increase, while at the same time the pool of potential substitution vehicles would shrink. This might be an issue on only a few days a year; however it could limit Muni's ability to provide complete system service if a substantial substitution need occurs. Other concerns include the need to provide substitution service for construction activities for DPW, the Water Department, PG&E, and others; impacts on service in case of earthquakes, power outages, or other emergencies; and the impact on useful life of the reserve fleet if it is required to operate more than originally intended.

To address these issues, Muni will have to evaluate its demands upon the current reserve fleet and determine if increases are necessary as a result of increasing the number of fixed guideway vehicles it operates. Changes to the size of the reserve fleet will also need to consider capacity limitations at existing operating facilities and additional ongoing operating and maintenance costs of an expanded reserve fleet.

It is worth noting that the Emergency Power Units (EPUs) on the trolley coach fleet have the capability to address some of these situations by allowing the vehicles to operate for a limited time without electricity from overhead wires, potentially reducing the need for motor coach substitution.

New Vehicle Types

Muni has been requested on numerous occasions to use small vans to replace standard buses in the evening on lightly traveled lines to reduce noise and operating costs. Muni has investigated the use of vans, and has identified the following issues with their use:

- Van capacity is insufficient to meet the ridership demands on most Muni lines, even into the evening hours.
- Providing a separate fleet of vans for evening service increases Muni's operating and maintenance costs, as the vans would not replace existing vehicles, but would be an additional fleet, requiring additional maintenance, parts and facility capacity.
- Positioning vans to replace buses for late-evening service would add deadheading and other operating costs.
- Operating costs for vans are equivalent to standard coaches, as the primary cost in providing van or bus service is the cost of the operator, which remains the same regardless of vehicle size.

Double-deck buses could be an alternative to articulated buses for high-capacity vehicles. Muni has tested double-deck buses in the past. Double-deck buses could solve many of Muni's street space issues, and would also make space available in facilities for parking additional vehicles, if the facilities could be modified to accommodate double-deckers. This type of vehicle has not traditionally been widely available in the North American market, though a few transit properties have recently acquired them for urban transit use.

Accessible Services Program

The purpose of the Accessible Services Program is to ensure that appropriate, accessible, ADA-compliant transportation services are available to seniors and persons with disabilities. The main components of this program are:

- Assuring that fixed route bus and metro services are accessible to seniors and persons with disabilities;
- Managing the provision of door-to-door paratransit service for disabled persons unable to use Muni's fixed route service; and
- Providing identification cards to disabled persons to allow them to ride Muni's fixed route system at a discounted rate, as well as those of other Bay Area operators.

Muni staff works with two community advisory groups, the Muni Accessibility Advisory Committee (MAAC) and the San Francisco Paratransit Coordinating Council (PCC), on Muni accessibility and paratransit issues. Muni coordinates fixed route and paratransit services through the MAAC, the PCC, and the paratransit broker staff.

ADA Paratransit Service

Paratransit services are available for persons with disabilities who are unable to utilize bus and light rail service some or all of the time. Paratransit services are mandated under the Americans with Disabilities Act of 1990 (ADA). A paratransit broker under contract to the City administers the paratransit program. The paratransit broker manages subcontracts with paratransit service providers, monitors service quality, administers client eligibility, manages the sale of fare instruments, and acts on behalf of the Municipal Transportation Agency as the principal customer service representative for paratransit services. The San

Francisco Paratransit Program provides a range of services to persons certified eligible according to federal eligibility criteria established by the ADA. Currently, all modes of paratransit services contain elements that exceed the requirements of the ADA, and there are over 17,000 registered paratransit consumers. Paratransit services include:

- On-call Taxi Services: Curb-to-curb services provided by ten taxicab companies and two dispatch services to persons with ambulatory disabilities and wheelchair users. Service is available 24 hours a day, seven days a week. In addition, ramp taxi services are available to wheelchair users who are unable to independently transfer into a standard taxicab.
- ADA Access and Lift Van Services: Door-to-door van services requiring advance reservations. Service is available 24 hours a day, seven days a week for any trip purpose with no trip limits for fully eligible riders.
- Group Van Services: Group van services operated in coordination with social services agencies for ADA eligible clients going to a common destination such as a senior center, nutrition site, or Adult Day Health Center, on a routine, pre-scheduled basis Monday through Friday.

Fleet Accessibility

Paratransit Accessible Vans

In the past, Muni purchased paratransit accessible minivans and leased them to the Paratransit Broker for use by San Francisco taxi companies. In return, Muni received a greater number of paratransit trips valued at approximately the value of the lease payments. There were a total of 54 paratransit accessible minivans in service. The first 30 of these vehicles were purchased in 1998 and are ready for replacement. The remaining 24 minivans will be replaced in 2006.

Accessible Services would like to move from purchasing minivans to van conversions. These larger vans have a greater capacity, carrying up to 12 passengers plus 2 patrons in wheelchairs, compared to a minivan, which can hold only 2 passengers and 2 patrons in wheelchairs. The ramped minivans, which were solely in taxi service, experienced numerous mechanical failures. The new vans will be used in Muni's paratransit group van service, which will operate fewer trips and thus reduce the wear on the vehicles.

In its Transit Capital Priorities guidelines, MTC allows paratransit vehicles to be “replaced with the next larger vehicle providing the existing vehicle is operated for the useful life period of the vehicle that is being upgraded to”. Under this rule, Muni is allowed to move from minivans to standard van conversions without the transaction being considered an expansion.

Motor and Trolley Bus Service

Accessible bus service is currently provided on 46 motor coach and trolley coach lines. Muni has completed the acquisition of new diesel buses and trolley coaches, all of which are lift-equipped and have space inside for two wheelchairs. The new vehicles also feature kneeling capability, extra poles and stanchions, and digital voice annunciation system (DVAS) signs. At the current time, a few non-accessible trolley coaches remain in service while defects in the new trolley coach fleet are addressed.

Muni Metro Service

The five-line Muni Metro system has become increasingly accessible in recent years, through the construction of accessible wayside platforms and lifts, and other ongoing accessibility projects. All Muni Metro subway stations have high-level platforms at car floor height, and are fully accessible by elevator. In order to make on-street stops accessible, either high level accessible wayside platforms or wayside lifts have been constructed, as part of the ADA-mandated Key Stops program.

The Muni Metro surface stations on the MMX incorporate full accessibility features, including wheelchair access, accessible signage, and tactile warning edges. Now that the Key Stops program has been

completed, Muni intends to pursue accessibility improvements at stops beyond those mandated by the ADA Key Station requirements.

The new Third Street light rail line, currently under construction, will add 18 fully accessible high-level platform stations to the Muni Metro system, and will connect the southeast portion of San Francisco to downtown with accessible light rail service.

The new Breda LRVs incorporate many accessibility improvements, including two wheelchair securement areas, widened aisles, extra stanchions, and a horizontal gap filler between the vehicle door and the platform edge.

Non-revenue Vehicles

In addition to the revenue fleet, Muni also maintains a fleet of non-revenue vehicles (NRVs) that are used to support the revenue fleet and the system infrastructure and facilities. These include specific purpose maintenance vehicles, such as rail grinders, overhead platform trucks, and sanding machines, service vehicles and sedans. The latest count (April 2002) includes a total of 543 NRVs.

As a general rule NRVs should be replaced at 7 years or 70,000 miles. Under these guidelines, 392 NRVs are due for replacement, as they were acquired 7 or more years ago (see Figure 72). However, the NRV fleet is diverse and many vehicles must be evaluated for replacement on a case-by-case basis.

Figure 72: Non-revenue Fleet

Year	NRVs
Unknown	53
Through 1980	22
1981-1985	48
1986-1990	143
1991-1996	179
1997-2003	98
Total	543

Fleet Capital Cost and Funds

The Fleet Plan establishes a program of capital needs related to fleet rehabilitation, replacement, enhancements, and expansions. There are a number of changes described in the Fleet Plan that will have a direct impact upon the Capital Improvement Program. This section provides a summary of these major changes.

Replacement cycles. As discussed previously, there have been clarifications made at the regional level as to the timeline in which fleet replacement projects become eligible for federal funds. The current policy is that fleet replacement projects can be programmed once the vehicles have reached the end of their useful life. For example, a standard motor coach has a useful life of 12 years, so after the 12th year in revenue service, the project to replace this vehicle can be included in the federal funding program through MTC. However, due to the time needed to develop specifications, award the procurement, and to test and accept the vehicles, the replacement cycle must be extended by about two years. This means that the standard motor coach used in our example has a useful life of 12 years, but must effectively remain in revenue service for 14 years, or two years beyond its useful life. The end result is that the replacement cycles, and thus the funding needs for vehicle replacement projects, are stretched out by two years.

Fleet definition. The Fleet Plan has been updated to conform to the MTC definition of a revenue fleet as "the same vehicle size, manufacturer, and year." This clarification has the effect of breaking Muni's vehicle fleets into a number of subfleets. This will allow Muni to program funds on a schedule that more

closely matches the project's needs. This is an important change as it relates to regional funding caps as discussed below.

Alternative fuels. Muni is at the initial stages of replacing its diesel coach fleet with alternative fuel vehicles. As a new technology, these vehicles cost considerably more than their diesel counterparts. Therefore the project costs for future procurements are significantly higher than past projects of a similar nature.

Vehicle rehabilitation. The prior CIP update included projects to perform midlife rehabilitations on all vehicle fleets. At that time only rough cost estimates were available. In the interim, a much closer look at the scope and potential cost for the rehabilitation of each fleet has been taken. Based on these estimates the CIP has been revised. However, these projects are largely unfunded at this time.

Regional funding caps. At this time, the region has established project caps for the formula funding programs (Federal Sections 5307 and 5309 funds). The current caps for vehicle replacement projects are as follows:

- Section 5307: $20 million per project per year.
- Section 5309: $30 million per project per year. If also using Section 5307 funds, the aggregate of 5307 and 5309 funds cannot exceed $30 million per project per year.

Due to these fund caps, a number of the larger vehicle replacement projects must be spread out over a greater number of years than the project schedule would dictate. As discussed previously, Muni has revised the Fleet Plan to account for each subfleet as a separate replacement project. This will reduce the number of projects that are subject to these cap restrictions. The other change that Muni has proposed is for the regional caps to be updated on a periodic basis to account for inflation.

Expansion/enhancement projects. A number of expansion and enhancement projects, such as Bus Rapid Transit, Route Electrification, and corridor improvements, among others, have been proposed in the future service plan, with cost estimates included in the CIP. At the preliminary stage of project development the fleet costs associated with these expansion/enhancement proposals are included in the overall project cost. As project specific schedules and funding plans are developed, the fleet changes will be added to the Fleet Plan and vehicle costs can move into a separate but related fleet project.

Fleet Capital Plan

As previously described, the Fleet Capital Plan is composed of a series of replacement, rehabilitation and enhancement/expansion projects. Figure 72 shows the Fleet Capital Plan summarized in two ways. The first is by the mode the project serves and the second by the type of activity the project will undertake. Funds for each of the primary modes are fairly evenly split with motor coach receiving 35%, trolley coach 23%, and light rail vehicle 32%. The remaining 10% is shared by historic streetcars, cable cars, paratransit, and projects with system wide scope. When looking at the types of activities that Muni hopes to pursue over the next 20 years, over 87% of replacement needs have planned funds. About 44% of enhancement and expansion needs are planned to be funded. However, only about 1% of rehabilitation needs are planned to be funded by the capital program. In the past rehabilitation needs have been funded primarily through the Operating Budget. The larger recurring rehabilitation projects have been developed into capital projects as a way to capture their costs, although little capital funding is anticipated to cover these needs.

The Capital Improvement Program is described in detail in Chapter 9 of the Short Range Transit Plan.

Figure 73: Fleet Capital Plan Summary

FLEET CAPITAL PLAN SUMMARY										
All figures in 000s	Through FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
SUMMARY BY MODE										
Motor Coach										
Cost	266,327	20,781	10,676	-	42,340	82,992	52,277	7,216	42,327	205,059
Funds	253,944	13,238	-	-	-	27,366	37,782	23,351	-	52,344
+/-	*(12,383)*	*(7,543)*	*(10,676)*	-	*(42,340)*	*(55,627)*	*(14,495)*	*16,135*	*(42,327)*	*(152,715)*
Trolley Coach										
Cost	243,611	8,774	-	12,811	31,582	-	-	75,048	-	16,210
Funds	234,584	1,500	1,500	1,500	-	-	-	37,668	27,341	7,787
+/-	*(9,027)*	*(7,274)*	*1,500*	*(11,311)*	*(31,582)*	-	-	*(37,380)*	*27,341*	*(8,423)*
Light Rail Vehicle										
Cost	527,035	10,624	3,315	10,342	10,756	8,389	12,926	4,033	12,583	13,086
Funds	485,050	-	16,869	-	-	-	-	-	-	-
+/-	*(41,985)*	*(10,624)*	*13,554*	*(10,342)*	*(10,756)*	*(8,389)*	*(12,926)*	*(4,033)*	*(12,583)*	*(13,086)*
Historic Streetcar										
Cost	27,348	-	-	4,679	7,300	17,714	-	-	-	-
Funds	27,446	6,269	11,981	-	7,877	11,388	-	-	-	-
+/-	*98*	*6,269*	*11,981*	*(4,679)*	*578*	*(6,327)*	-	-	-	-
Cable Car										
Cost	9,833	1,678	1,008	1,048	1,090	1,134	1,179	1,226	1,275	1,326
Funds	9,259	1,912	1,008	1,048	1,090	1,134	1,179	1,226	1,275	1,326
+/-	*(574)*	*234*	-	-	-	-	-	-	*(0)*	-
Paratransit										
Cost	8,382	2,708	-	-	1,766	-	3,216	-	-	2,097
Funds	7,814	2,708	-	400	1,383	428	2,772	459	-	2,134
+/-	*(569)*	-	-	*400*	*(383)*	*428*	*(445)*	*459*	-	*36*
Systemwide										
Cost	44,228	2,007	2,088	2,171	2,258	2,348	2,812	34,810	2,642	2,747
Funds	1,570	-	-	-	-	-	100	32,270	-	-
+/-	*(42,658)*	*(2,007)*	*(2,088)*	*(2,171)*	*(2,258)*	*(2,348)*	*(2,712)*	*(2,540)*	*(2,642)*	*(2,747)*
Fleet Total										
Cost	1,126,765	46,573	17,087	31,052	97,092	112,578	72,411	122,334	58,827	240,527
Funds	1,019,667	25,627	31,358	2,948	10,351	40,316	41,833	94,975	28,617	63,592
+/-	*(107,098)*	*(20,946)*	*14,271*	*(28,104)*	*(86,742)*	*(72,263)*	*(30,578)*	*(27,360)*	*(30,210)*	*(176,935)*
SUMMARY BY ACTIVITY										
Replacement										
Cost	558,554	6,394	3,096	7,899	12,414	60,155	59,115	111,085	3,917	211,231
Funds	522,686	23,502	12,989	1,448	10,351	40,316	41,733	94,975	28,617	63,592
+/-	*(35,868)*	*17,108*	*9,893*	*(6,451)*	*(2,064)*	*(19,840)*	*(17,382)*	*(16,111)*	*24,700*	*(147,639)*
Rehabilitation										
Cost	37,459	39,929	13,991	23,153	84,678	52,423	12,926	11,249	54,910	29,296
Funds	4,146	1,500	1,500	1,500	-	-	-	-	-	-
+/-	*(33,314)*	*(38,429)*	*(12,491)*	*(21,653)*	*(84,678)*	*(52,423)*	*(12,926)*	*(11,249)*	*(54,910)*	*(29,296)*
Enhancement/Expansion										
Cost	530,751	250	-	-	-	-	370	-	-	-
Funds	492,836	625	16,869	-	-	-	100	-	-	-
+/-	*(37,915)*	*375*	*16,869*	-	-	-	*(270)*	-	-	-
Fleet Total										
Cost	1,126,765	46,573	17,087	31,052	97,092	112,578	72,411	122,334	58,827	240,527
Funds	1,019,667	25,627	31,358	2,948	10,351	40,316	41,833	94,975	28,617	63,592
+/-	*(107,098)*	*(20,946)*	*14,271*	*(28,104)*	*(86,742)*	*(72,263)*	*(30,578)*	*(27,360)*	*(30,210)*	*(176,935)*

Figure 73: Fleet Capital Plan Summary – CONTINUED

FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	Total
249,602	-	15,803	156,957	-	27,652	-	-	101,323	76,252	9,612	1,367,200
147,636	130,369	65,752	103,544	78,240	6,798	-	-	-	13,493	-	953,857
(101,967)	*130,369*	*49,949*	*(53,414)*	*78,240*	*(20,854)*	-	-	*(101,323)*	*(62,759)*	*(9,612)*	*(413,343)*
39,962	-	-	14,047	-	95,993	156,152	-	-	98,566	-	792,758
-	-	-	-	16,846	75,944	77,353	69,152	25,000	25,000	25,000	626,175
(39,962)	-	-	*(14,047)*	*16,846*	*(20,050)*	*(78,799)*	*69,152*	*25,000*	*(73,566)*	*25,000*	*(166,583)*
58,289	21,231	4,907	15,309	15,921	17,018	25,830	70,905	51,093	512,826	71,159	1,477,574
-	-	-	-	-	-	-	27,353	87,377	114,631	138,811	870,091
(58,289)	*(21,231)*	*(4,907)*	*(15,309)*	*(15,921)*	*(17,018)*	*(25,830)*	*(43,552)*	*36,284*	*(398,194)*	*67,652*	*(607,483)*
4,618	19,212	4,995	17,317	12,607	26,222	-	-	-	-	6,836	148,849
4,618	19,212	4,995	21,956	10,121	24,068	-	-	-	-	10,239	160,172
-	-	-	*4,639*	*(2,485)*	*(2,154)*	-	-	-	-	*3,403*	*11,322*
1,380	1,435	1,492	1,552	1,614	1,678	1,746	1,815	1,888	2,183	2,270	39,852
1,380	1,435	1,492	1,552	1,614	1,678	1,746	1,815	1,888	-	-	35,058
-	*0*	-	-	-	-	-	-	-	*(2,183)*	*(2,270)*	*(4,793)*
-	3,820	-	-	2,491	-	4,537	-	-	2,959	-	31,976
-	3,851	-	564	1,951	604	3,987	647	-	3,010	-	32,709
-	*31*	-	*564*	*(540)*	*604*	*(550)*	*647*	-	*51*	-	*733*
2,857	2,972	3,090	3,214	3,343	3,476	3,615	3,760	3,910	5,605	4,229	138,186
-	-	-	-	-	-	-	-	-	-	-	33,940
(2,857)	*(2,972)*	*(3,090)*	*(3,214)*	*(3,343)*	*(3,476)*	*(3,615)*	*(3,760)*	*(3,910)*	*(5,605)*	*(4,229)*	*(104,245)*
356,708	48,669	30,288	208,396	35,975	172,040	191,880	76,480	158,214	698,390	94,107	3,996,395
153,634	154,867	72,239	127,615	108,772	109,092	83,086	98,967	114,265	156,134	174,050	2,712,002
(203,075)	*106,198*	*41,952*	*(80,781)*	*72,797*	*(62,948)*	*(108,794)*	*22,487*	*(43,949)*	*(542,256)*	*79,943*	*(1,284,392)*
258,457	27,438	9,578	170,274	20,054	127,370	166,050	70,510	38,266	602,768	63,790	2,588,417
153,634	154,867	72,239	127,615	108,772	109,092	83,086	98,967	114,265	156,134	174,050	2,192,927
(104,824)	*127,429*	*62,661*	*(42,659)*	*88,718*	*(18,278)*	*(82,964)*	*28,456*	*75,999*	*(446,634)*	*110,260*	*(395,490)*
50,169	21,231	20,710	38,122	15,921	44,670	25,830	5,970	119,948	95,622	30,317	828,524
-	-	-	-	-	-	-	-	-	-	-	8,646
(50,169)	*(21,231)*	*(20,710)*	*(38,122)*	*(15,921)*	*(44,670)*	*(25,830)*	*(5,970)*	*(119,948)*	*(95,622)*	*(30,317)*	*(819,879)*
48,082	-	-	-	-	-	-	-	-	-	-	579,454
-	-	-	-	-	-	-	-	-	-	-	510,429
(48,082)	-	-	-	-	-	-	-	-	-	-	*(69,024)*
356,708	48,669	30,288	208,396	35,975	172,040	191,880	76,480	158,214	698,390	94,107	3,996,395
153,634	154,867	72,239	127,615	108,772	109,092	83,086	98,967	114,265	156,134	174,050	2,712,002
(203,075)	*106,198*	*41,952*	*(80,781)*	*72,797*	*(62,948)*	*(108,794)*	*22,487*	*(43,949)*	*(542,256)*	*79,943*	*(1,284,392)*

Fleet Facilities

Muni has a total of 8 operating facilities as shown in Figure 74. In the near future, Muni will construct two new facilities: Islais Creek and Metro East.

Islais Creek is being built as a replacement for the Kirkland Motor Coach Division. Kirkland is being phased out of use because the maintenance buildings and driver facilities are inadequate to meet current needs. Changes in adjacent land uses have made the Kirkland Division incompatible with the surrounding hotel, retail, and residential uses. It is anticipated that once Islais Creek is operational, the Kirkland site would be available for redevelopment as described in greater detail in the Facilities chapter of the SRTP.

Metro East is a new light rail vehicle operating and maintenance facility being built as part of the Third Street Initial Operating Segment project. The facility will accommodate the addition vehicle demand needed to operate the two phases of the Third Street Light Rail Project, and will also help relieve crowding at the Green LRV Facility.

Impact of Fleet Expansion on Facilities

The growth of Muni's fleet may be constrained by the limited space available at Muni's current maintenance facilities.

There are no plans to add to the number of revenue vehicles in the motor coach fleet. In fact, as previously described, Muni anticipates reducing the Motor Coach fleet over the next several years. To improve operating efficiency, Muni could replace some standard coaches with articulated coaches. This will allow overall passenger capacity to increase without adding to operating costs. In fact there may be opportunities to decrease operating costs. The primary constraint on pursuing these strategies is Muni's storage and maintenance capacity for articulated coaches. At present, only the Flynn facility is able to maintain articulated coaches. The Flynn facility was built with a capacity of 100 articulated coaches, although Maintenance has been able to handle 112 vehicles on a temporary basis. To increase the number of articulated coaches, Muni will have to identify another facility to handle vehicles beyond the current 100 vehicle capacity of Flynn. Islais Creek is being built to handle standard size coaches only. The facility is not being constructed to maintain articulated coaches. The Woods facility could accommodate articulated coaches if significant renovations are made. Funds for this project are not identified at this time. A potential option is to convert the Marin Street facility into an operating and maintenance division. Muni leases the facility at this time, so the types of major improvements necessary to function as an operating division are not being pursued at this time. Muni will need to develop service, facility and fleet plans that address these and other issues if a larger articulated fleet is desired.

The current trolley coach facilities are at or near capacity. Purchasing additional trolley coaches to operate on future electrification projects, such as trolley coach extensions or conversions from motor coaches, will be constrained by the limited space at the existing trolley coach facilities. It could be possible to add trolley coach service by reducing the relatively high spare ratio of this fleet. As the remaining administrative functions are moved from the Presidio Division, it is anticipated that the site will be redeveloped as part of a joint development type venture. The trolley storage and maintenance activities will likely remain below some type of development above. It may be possible to add capacity to the facility when it is redesigned to accommodate the joint development activities. The final option would be to convert an existing Muni facility from motor coach to trolley coach operation, or to construct a new facility. These final two options do not have any funding identified at this time.

Once Metro East opens, Muni will have the capacity to store and maintain 210 LRVs at Metro East and Green, and 50 Historic Streetcars at Geneva. This will allow for future expansion of the LRV fleet for additional Mission Bay service on the Third Street line (10 LRVs), vehicle requirements for the Central Subway (4 LRVs), and the possible acquisition of 10 LRVs to relieve future congestion on the current Muni Metro system (J, K, L, M, and N lines). Planned Historic Streetcar purchases and rehabilitation projects will expand the fleet from the current 27 streetcars, to a total of 53 vehicles. Vehicles that cannot

fit at Geneva could be housed at the Green Upper Yard or Metro East. The Metro East project included the purchase of 17 acres, although only 13 acres are needed for the initial construction. It had been envisioned that the additional 4 acres could be built out to store 20 more LRVs. To accommodate potential future expansion, the maintenance buildings at Metro East are designed to support 100 LRVs. However, a recent proposal from the Mayor's Office would use the 4 acres for a cogeneration plant, making them unavailable for Metro East expansion. Given the current fleet plan, the loss of this additional land should not have an impact on Muni's ability to store and maintain its LRVs. However, if a future expansion of the LRV system beyond the changes described previously, such as a new Geary LRT line or a North Beach extension to the Third Street/Central Subway line, is pursued, that project will need to reevaluate Muni LRV storage and maintenance capacity, and could result in the need for a third LRV maintenance facility.

Figure 74: Fleet Facility Characteristics

Facility	Mode	Major Functions	Year Built	Capacity	Current
Current					
Woods Division	MC	Operating division, maintenance, heavy repair, paint and body, cable car construction.	1975	233 (40')	231 (40')
Flynn Division	MC	Operating division, maintenance, heavy repair.	1989	100 (60')	136 (60')
Kirkland Division	MC	Operating division, running repair.	1950	140 (40')	132 (40')
Presidio Division	TC	Operating division, maintenance, heavy repair.	1912	171 (40')	165 (40')
Potrero Division	TC	Operating division, maintenance, heavy repair, paint shop.	1914	75 (40') 93 (60')	197
Green Division	LRV	Operating division, maintenance, heavy repair, electronic shop, paint shop.	1979	80	151
Geneva Division	HLRV	Operating division, maintenance.	1979	50	27
Cable Car Division	CC	Operating division, maintenance.	1984	40	40
Future					
Islais Creek	MC	Operating division, maintenance, fuel and wash.	Construction to begin 2005; Open 2009.	165 (40')	NA
Metro East	LRV/HLRV	Operating division, maintenance.	Construction to begin 2005; Open 2008..	80	NA

THIS PAGE INTENTIONALLY LEFT BLANK

INFRASTRUCTURE PROGRAM

- Rail Replacement
- Overhead Rehabilitation
- Route Electrification
- Wayside Train Control
- Cable Car Infrastructure Rehabilitation

Chapter 8: Infrastructure Program

The Infrastructure Program consists of capital projects to build and maintain the infrastructure necessary to operate transit services. This program is primarily devoted to the modes that operate on fixed guideways, such as light rail, trolley coach and cable car. Projects in this program include rail replacement, communication and signaling, overhead power lines and power distribution systems, subway rehabilitation, station construction and rehabilitation and cable car system rehabilitation, replacement and modification. Adding and improving ADA-mandated key stops and additional accessibility improvement projects are also included in this program.

Planned funding for certain infrastructure projects and programs such as Rail Replacement and Overhead Rehabilitation are assumed to nearly match the estimated costs for this program. However, other programs and projects show a shortfall over the 20-year period. In other cases, project eligibility questions must be answered.

Current Inventory

Muni maintains a complex network of operational infrastructure. This includes:

- 66.1 revenue track-miles for light rail operation, including Metro and Historic service, plus an additional 5.4 miles when Third Street IOS goes into service
- 6.6 miles of subway - Market Street (including MMT and Duboce portal), Twin Peaks Tunnel and Sunset Tunnel
- 8.8 revenue track-miles for cable car operation
- 186.7 revenue line-miles of overhead wires for power supply for light rail and trolley coach operation
- 9 subway stations
- 6 surface light rail stations
- 21 substations for electrical power distribution

Rail Replacement

This program includes the phased design and replacement of the trackways and related systems serving the light rail lines as part of a regular replacement program. The projects included in this program are designed to reduce operational problems, reduce maintenance, increase system reliability, and mitigate excessive noise and vibration. A detailed project listing is included in Figure 76.

Figure 75: Existing Rail Inventory

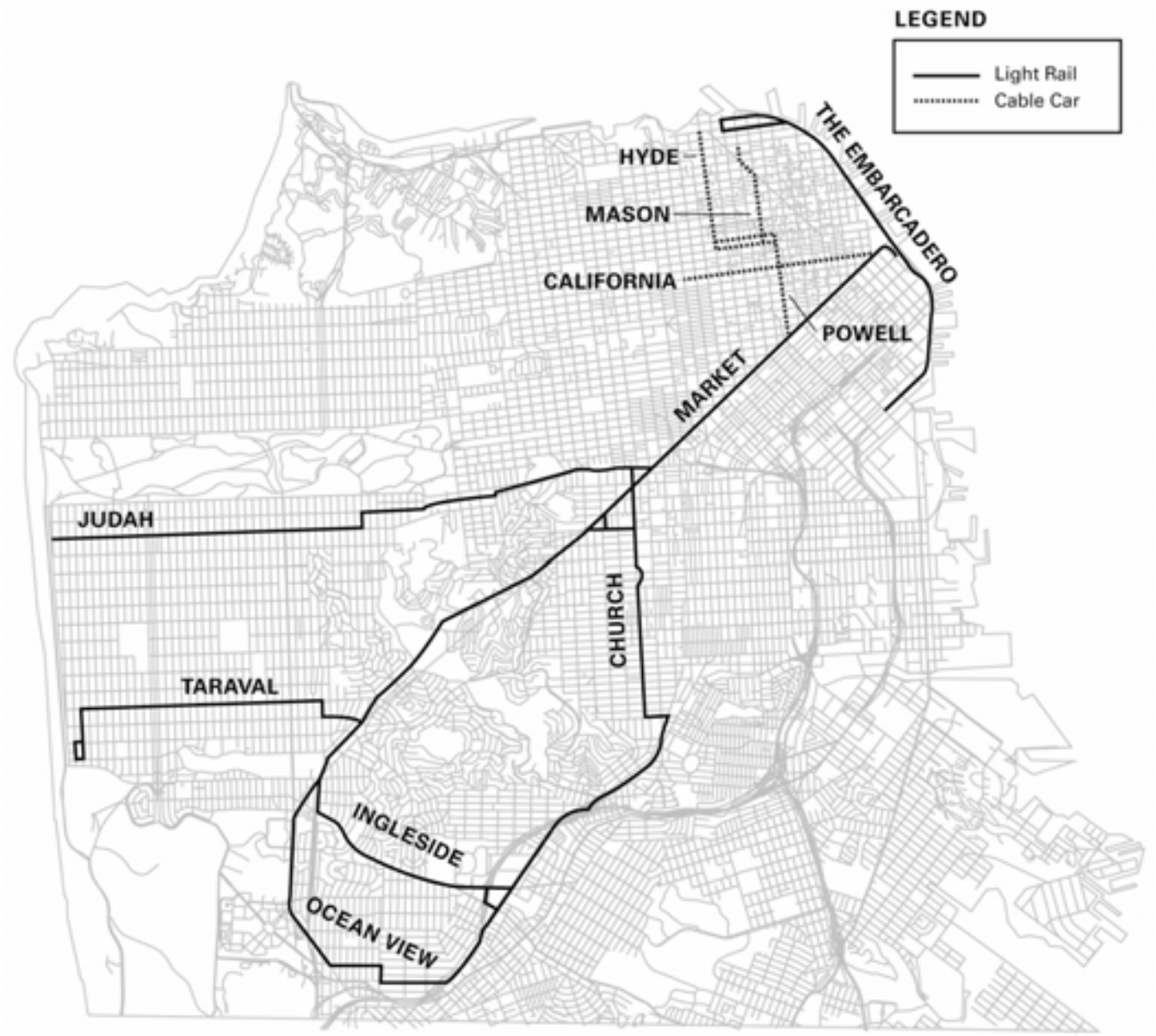


Figure 76: Rail Replacement Program

Project	Status	Cost
19th & Junipero Serra	Complete	$0.45
Carl/Cole, Broad/Orizaba, 9th/Irving	Complete	$3.36
M/N: Irving/Arguello	Complete	$7.79
N: Special Trackwork	Complete	$14.67
K: Ocean Ave Pullout to Junipero Serra	Complete	$16.34
L: 15th/Taraval and 15th/Ulloa	Complete	$1.30
L: 46th/Taraval to Zoo Loop	Complete	$4.50
Rail Grinding System-wide (N-Line 1st Yr.)	FY05-FY08	$3.56
Ultrasonic Testing	FY05-FY09	$0.69
Green Switch Procurement	Complete	$1.50
L/K/M: W. Portal/Ulloa (Track, Switches & Curves)	Design	$8.89
K/M: St. Francis Circle & Junipero Serra	CER	$8.99
J/N/L: 9 locations	CER	$5.78
J/N: Special Trackwork	CER	$5.45
Green Facility	Design FY06	$22.90
Subway: Eureka Portal Study	CER FY06	$0.31
Subway: Ventilation Study	CER FY06	$0.22
Subway: Waterproofing (MMT)	CER FY06	$1.55
N: Carl Street (Cole to Arguello)	CER FY07	$7.90
Rail Street Design Safety Standards	Start in FY09	$2.00
L: Ulloa/Forest Side to 48th/Taraval	Start in FY08	$31.86
J: Special Trackwork	Start in FY09	$5.04
M: Turnout to Upper Geneva Yard	Start in FY09	$2.78
N: Arguello to Terminal Loop	Start in FY09	$42.26
M: Special Trackwork	Start in FY09	$4.18
Subway, Twin Peaks Tunnel & Sunset Tunnel	Start in FY09	$3.80
K/M: W. Portal Avenue	Start in FY09	$8.73
M: 19th/Holloway	Start in FY09	$0.28
DPT	Complete	$0.05
TOTAL		**$217.13**

($millions)

Overhead Rehabilitation

This program covers the phased design and replacement of the overhead wires, related poles, and traction power systems serving the light rail and trolley coach lines. The projects included in this program are designed to reduce operational problems, reduce maintenance, and increase system reliability. The program includes the replacement of approximately 200 poles per year and replacement of wire and switches as needed. A detailed project listing is included in Figure 78.

Figure 77: Existing Trolley Overhead Lines

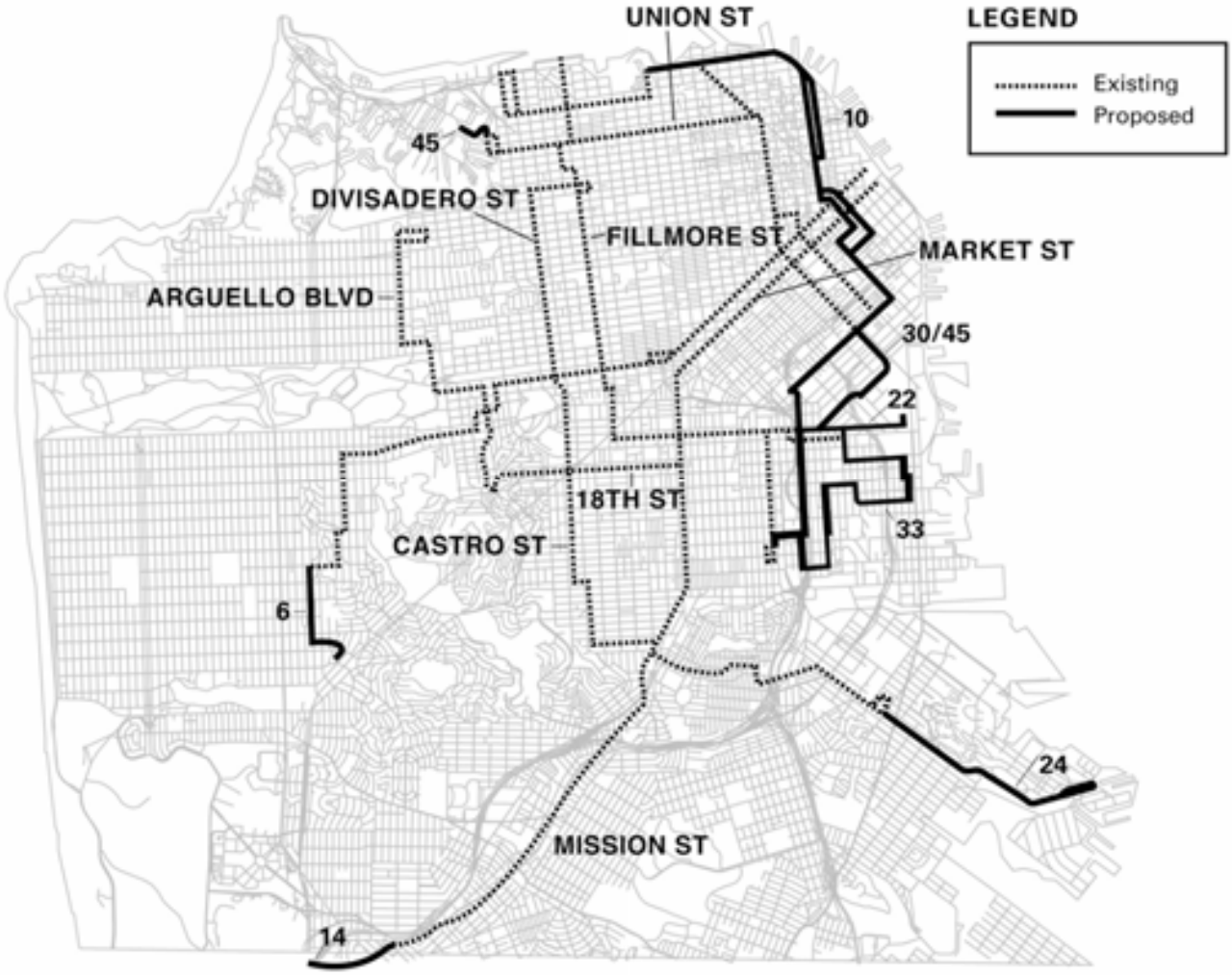


Figure 78: Overhead Rehabilitation Program

Project	Status	Cost
Emergency Feeder Replacement	Complete	$0.68
Presidio Tower Controls	Complete	$0.88
LED Lights	Complete	$0.07
Intersection Signal Improvement	Complete	$0.08
1-California/4-Sutter	Complete	$8.84
Fillmore Street Feeders	Complete	$0.12
6-Parnassus/7-Haight	Close-out	$14.50
K-line Poles & Power	Close-out	$3.72
Mission-Steuart Parts	Complete	$0.40
Mission Steuart Relocation	Complete	$0.13
Feeder Upgrade Potrero/Presidio	Complete	$1.98
Caltrans Fourth Street Overhead	Complete	$0.03
West Portal Overhead	Construction	$0.43
Presidio Yard Overhead	Construction	$4.50
Metro Subway Upgrade	Construction	$15.48
Traction Power: Feeders	Design	$7.75
Traction Power: Substations	Design	$8.69
Potrero Deck Bypass	Design	$0.52
16th Street: S. Van Ness to Kansas	CER	$9.99
5-Fulton/21-Hayes	Start CER in FY06	$15.03
Third/Fourth Rehab	Start CER in FY06	$1.50
16th Street: Kansas to Connecticut	Start in FY06	$5.30
L-Taraval OH	Start in FY07	$4.90
St. Francis Circle Overhead		$.40
Green Yard OH	Start in FY07	$4.00
Misc. Poles		$5.00
Misc. Small Projects		$0.43
TOTAL		**$ 115.55**

($millions)

Route Electrification

In 2002, Muni completed a Route Electrification Study to provide a plan for trolley coach expansion in San Francisco. It identified opportunities to increase trolley coach service through the extension of existing trolley coach lines, or electrifying current motor coach lines. Projects were ranked based on the frequencies and ridership on the route, percentage of route already under wire, grades, and costs. Based on these criteria, the 47-Van Ness was listed as the highest priority line among these candidates.

Muni has a number of near term commitments involving the trolley coach network which result in adjustments to the program as described in the 2002 report. Most importantly, as part of the City's development agreements for Mission Bay, a high priority was established for the provision of electric trolley coach service on 16th Street between Kansas Street, where the current 22-line turns south, and Mission Bay. It is intended that this line be served by the 22-Fillmore line, which would continue along 16th Street to Third Street, turning north to pass the South Street/UC Mission Bay/Eugene Friend Way light rail station. The initial portion of this new overhead, west of Connecticut Street, may be implemented in 2009 as part of the Overhead Rehabilitation Program. In FY08 and FY09**,** $4.5 million is programmed to begin design east of Connecticut to Mission. Full funding for construction has not been identified yet.

Mission Bay is also intended to be served by an extension of the 45-Union-Stockton line south from its current terminal at Caltrain, operating through Mission Bay and continuing south to replace the present 22-line service on Potrero Hill, when that line is rerouted. This extension is dependent on the construction of the streets on which it would operate through the new Mission Bay neighborhood. Additionally, the 10-Townsend was identified in the SOMA Action Plan as a near term candidate for extension through SOMA to Potrero Hill. Due to community concerns, the extension, if implemented, would include electrification of the route.

Beyond the small amount of funding available for the Mission Bay extension, funding needed to realize other projects has not yet been identified. Additional funding will be needed for vehicle procurement, overhead construction, facility conversion, and additional vehicle and overhead maintenance activities. Other issues that will have to be evaluated include: service reliability, operational concerns, service substitutions, and additional maintenance requirements for both vehicles and overhead infrastructure.

A combination of fleet and facility issues makes significant expansion of trolley coach service unlikely in the near term. The major fleet issue is that to compete in the regional funding process, the purchase of additional trolley coaches should be timed to the replacement cycle of a comparable number of motor coaches. The one-for-one replacement of vehicles competes well for federal participation through the regional funding process, whereas the purchase of expansion vehicles must be borne locally. Muni's current fleet size does allow for the conversion of one line to trolley coach operation within the existing trolley coach fleet and still maintain a reasonable spare ratio.

On the facility side, the one-for-one replacement of motor coaches with trolley coaches is also preferred, as a motor coach facility could be converted, all or partially, to trolley coach operations. If such a conversion were not possible, a site would have to be identified for construction of a new trolley coach facility. This combination of fleet and facility issues sets 2014 as the earliest year in which a significant expansion of trolley coach services could occur. Construction of the necessary overhead infrastructure and facility conversion would need to be completed to coincide with vehicle deliveries.

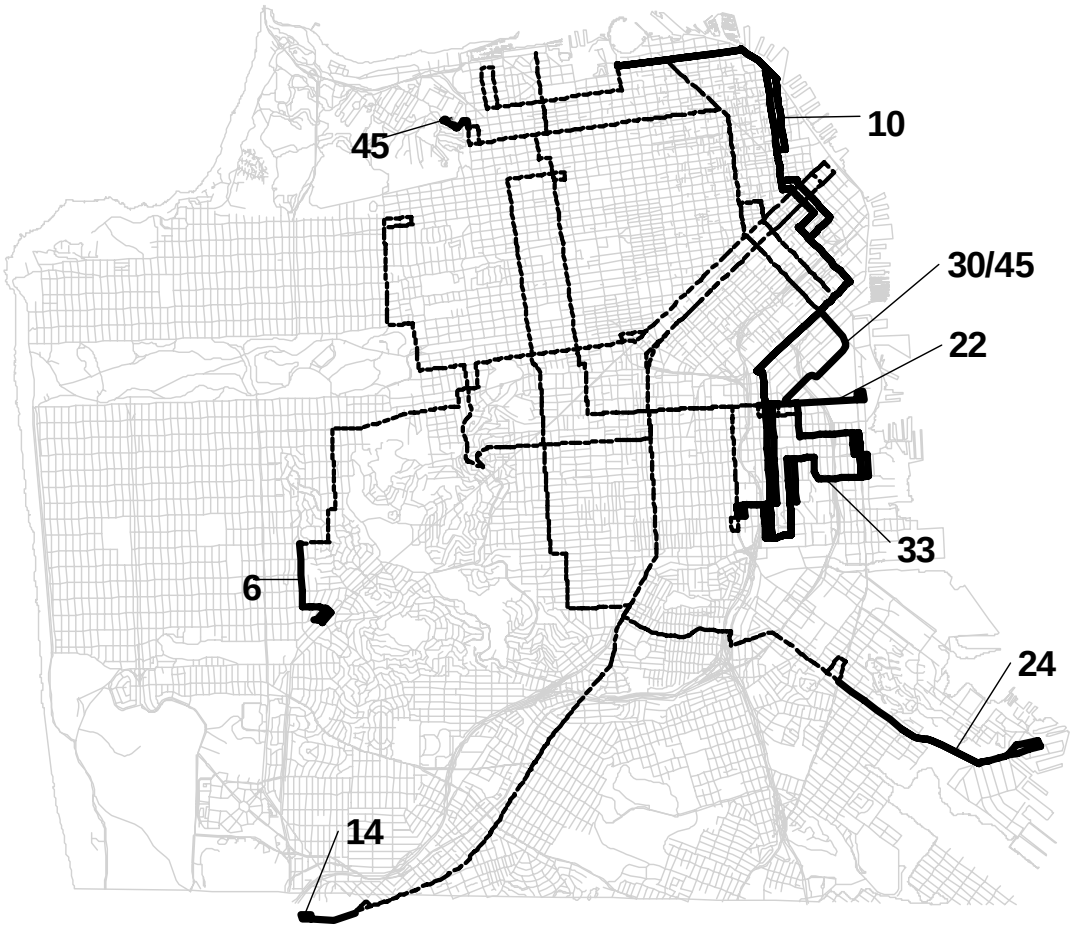
Figures 79 and 80 summarize the committed and proposed electrification proposals discussed above.

Figure 79: Route Electrification Program

Phase		Cost
Committed Projects	22-Fillmore: Mission Bay (Year?)	$8.6
	30-Stockton: Mission Bay	$17.6
Extensions	14-Mission: Daly City BART	$16.9
	45-Union/Stockton: Presidio	$10.8
	24-Divisadero: HPNS	$13.9
	6-Parnassus: West Portal	$8.9
	33-Stanyan: Potrero Hill	$20.8
Primary Candidates	10-Townsend: Potrero Hill	$58.3
	47-Van Ness	$34.1
	71-Haight/Noriega	$42.8
	9-San Bruno	$66.3
	2-Clement	$34.3
	27-Bryant	$51.0
	43-Masonic	$88.8
TOTAL		$473.1

($millions)

Figure 80: Map of Electrification Extensions



Wayside Train Control

This project includes the regular rehabilitation of subway data transmission systems, subway signal cutover, Van Ness power supply for the wayside/central train control systems, a secondary system for Yard Departure Test Device, signalizing and electrifying Green Yard switches, and replacing train control and switching at St. Francis Circle.

Figure 81: Wayside/Central Train Control Systems

Phase	Year	Cost
Central UPS	Start in FY2006	$0.25
St. Francis Circle	Start in FY2006	$1.19
Subway Data Transmission System	Start in FY2006	$5.0
Subway Signal Cutover	Start in FY2006	$2.0
Train Control Test Track Equip	Start in FY2006	$0.5
Van Ness UPS	Start in FY2006	$0.78
Green Yard	Start in FY2007	$1.06
TOTAL		$10.78

($millions)

Cable Car Infrastructure Rehabilitation

This program includes various guideway and infrastructure repair and improvement projects on the Cable Car system. It covers all street components of the Cable Car system, such as rail pulleys, switches and turntables. A detailed description of the Cable Car Infrastructure Program is provided in the 1998 Cable Car System Capital Plan. A detailed project listing is included in Figure 82.

Figure 82: Cable Car Infrastructure Rehabilitation Program

Project	Status	Cost
Signal Pre-empt California/Grant	Complete	$0.80
Hyde/Beach Turntable Overhaul	Complete	$0.63
Powell/Market Turntable Overhaul	Complete	$0.57
Bay/Taylor Turntable Overhaul	Complete	$1.30
Propulsion System Controller Replace	CER	$8.38
Replace Hatch Inspection Covers – Phase 1	CER	$0.95
Powell Street Improvements	CER	$9.29
Replace Slot Rail, various locations	CER	$0.10
Hyde Street Improvements	CER	$5.86
Signal Pre-empts at 2 Hyde St. locations	Start in FY06	$0.86
California Street Improvements	Start in FY06	$8.14
Mason Street Improvements	Start in FY07	$5.08
Replace Hatch Inspection Covers – Phase 2	Start in FY07	$3.0
Mason/Washington Curve	Start in FY08	$5.91
Jackson/Mason Bumper Bar Mod	Start in FY08	$0.53
Barn Turntable Rehabilitation	Start in FY08	$0.82
Signal Preemptions	Start in FY08	$2.92
Inspect Chafing Bars at Pull Curves	Start in FY08	$0.85
Relevel Rewinder Machine	Start in FY09	$0.06
Overhaul DC Motors and Gear Boxes	Start in FY09	$1.46
Additional Projects	Start in FY09	$6.66
TOTAL		**$ 64. 17**

($millions)

THIS PAGE INTENTIONALLY LEFT BLANK

FACILITIES PROGRAM

- Revenue Vehicle Facilities
- Support Facilities
- Administrative Offices
- New Facilities
- Asset Development
- Facilities Safety Program

Chapter 9: Facilities Program

Muni maintains a complex infrastructure of operational, maintenance, and administrative facilities. The Facilities Program develops, manages, and maintains space for the operating, maintenance, administration, and storage needs required to support Muni operations. The emphasis is on maintenance and preservation projects, with the major goals of enabling all facilities to operate in the most effective and efficient manner possible, while preserving older facilities until rehabilitated or replaced.

Figure 84 illustrates the locations of all of Muni's facilities. The majority of these facilities are dedicated to the storage, maintenance, and dispatch of Muni's fleet of revenue vehicles. Three of the facilities house motor coaches: Woods Division, Flynn Division, and Kirkland Division. Two house trolley coaches: Potrero Division and Presidio Division. Four are concerned with Muni's rail operations: Green Division, the Geneva Facility, the Cable Car Division, and the Duboce Yard. Seven other facilities provide support to all of Muni's transit modes: the Control Center, Scott Division, 1401 Bryant, 700 Pennsylvania, Marin Street, Pier 80, and the Burke Avenue facility. Finally, Muni's administrative offices are distributed among six different sites: 401 Van Ness, One South Van Ness, 875 Stevenson, 949 Presidio, 700 Pennsylvania, and 425 Geneva.

The following sections describe these existing facilities, together with their current deficiencies, if any, and Muni's planned remedies for these deficiencies. One South Van Ness, the new headquarters of the Municipal Transportation Agency, and the Burke Avenue facility are new facilities that will be described in detail below.

Existing Facilities

Motor Coach Facilities

Kirkland Division is Muni's oldest motor coach facility, located at Beach and Stockton Streets in the Fisherman's Wharf neighborhood. Opened in 1950, it is small (only 2.6 acres), outdated, and wholly inadequate for Muni's needs. The storage yard provides inadequate parking for the 160 coaches assigned there, such that buses must be parked on surrounding streets at night. There is no on-site parking for employees, exacerbating the negative impacts of the facility on the surrounding neighborhood. Because the facilities here are so inadequate, all but the most minor maintenance procedures on the Kirkland fleet must be performed at Woods Division, necessitating costly shuttling of buses over the four miles between the two facilities. Finally, because of significant land use changes in the last fifty years, this facility is now incompatible with the area's hotel, retail, and residential surroundings. Consequently, Muni is about to break ground on a replacement facility at Islais Creek.

Muni's largest motor coach facility is Woods Division, located at 22nd and Indiana Streets. This facility handles the storage, maintenance, and dispatch of approximately 265 standard-size motor coaches, making it Muni's largest facility in terms of the number of vehicles based there. Because Kirkland Division is so inadequate, Woods is also burdened with performing most of the maintenance activities required for Kirkland's 160 motor coaches. For this reason, even though in recent years both the operations and maintenance buildings at Woods have been updated, this facility will continue to be overcrowded until Muni's planned new facility at Islais Creek is opened. At that time, Woods will be downsized to a more manageable 220 coaches.

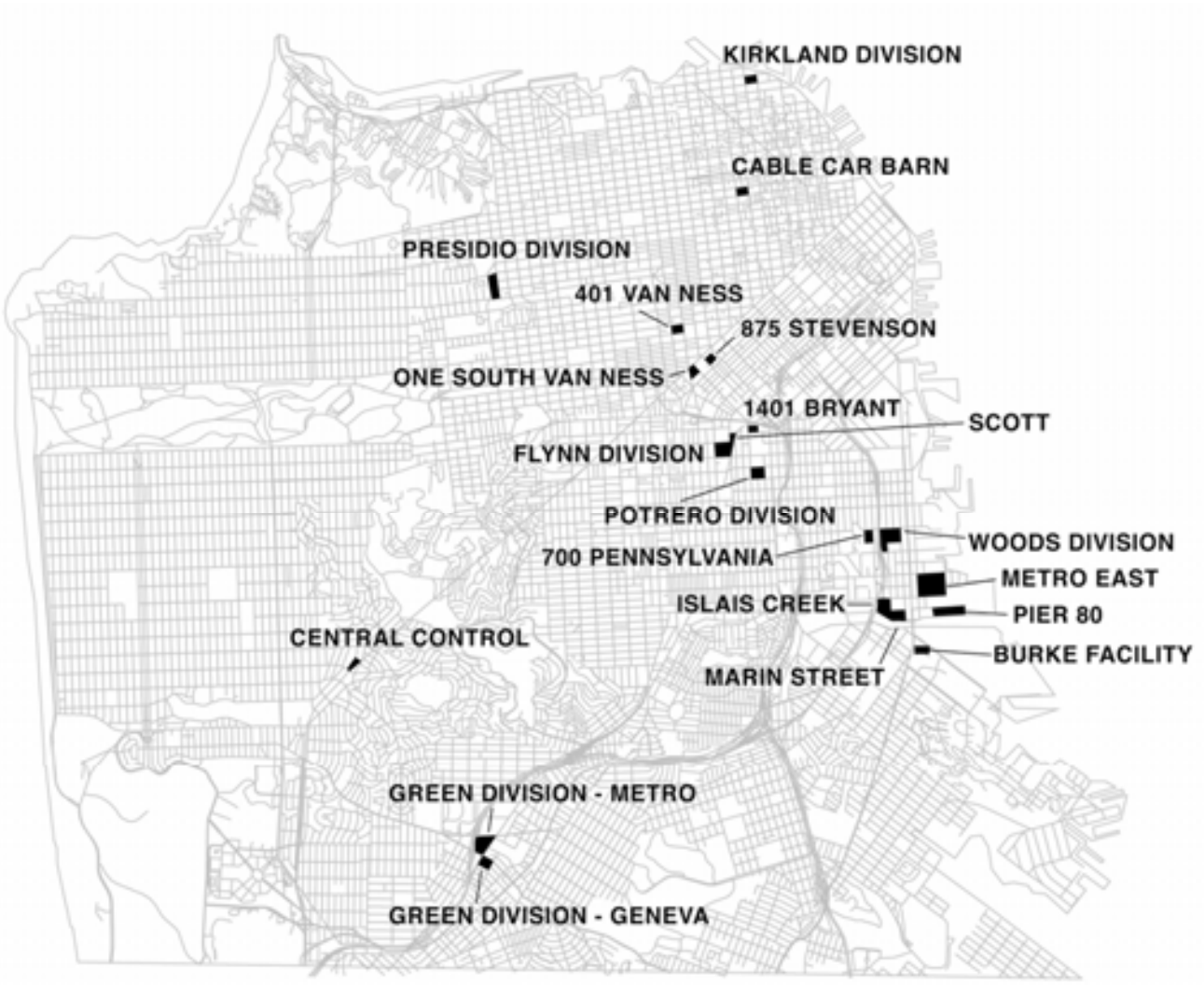
Muni's only motor coach facility to accommodate articulated buses is Flynn Division. It houses 136 60-foot coaches at 15th and Harrison Streets. All maintenance, operations, and storage functions are housed under one roof, in a large industrial building converted for Muni's use in 1989. The design size of this facility is 100 coaches, so the facility is already overcrowded, and any expansion of the articulated fleet will require expanding or converting other facilities.

Figure 83: Muni Facilities – Modes, Functions, Future Plans

Muni Facility	Mode(s) Supported	Major Functions	Deficiencies, if any	Future Plans
Kirkland Division	Motor Coaches	Operating division, running repair.	Overcrowded and outmoded.	Redevelopment
Woods Division	Motor Coaches	Operating and maintenance division, heavy repair, paint and body shops, and reserve fleet [site also includes carpentry shop].	Somewhat overcrowded.	To be downsized when new Islais Division opens; reserve fleet to be relocated to 1399 Marin.
Flynn Division	Articulated Motor Coaches	Operating and maintenance division, heavy repair.	No serious defects.	Ventilation improvements under design.
Islais Creek Division	Alternative-fueled motor coaches	Future maintenance/operations facility.	Currently vacant site.	Under construction
Potrero Division	Trolley Coaches, including artic-ulated buses.	Operating and maintenance division, heavy repair, paint shop, some operations support offices.	No serious defects.	No change.
Presidio Division	Trolley Coaches	Operating and maintenance division, heavy repair, administrative offices, Revenue Center, Operator Training Center.	-- Busyard adequate. -- Bus maintenance facility and offices are outmoded, overcrowded -- Revenue Center too small, outmoded, lacks proper security.	Relocate offices, training, revenue functions. Rebuild bus facility with revenues derived from joint develop-ment project.
Green Division	Light Rail Vehicles	Operating and maintenance division, heavy repair, electronics shop.	Seriously overcrowded, storage yard needs re-railing.	To be downsized when Metro East opens.
Green Annex	Rail Vehicles	Rail maintenance administration, rail dispatch.	No serious defects.	No major changes contemplated.
Geneva Yard and Shop	Historic Streetcars and LRVs	Maintenance shop, paint shop.	No serious defects.	Erect canopy over part of storage yard.
Cable Car Barn	Cable Cars	Operations, maintenance, administration; Cable Car Museum	No serious defects.	No major changes contemplated.
Metro East	Light Rail Vehicles	Future maintenance/operations facility.	Currently vacant site.	Under construction
Central Control	All modes	Operations control for all revenue vehicles: rail, bus, cable car.	Outmoded, inadequately sized.	Expand or relocate.
Scott Division	Non-revenue vehicles	Maintenance for cars/trucks; parking for Flynn Division employees	No serious defects.	No change.
Overhead Lines Facility	Trolley buses, streetcars/LRVs	Base for Muni's overhead lines maintenance staff and crews.	Outmoded facility; seismically unsafe.	Relocate functions and sell property.
Power Control Center	Trolley buses, streetcars/LRVs	Control center for distribution of electric power to trolley and light rail system.	No serious defects.	No change.
700 Pennsylvania	Facilities maintenance	Shops/offices for maintenance-of-way functions; Muni administrative center.	No serious defects.	Remove most office functions; enhance shop functions.
1399 Marin	General storage	Storage of out-of-service vehicles.	Leased from Port of S.F	Purchase property, incorporate parking for Islais Division, add Operator Training; store reserve fleet.
Pier 80	Shops & storage	Miscellaneous storage and shop functions	Leased from Port of S.F	End lease; relocate to Marin, Burke, 700 Penn

Muni Facility	Mode(s) Supported	Major Functions	Deficiencies, if any	Future Plans
Burke Avenue Facility	Central Warehouse	Storage of parts and materials.	New facility.	Purchase property; modify for Overhead Lines Shop.
401 Van Ness	Administrative offices	MTA administration, Human Resources	Leased.	Move offices to One South Van Ness
875 Stevenson	Administrative offices	Finance, Security, IT (computer support)	Leased.	Move offices to One South Van Ness
One South Van Ness	Administrative offices	Construction, Planning, EEO/Workers Comp, Communications/Marketing.	Leased.	Purchase the property, and consolidate all administrative offices

Figure 84: Map of Muni Facilities



Trolley Coach Facilities

Muni operates trolley coaches from two facilities. Approximately 168 trolley coaches are dispatched, maintained and stored at Potrero Division, on a 4.4-acre site at Mariposa and Bryant Streets. Built in 1914, this facility was fully updated in 1990, and is Muni's only trolley coach division that can accommodate articulated coaches. Currently, 93 60-foot coaches are based here.

Presidio Division stores, maintains and dispatches approximately 165 trolley coaches on a 5.4-acre site at Presidio Avenue and Geary Boulevard. Presidio Division is Muni's only operating and maintenance facility in the west or northwestern parts of the City, and as such, is essential to the operation of several trolley coach lines that serve those parts of the City. Built in 1912, the entire facility is antiquated, and few of the functions it serves are accommodated properly. Besides trolley coach maintenance, the facility also houses Muni's Operator Training Center, and a totally inadequate Revenue Center for the processing of fares, tokens, and passes.

Rail Facilities

Green Division is currently Muni's only full-service facility for light rail vehicles (LRVs). Located on a 7-acre site along San Jose Avenue, between Ocean and Geneva Avenues, it was built to accommodate 100 LRVs, but Muni's entire fleet of 151 LRVs is dispatched and maintained here. Despite additional LRV storage across the street in the Geneva Yard, Muni's entire LRV fleet cannot be housed here.

A building at 425 Geneva Avenue, known as the Green Annex, houses administrative and dispatch functions for Muni's LRV fleet and also its fleet of historic streetcars.

The Geneva Yard and Carbarn constitute Muni's primary facility for historic streetcars, providing storage and maintenance for up to 50 cars, as well as a paint/body shop for LRVs *and* historic cars. Currently, Muni's operating historic fleet does not total 50, and so LRVs are stored in the Geneva Yard beside the historic cars. A satellite facility is the Duboce Yard, just off Market Street, where Market Street Railway volunteers help rehabilitate and maintain the historic streetcars.

Finally, Muni's fleet of 40 cable cars is stored, maintained and dispatched from the Cable Car Barn, a 19th century building, completely rebuilt in 1984, at Mason and Washington Streets. The building includes a Cable Car Museum, operated by a non-profit organization, housing many artifacts including Andrew Hallidie's original 1871 cable car.

Support Facilities

Adjacent to the West Portal Metro station, at 131 Lenox Way, is Muni's Operations Control Center. This facility is connected directly to the signal control system for the subway, and also houses supervisors who are in constant radio contact with Muni's entire fleet of LRVs, buses, and cable cars. A study is currently underway to look at options for updating and expanding this facility, either on-site or at an alternate location.

Across Harrison Street from Flynn Division, and containing a parking garage for Flynn employees, is Muni's Scott facility. Scott Division is where Muni's non-revenue fleet of trucks and sedans is maintained.

At 1401 Bryant Street stands a 43,000-square-foot building, erected in 1893, where Muni's Overhead Lines Maintenance operations has been housed since 1947. The building it is not in compliance with San Francisco's Unreinforced Masonry Building Code, and the cost to seismically upgrade this facility is estimated at over $21 million. Thus, Muni will soon relocate this function to the Burke Avenue facility, discussed below. The City's Real Estate Division will conduct an appraisal of the 1401 Bryant Street property for sale. An adjacent facility, at 2502 Alameda Street, contains the Power Control Center for all of Muni's overhead lines power distribution. This facility will remain after 1401 Bryant is abandoned.

On a 2-acre site at Pennsylvania and 22nd Streets stands Muni's 700 Pennsylvania facility, housing most of the maintenance-of-way functions for the Railway. It includes a small warehouse, plus shops and offices for such functions as rail maintenance, custodial services, painters, electricians, locksmith, and

other such operations. In addition, 700 Penn houses a machine shop where specialized parts are fabricated and repaired for the cable car system. This facility, built in 1947, was acquired by Muni and in 2000 was fully rehabilitated, and modified, to house the functions described here. It currently also houses administrative office functions for the Railway, but that function is slated to move elsewhere, as noted below under *Administrative Offices*.

At the corner of Marin and Indiana Streets (1399 Marin) stands a 25,000-square-foot warehouse and adjacent 2.6-acre parcel, which Muni rents from the Port of San Francisco. Within the warehouse, Muni carries out certain bus maintenance functions, particularly warranty-related maintenance, which cannot be accommodated at the various bus divisions. In the warehouse and on the adjacent land, Muni stores several historic streetcars awaiting restoration.

Muni leases from the Port of San Francisco two properties on Pier 80, along Cesar Chavez Street east of Illinois Street. One consists of a 30,000-square-foot warehouse/shop building adjacent to a 37,000-square-foot yard. And the other consists of 13,700 square feet of space in a small office building. With the purchase and lease of new properties elsewhere, it is anticipated that the storage, shop, and administrative functions now housed at Pier 80 will be relocated by the beginning of 2006.

After leasing the building for approximately four months, Muni purchased in July 2005 a 103,000-square-foot warehouse on Burke Avenue, just off Third Street south of Cargo Way, to serve as the Railway's central warehouse. Muni relocated over $12 million in parts and equipment from a smaller, rental warehouse in April 2005. Other stored items now at Pier 80 will be moved to Burke Avenue as well, or in some cases to the Port property under lease at 1399 Marin. Plans are now underway to modify the Burke Avenue facility to accommodate the relocation of Muni's Overhead Lines Maintenance function from the seismically deficient 1401 Bryant facility. That move is expected by the end of 2006.

Administrative Offices

The headquarters offices of the MTA are currently located in rental space on the 3rd floor of the War Memorial Building at 401 Van Ness Avenue. Also located there are the offices of the Human Resources Department of Muni. This building is slated for a major seismic upgrading sometime in the next few years.

Several other Muni staff functions are located in rental space at 875 Stevenson Street. These functions are: Finance, Security, and Information Technology (IT support, including Muni's main computer room). Although both 875 Stevenson and 401 Van Ness are located in the Civic Center area, they are six blocks apart, and require frequent and time-consuming "commuting" on the part of their respective staffs.

Three other Muni-owned facilities, at widely dispersed locations, house the remainder of Muni's administrative staff functions. While the two Civic Center locations are several blocks apart, these other locations are several *miles* apart, and the wasted staff time commuting among them is a detriment both to efficiency and to coordination of effort.

The following Muni functions are at 949 Presidio Avenue: the Employee Services Section (including Muni's federally mandated drug and alcohol testing program), the Revenue Center, Schedules Department, Reproduction, Photography, Accessibility Offices, Passenger Services, and the Muni Health and Safety Department. This facility also serves as one of Muni's two trolley coach operating divisions, though the office functions are generally in a separate part of the property. Also at 949 Presidio, though not an office function per se, is the Railway's Operator Training Facility.

At 700 Pennsylvania Avenue are the administrative offices of the Operations and Maintenance Departments of the Railway, including Materials Management, Purchasing, and Fleet Engineering. This facility was originally envisioned as housing maintenance-of-way functions, mostly shops and storage, with minimal office uses. However, until new office space elsewhere can be found (see below), numerous staff functions will continue to be housed at 700 Pennsylvania.

Finally, there is a small office building at 425 Geneva Avenue, adjacent to the Green Division rail facility. Most of the uses in this building are related to rail operations and maintenance, but some functions, such as Station Operations, could be centralized elsewhere, preferably in the Civic Center area.

New Facilities

Islais Creek

As noted under ***Motor Coach Facilities***, Muni's inadequate Kirkland Division will soon be replaced by a new Operating Division for alternative-fueled motor coaches (Islais Creek). Islais Creek has been designed to occupy 8.3 acres of land bordered by Cesar Chavez Street on the north, Indiana Street on the east, Islais Creek on the south, and the northbound Cesar Chavez off-ramp from I-280 on the west. Site preparation will start in 2005, and all project construction is scheduled to be complete by 2010. The Islais Creek project consists of four elements:

Fuel and Wash Facility: A 16,200-square-foot building to include a fuel dispensing system for both diesel and lighter-than-air fuels, a bus cleaning and washing system, and a fare retrieval system, plus a 1,900-square-foot building with an AC power substation and emergency generator, office space, bathrooms and locker rooms, and mechanical and electrical rooms.

Maintenance and Operations Building: A 64,400-square-foot building consisting of the following: 1) a one-story maintenance area with 16 bus bays, providing facilities for lifting, steam cleaning, high-pressure parts washing, and brake, chassis, and dynamometer testing; and 2) a main building with a brake shop, welding/electric shop, tool room, engineering office and shop, tool storage, compressor room, parts and battery storerooms, a public-access conference room, restrooms, and lobby, all on the main floor, plus administrative and dispatcher's offices, lockers/showers/toilets, lunchroom and vending room, and (for bus operators) an assembly room, a quiet/TV room, and an exercise room, all on the second floor.

Parking Area: Parking for 165 40-foot motor coaches, 19 non-revenue vehicles (mostly maintenance trucks), and a large number of employee private autos. Employee parking that cannot be accommodated on-site will be provided for at 1399 Marin, across Indiana Street from the planned Islais Creek facility.

Shoreline Improvements: Integral to the facility design, and for use by Muni employees and the general public, the project will include major waterfront improvements on a strip of land approximately 40 feet wide and 800 feet long. Improvements will include hardscape, landscape, benches, a pedestrian and bicycle path, a small beach area, and an art structure, all designed to reflect the historical industrial and port uses along San Francisco Bay and the Islais Creek inlet.

Burke Avenue Warehouse

As noted under ***Support Facilities***, Muni has purchased a new warehouse at 1570-1580 Burke Avenue, which will be used as Muni's new Central Warehouse and, later, as a new facility for the Overhead Lines Department. Since 1987, Muni leased a 50,000-square-foot warehouse at 309 23rd Street, on Pier 72 east of Illinois Street, for use as a central warehouse. Through relocation of the warehouse and overhead lines functions to the Burke Avenue facility, Muni will consolidate functions. Warehouse functions were moved to Burke Avenue in April 2005. Muni's overhead lines functions would move in sometime in 2006, after the necessary improvements are made to the property to accommodate those activities.

One South Van Ness

The Municipal Transportation Agency now leases the entire third floor in an office building at One South Van Ness Avenue for Municipal Railway staff who relocated from five floors at 1145 Market Street. This new lease offers the opportunity to consolidate Muni functions.

Muni's Construction Division, Capital Planning and External Affairs, Contract Compliance, Workers Comp and EEO, and Service Planning functions relocated in June 2005 from 1145 Market Street to One South Van Ness. The additional space will allow Muni to also move System Safety staff to the new location, providing the following added benefits: 1) Safety staff, now at 949 Presidio, will be closer to

other Muni staff with whom they regularly work and confer, 2) Safety will be close to the major transit hub of Market and Van Ness, and 3) Muni's goal of making Presidio an operations-only facility will be closer to realization, and with it, the realization of Presidio's potential as a significant revenue-producing joint development project site.

The One South Van Ness lease also includes options to expand to other floors in the building, potentially accommodating the desire to bring all administrative offices of the MTA together in one building. Ultimately, the lease also allows for the purchase of the building by the City.

Muni has just exercised an option to lease the seventh floor, and will relocate MTA administrative functions from 401 Van Ness, 875 Stevenson, 700 Pennsylvania, as well as nearly all DPT staff functions, currently located at 25 Van Ness. All of these functions are slated to occupy the seventh floor by the end of 2005.

Finally, MTA proposes to relocate the balance of both Muni and DPT. Administrative functions remaining at 875 Stevenson and 949 Presidio and elsewhere, to other floors at One South Van Ness. If the City purchases the building, no MTA offices will be housed in rental space, subject to the vagaries of the office rental market. Also, of course, it will make possible much more efficient and meaningful staff-level cooperation and collaboration, among all disciplines within Muni and DPT. This office consolidation will also mean that Muni's 700 Pennsylvania Avenue building can be returned to its originally intended function as a maintenance facility. Finally, it will further Muni's goal of making 949 Presidio an operations-only facility, and with that, the realization of Presidio's potential as a significant revenue-producing joint development project site (see below).

Asset Development

Muni owns property in several San Francisco neighborhoods. Many of these properties have excellent transit service, highway access, and prime locations. Muni has already undertaken the development of one such parcel for joint transit/commercial use, and is exploring opportunities at several other sites. Income derived from such development can support Muni's operating budget through ongoing revenue streams, or provide infusions of capital for major projects.

Mission/Steuart Hotel

The Mission and Steuart site, a former Muni bus layover yard, was selected in 1996 in the Municipal Railway Assets Development Study as a site for commercial development to increase Muni's revenues. The study concluded that a hotel had the best potential to provide Muni with substantial long-term revenues on the site, and would be the use that would be the most compatible with the surrounding area. After a competitive process, a team consisting of a developer, a hotel operator, and an architect was selected. Groundbreaking was celebrated on October 9, 2003, and Hotel Vitale opened March 9, 2005.

Hotel Vitale is at 8 Mission Street on the corner of Steuart Street, across The Embarcadero from the Ferry Building. The hotel is operated under a 51-year lease with an option for a 14-year extension. Under the lease, the developer pays all costs of operating, maintaining, and repairing the hotel, and will pay rent to the MTA estimated to average about $4,790,000 a year over the lease's life. It will provide Muni with revenues totaling approximately $311 million, plus an additional $500 million in tax revenues to the City during the life of the 65-year lease. After 65 years, Muni will own the hotel outright. Anticipated revenues from this project are included in the financial projections shown in the Operating Financial Plan chapter.

Kirkland Yard

Once the new Islais Creek motor coach facility is in operation in 2010, Muni's 2.6-acre Kirkland Division property will be available for redevelopment. The Kirkland property is surrounded by commercial and residential development, and is no longer suitable for industrial use. In early 2003, an economic development analysis was conducted for this property. Based on that document, Muni is planning to issue

a Request for Qualifications and a Request for Proposals (RFQ/RFP), seeking a development partner with the capability of defining, planning, entitling, and implementing a high quality, medium-density residential project at this site.

In April of 2004, a Citizens' Advisory Committee (CAC) was formed, consisting of residents, business owners, and interested parties from the Fisherman's Wharf area, to assist Muni with plans for the redevelopment of the Kirkland property. Two meetings of the CAC were held, together with one community-wide meeting in the summer or 2004. There was general support for the concept of housing on the site, with some concerns voiced about the affordability of the new units. The MTA Board has been briefed on the progress of redevelopment plans, and before an RFQ or an RFP is issued, the CAC will meet to consider it, and the MTA Board will have to approve it. Muni expects to gain significant revenues from this valuable property, which could be in the form of either a lump sum payment or an ongoing revenue stream.

Phelan Loop

A site of approximately 1.4 acres at Ocean and Phelan Avenues serves as the off-street terminal for the 49-Van Ness/Mission trolley coach route and the 15-Third motor coach route. Three other bus routes, plus the K-line streetcar, stop adjacent to this property, on either Ocean or Phelan. This stretch of Ocean Avenue, and the adjacent City College of San Francisco (CCSF) campus, are part of the City Planning Department's "Better Neighborhoods 2002" planning process.

In addition to that ongoing planning process, City College representatives have been in discussions with the Public Utilities Commission concerning changes in the use of the PUC's nearby reservoir property. A community consensus has already coalesced around the idea that CCSF expansion onto part of the reservoir property should be linked directly to a re-invigorated Ocean Avenue commercial strip. Muni's Phelan Loop lies directly between the reservoir property and the portion of Ocean Avenue most in need of improvement, and thus could provide the desired linkage.

Muni has already indicated interest in redesigning this bus terminal in such a way as to support a new "gateway" to City College. The project would include a 3-4 story affordable housing development with retail or educational development at ground level on part of the Phelan Loop. The remainder would be reserved for open space desired by the community and a reconfigured bus turnaround on an area just east of the existing loop. Adjacent bus and rail stops could also be reconfigured to better serve CCSF students and inter-route transfers. Several options have been explored in connection with the Better Neighborhoods planning process, at the end of which a Neighborhood Specific Plan and a Program Environmental Impact Report will be adopted to guide new development and encourage private investment in the adjacent area. As with the Mission/Steuart Hotel, Muni will only enter into a development agreement if it will generate revenues for Muni and not negatively impact transit service.

Balboa Park and Upper Yard

Muni owns a significant amount of land in the Balboa Park area, including the Green Yard, Geneva Yard, and the Upper Yard. In 2004 Muni transferred the Geneva Office Building to the Recreation and Park Department for development as a community facility. When Metro East relieves some of the pressure on the Green Division, Muni will have an opportunity to reexamine the operation and efficiency of these pieces of real estate, and evaluate whether a joint development project can be contemplated. Muni would also have to make some decisions about current and future need for the Upper Yard, service plans for the rail and bus lines through this area, and how to store, maintain, and dispatch a growing fleet of historic vehicles.

As mentioned in Chapter 5, Muni will be working with other City agencies, BART, and Caltrans, to begin conceptual engineering and service planning work for a wide variety of improvements in the Balboa Park station area. 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 process.

Presidio

As noted above, Muni's Presidio Division is outdated and inadequate as a trolley coach division, and the Revenue Center housed there is too small and lacks proper security. As the only trolley coach facility in the western part of the City, it is crucial to Muni operations. However, like Kirkland Division, the site has considerable development potential. It commands a stunning view of downtown, affords a convenient downtown commute along Geary Boulevard, and is surrounded by considerable retail uses and desirable residential neighborhoods.

Once the administrative offices and Revenue Center that share the site with trolley coach operations are relocated to One South Van Ness, and an alternate site is found for the Operator Training Center that also shares this site, the property will be amenable to some type of joint development project. Redevelopment options range from building new, high-rise residential buildings on the southern portion of the site (where the office and Revenue Center now stand) to decking over the entire 5.4-acre site for a major residential and mixed use project. Any redevelopment option will have to include expanding or rebuilding the cramped bus maintenance facility on the lower level(s) of the property.

Facilities Safety Program

The Facilities Safety Program includes a series of projects designed to improve the safe operation of Muni facilities. Figure 85 is a list of safety projects that have completed or are scheduled for completion by the end of 2006.

Figure 85: Facilities Safety Program

Phase	Year	Cost
Presidio Shop Safety Upgrade	2005	$735,000
Woods Vehicle Lift Replacement	2005	$1,560,000
Potrero Storeroom Isolative Wall	2003	$13,520
Potrero Pit Safety Net Improvement	2005	$67,600
Potrero Pit Drain Sump System	2006	$676,000
Pigeon Abatement	2005	$135,200
Potrero Eye Wash Improvement	2006	$161,403
Motive Power Emergency Lights	2006	$27,040

THIS PAGE INTENTIONALLY LEFT BLANK

EQUIPMENT PROGRAM AND OTHER PROJECTS

- Geographic Information Systems
- Automatic Vehicle Locator System
- Regional Intelligent Transportation Systems
- ITS Vehicle Projects
- SFgo™
- Wireless Radio System
- Central Control

Chapter 10: Equipment Program and Other Projects

The Equipment Program provides the tools needed for the continued operation of Muni's operating, maintenance and administrative functions, such as the replacement or acquisition of such items as rail grinders and computers. Many of the projects in this program are related to technology and communications.

Other Projects include security projects, such as the Graffiti Prevention and Security Program, and station area projects such as Bayview Connections and Balboa Park.

Highlights of Muni's technology and communications initiatives are described in this chapter. All of the existing capital project descriptions are included at the end of this chapter.

Recent Accomplishments

Technology projects are critical to maintaining and improving Muni's service delivery and internal efficiency. Projects are developed with input from all divisions within Muni and DPT. The following technology projects have been completed in the past two years:

- Shop History and On-line Parts System (SHOPS) replaced Muni's existing Vehicle Maintenance System
- Trapeze, a transit-specific scheduling package, was implemented
- TransitSafe, Muni's database used to analyze safety, security, and training trends began
- Enterprise Server Room was implemented
- MIS TESS Integration completed

Geographic Information Systems

Spatial data is crucial to Muni's mission of providing transportation services. Enhancing Muni's Geographic Information Systems (GIS) capabilities will facilitate easier sharing of spatial data within Muni and with other agencies, including MTC's 511.org, which provides a public transit trip planning service through the Regional Transit Information System. By maintaining precise stop and route locations, the GIS additionally provides base data that is crucial for the NextBus® passenger information system and the new Scheduling and Operator Dispatch system. Muni's GIS will leverage the NextBus® vehicle location data to improve its mileage and time point adherence reporting. The system also adds map-based reporting tools to TransitSafe to show incident hotspots and location analysis to guide corrective action for improved passenger safety. Facility and overhead department electronic maps will enhance system reliability through linear referencing of assets, inspections and repairs. For service and accessible service planning, map surveys and analysis of demographic, curb cut and slope data will contribute to better system design, customer convenience, safety, and public information. The GIS also allows MUNI to assess and predict locational impacts of route modifications and construction on city residents and businesses.

Automatic Vehicle Locator System

Automatic Vehicle Location (AVL) system data provides real-time vehicle location information, and generates live transit information and arrival schedules to transit patrons. AVL system data also provides operations line managers continuous updates of vehicle locations, headway, and on-time reports, which assist operations managers in line management and recovery from service disruptions. In addition, archived AVL data provides the basis for performance and schedule adherence analysis and reporting.

Muni issued a competitive AVL System Request for Proposals in April 2001 and issued Notice to Proceed to NextBus® in August 2002. The 5-year contract provides for system design and implementation to all Muni's rail vehicles (LRVs, Cable Cars, and Historic Rail) in the first year, which is now complete. Year 2 equips all electric trolley coaches and installs up to 400 roadside passenger information signs; Year 3 equips all motor coaches; Years 4 & 5 provide ongoing service.

There are about 4,000 Muni stops in San Francisco. Muni only has funding to install 400 wayside NextBus® signs. The NextBus® signs require electrical power to operate and they must be installed in a protected, sheltered area. Approximately 1,000 bus shelters currently have electrical power. The proposed criteria for shelter installations are as follows:

- Powered shelters only
- Signage equitably distributed among districts
- At least one of the following operating characteristics must apply:
    - The stop is a transfer point
    - The stop is a high loading point (many passengers boarding/deboarding)
    - The stop has a long headway with passengers waiting a long time (community lines)
    - The stop has restricted line of sight along the corridor (passenger cannot see the bus coming from far away)

With this technology, passengers, Muni managers, and the general public have the ability to access specific arrival information via the Internet, hand-held cellular devices, and/or illuminated shelter signs. Automatic Vehicle Location systems increase customer satisfaction by reducing unnecessary waiting, with the added benefit of providing vehicle arrival information and on-time performance data to Muni management. DPT's SF*go*™ project receives AVL data for integration into its Traffic Management Software system, to coordinate traffic signals for implementing centralized traffic priority and to facilitate on-time transit service. Muni also provides AVL data to the MTC's 511 system to deliver arrival information to transit patrons throughout the Bay Area region. The final implementation of this project for the motor coach fleet and for wayside signs will be complete by August, 2006

As a separate project, the Accessible Services Program developed a proposal to procure AVL equipment for installation in paratransit vans. There are approximately 75 paratransit vans providing nearly 11,000 trips per month. The AVL system will be used to increase the monitoring of paratransit vans, enhance communications between dispatchers and drivers, improve the customer reliability response to "where's my ride" phone calls, and generate more accurate on-time performance reports.

Regional Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) projects are those electronic and communications systems that collect, process, disseminate, or act on information in real-time to improve the operation, safety or convenience of transportation systems. The U.S. Department of Transportation has developed the National ITS Architecture and a related set of tools and standards to facilitate coordination among systems and across agency and regional boundaries. The federal government requires that ITS projects seeking federal funding after April 2005 procure those projects within the framework of a regional ITS architecture.

To address both the needs and opportunities for integration of ITS projects, MTC sponsored development of a Regional ITS Architecture and an ITS Strategic Deployment Plan for the nine-county San Francisco Bay Area. Muni was an active stakeholder in the MTC's Regional Architecture project. The ITS Regional Architecture and ITS Deployment Plan was finalized in July 2004 and is available online at: http://www.iteris.com/mtcits/.

ITS Vehicle Projects

Digital Voice Annunciation System (DVAS): Muni's new motor coaches and electric trolleys come equipped with systems to automatically announce and display the next scheduled stop, based on a Global Positioning System (GPS) locator. This project will extend DVAS to all of Muni's revenue fleet, retrofitting LRVs, and older rubber-tire coaches that will remain in service for several years.

LRV Event Recorder: An on-board event-recorder will monitor and log activity on a variety of critical vehicle systems. Event recorder data will greatly aid in diagnosing problems, the source of which may be any of the many interconnected on-board systems with highly complex interactions. The event recorder will also be a key resource in accident investigations. The estimated completion date is in 2012

Automatic Passenger Counters (APC): The APC Project will install automatic passenger counting equipment on a subset of Muni's revenue fleet, providing accurate and timely passenger counts, a key component to effective fleet management and service planning. Approximately 50% of motor coaches in the current procurement process will be equipped with APC.

SF*go*™

The mission of SF*go*™ is to provide multi-modal, real-time traveler information to the public and to improve traffic flow citywide. In order to succeed in its Mission, SF*go*™ will implement Intelligent Transportation Systems (ITS) tools to enhance traffic analysis, to provide transit signal priority and to improve maintenance procedures. These tools include advanced traffic signal controllers, traffic cameras, video detection, variable message signs, a communications network and Transportation Management Center (TMC). One of the goals of SF*go*™ is to use ITS to improve Muni's on-time performance and advance the Transit First Policy. Muni is a key stakeholder in the SF*go*™ project and has actively participated in the SF*go*™ Technical Advisory Committee since 2001.

The benefits of this partnership can already be seen along the Third Street corridor. As Muni builds the new light rail project, it will install the necessary traffic signal infrastructure and communications network to provide transit signal priority along the entire corridor. Light rail simulations using a VISSIM model have shown a time savings of two minutes over a sample of seven intersections. Extending that over the 65 intersections in the Third Street corridor could mean a savings of over 15 minutes in LRT travel time. Transit priority helps Muni improve on-time performance and reliability and increases Muni's modal share of the travel market. Transit signal priority will be implemented citywide in phases as the SF*go*™ program expands.

By 2006, DPT will have completed the Initial Phase of the SF*go*™ Program. The Initial Phase includes final construction of the Main TMC and the satellite TMC at SBC Park. It also includes 35 intersections in the South of Market Area, 14 traffic cameras, 5 video detection systems, and 4 variable message signs. LRT transit signal priority was also upgraded along the Embarcadero from Mission to SBC Park.

The next two corridors to be upgraded by SF*go*™ are 3rd Street and Oak/Fell Streets. Both corridors already have advanced traffic signal controllers and are part of the SF*go*™ communications network. However, in 2006 DPT will be adding traffic cameras, video detection and variable message signs. These devices will help SF*go*™ collect more roadway data as well as provide information to the public. Implementation for Third Street will occur in-June 2006 and Oak-Fell will occur in-June 2007.

Also in 2006, DPT will be extending the communications network from 3rd Street to the DPT Traffic Signal Shop located at 901 Rankin Street. This will provide the Signal Shop with the same functionality as the Main TMC. It will also provide tools to detect signal malfunctions or failures immediately through the SF*go*™ network.

As part of the Proposition K 5-Year Prioritization Program, DPT identified another 18 projects to help expand the SF*go*™ network. These projects include planning, software improvements, integration with Muni Central Control, Caltrans and 511, and construction projects along the following corridors:

- Central Freeway Area
- Van Ness Avenue, Franklin, Gough and Polk Streets
- Market Street
- Potrero
- Lincoln/Kezar
- Lombard Street
- 19th Avenue/Park Presidio
- Mission Street
- 1st Street & Fremont
- Embarcadero
- Masonic
- Valencia
- Geary

The total cost to implement the SF*go*™ Program is estimated to be $215 million. To date, DPT has secured $7 million for the SF*go*™ Initial Phase Implementation. An additional $2.6 million has been secured for the Third Street Corridor and Oak/Fell Streets projects. Proposition K also provides $19.6 million over the next 30 years, however this funding will be used primarily as local match for federal and state grants.

Wireless Radio System

Replacement of obsolete communications systems, emerging FCC rule changes, and the introduction of new technologies are generating the need for updated wireless voice and data communications systems. Muni has embarked on a program to replace its now-obsolete radio system with a state-of-the-art wireless communications system. The new radio system will provide the wireless "backbone" to allow implementation of a variety of ITS applications dependent upon reliable and high-capacity communications between Muni's Central Control and its revenue fleet. The project will include wireless short-range vehicle-to-wayside data communications, for installation at the maintenance yards, to support data transfers for ITS Vehicle Projects listed above. Muni has secured federal ITS grants for the development of procurement specifications for an "ITS backbone" voice-and-data radio system, and is seeking funding for procurement of the replacement radio system by 2010.

Fare Revenue Integration and Reporting System

Currently Muni uses several systems to manage fare revenue data and cash reconciliation. The Fare Revenue Integration and Reporting (FRIAR) system will bring fare revenue data from all sources into one database to be used for cash reconciliation, financial reporting, ridership trend analysis, and long range planning. This system will replace aging data collection systems and inefficient manual processes.

Central Control Incident Management System

The Central Control Incident Management system will replace the aging Central Control Log application with a real-time incident management system. A real-time application will enable faster communications during the course of regular business and during emergencies. By making incident data available throughout the organization as it happens, Muni can be more responsive to operational situations and make more information available to passengers through the Internet, interactive messaging, and Passenger Services.

Enterprise Application Interface

The Enterprise Service Bus is an integration tool that will tie all of Muni's distributed applications together. The system will follow a web services management model and will allow SHOPS, Trapeze, TransitSafe, NextBus® and other new or legacy systems to communicate or broker information. This project will call data from multiple systems together to offer real-time dashboard views for Managers to use daily to monitor and improve system performance. This project is only in the conceptual phase and is scheduled for completion in spring 2006.

Central Control

The current Central Control Facility is undersized for its existing use, contributing to inefficiencies and limiting the functions that can be accommodated. Expansion or relocation of the facility is needed to provide adequate space for existing functions, and to accommodate expanded service for the Central Subway, BRT lines, and historic rail. Rigorous post-9/11 security requirements will have to be addressed. Current options include: 1) expansion of the existing site; 2) construction of a new facility at the current site; 3) relocation to the new Muni Headquarters.

THIS PAGE INTENTIONALLY LEFT BLANK

CAPITAL IMPROVEMENT PROGRAM

- Developing Capital Projects
- Estimating Costs
- Setting Priorities
- Capital Fund Projections
- Major Changes Since FY2004 SRTP
- Major Findings

Chapter 11: Capital Improvement Program

The 2006 Capital Improvement Program (CIP) is the set of projects Muni plans to undertake to replace, rehabilitate or enhance system assets. The CIP covers a 20-year period from FY2006-FY2025. Capital projects are major investments in rolling stock or in the physical plant, the costs of which would not normally be covered in the operating budget. For example, the purchase and installation of new fareboxes for the entire fleet is a capital project, whereas repairing or replacing a single damaged farebox is an operating cost. The CIP contains the fund projection assumptions, along with detailed project cost and funding plans. The need for this set of projects is described in greater detail in the sections preceding the CIP.

Developing Capital Projects

Capital projects are developed in a number of ways. Some are programmatic, such as the fleet and infrastructure replacement projects that recur on a regular basis. Expansion projects such as the Third Street Light Rail line are developed through major corridor or other planning studies. Finally, in past CIP update cycles, Muni has conducted a Call for Capital Projects to solicit new capital projects from Muni staff.

Estimating Costs

There are several types of capital project cost estimates used depending upon a project's stage in the development process. When a project is initially proposed, the person proposing the project develops a rough order-of-magnitude cost estimate. This could be based on past experience with similar projects or informal consultations with suppliers. Once the project is better defined, a CIP cost estimate is prepared. This provides an initial engineering estimate of the major project cost categories. At this level, contingency allowances are high since many project details have yet to be established. Once project funding has been identified, engineering prepares a Conceptual Engineering Report (CER). The CER establishes the baseline budget. At the end of the CER process, a decision is made whether to proceed into detailed design. During final design, an engineer's estimate is produced so that the project can enter the bid process. At project completion, the final cost is compared to the baseline to determine if changes to the estimation process are needed.

Setting Priorities

The projects included in the CIP are prioritized using a four-step process that considers program criteria, project specific criteria, project schedule and readiness, and funding availability. This priority establishes the order in which the estimated $15.6 billion in project costs are funded using the $8.0 billion in projected revenues.

Program

The CIP is organized as a set of programs that represents the multi-year nature of capital projects and the recurring cycles of many capital improvements, such as vehicle replacement and track rehabilitation. The programs are prioritized from fleet (highest priority) to equipment (lowest priority) as listed in Figure 85.

The rationale for this order can generally be described as follows. Muni service is based on a fleet of over one thousand vehicles. Replacing the fleet on a regular schedule is the most cost-effective way to provide high quality service to Muni customers. The next element of a high quality service is the network of guideways and wayside infrastructure, including stops and platforms. The fleet and infrastructure programs are supported by a system of operations, maintenance and administrative facilities. The

facilities require appropriate equipment to service vehicles and infrastructure, and the facilities themselves must also be constructed, rehabilitated and maintained.

This ranking of programs does not establish an absolute priority. For example, a project that is a high priority in the facility program could be undertaken before a project that ranks low within the fleet program. A short description of each CIP Program is provided in Figure 86.

Figure 86: Capital Program Descriptions

Program	Description
Fleet Program	Rehabilitation and replacement of Muni's vehicles. This includes both revenue vehicles, used to transport passengers (motor coach, trolley coach, light rail, historic streetcar, cable car, and paratransit), and non-revenue vehicles, used to support the revenue fleet and the system infrastructure.
Infrastructure Program	Rehabilitation, replacement and modification of rail, communications, signals, overhead, subway, stations and cable car systems. Also includes adding and improving ADA-mandated Key Stops, additional accessibility improvements, and transit preferential streets.
Facilities Program	Develop, manage and maintain space for the operating, maintenance, administration and storage needs required to support Muni operations. Includes fixed equipment such as vehicle lifts and ventilation systems.
Equipment Program	Provides the tools needed for the continued operation of Muni's operating, maintenance and administrative functions, such as the replacement or acquisition of such items as rail grinders and computers.
Other Projects	A limited number of projects that do not fit into the CIP programs as described above.

Project Criteria

Once capital projects are grouped by capital program, each project is ranked within the program based on the project criteria listed in Figure 86. These criteria place highest priority on projects that are already committed, legally mandated, and/or provide a specific safety or security enhancement. Extra consideration is also given to projects that replace or rehabilitate an asset that is beyond its useful life and is negatively affecting service delivery or projects that improve accessibility to the system. Projects that positively benefit the operating budget are also given priority. This is followed by a criterion that reflects the degree to which the project supports the Proposition E Service Standards, as summarized in Figure 21. Next, projects are ranked according to whether they provide for the timely rehabilitation or replacement of an asset or whether they enhance or expand the current system. Project criteria are applied only when the primary project purpose or benefit meets those criteria. For example, while many projects contain safety and security elements, unless the primary purpose of the project is to address a specific safety or security need, the project would not qualify for the safety/security criteria.

Timing

When setting priorities for the overall CIP, the timing element, in terms of project schedule and readiness, is introduced. This set of criteria includes internal resource availability, and special circumstances, such as opportunities associated with combined procurements or construction activities that maximize cost effectiveness and/or minimize negative impacts on the community. Project readiness can generally be prioritized (from most ready to least ready) as 1) in construction or procurement phase, 2) in CER or design phase, 3) in the environmental phase or where the Project Study Report (PSR) is complete, 4) a PSR is underway, or 5) only a general concept.

Funding

The fourth level of prioritization involves applying funding criteria and constraints to the projects. Each year Muni must compete for funding with other agencies and projects at the local, regional, state and federal levels. Due to the limited number of these funding sources, the funds that Muni receives in any given year are not able to fully satisfy the capital needs. Added to this are restrictions that Muni's funding agencies place on the various funding programs. Again, this constrains Muni's ability to fund all capital

needs in a timely manner. For these reasons, some projects must be delayed or their funding must be spread out over a number of years. There also could be unique funding opportunities that Muni could take advantage of, thereby adjusting the capital priorities.

Figure 87: Project Criteria Definitions

Criteria	Description
Ongoing/ Committed	Construction or procurement is already underway or there are explicit public commitments from a direct action by the Municipal Transportation Agency Board or Board of Supervisors such as the decision to proceed with the Third Street Light Rail Project
Legally Mandated	Addresses legal mandates resulting from passage of laws, such as the Americans with Disabilities Act, state Clean Air regulations, or the voter-approved Proposition I. Examples include the Metro Accessibility Program and the Motor Coach Clean Air Device Retrofit project.
Safety/Security Need	Addresses specific, identified safety hazards within facilities and in the operation of vehicles and equipment; or addresses specific, identified security deficiencies in the detection of, or response to, threats to persons from planned acts of violence, life threatening emergencies or natural disasters. Examples include the Escalator Rehabilitation Program and the Kiepe Pole Retriever Retrofit projects.
Deteriorated Asset	Rehabilitation or replacement of an asset that negatively affects system performance. A deteriorated asset is one that is being replaced beyond its useful life or normal replacement cycle. Examples are the Rail Replacement and Overhead Rehabilitation programs
Accessibility	Projects that provide accessibility improvements not already covered under the legally mandated criteria. These projects will provide disabled passengers who are not presently able to use parts or features of the Muni system with increased accessibility. These are improvements that exceed the mandates of ADA such as the Digital Voice Annunciation System project and the Beyond Key Stops program
Operating Budget Benefit	Projects that result in operating cost savings. Includes projects such as the midlife vehicle rebuild programs, which should reduce unscheduled maintenance demand. These savings do not necessarily result in reductions in the overall operating budget, as resources may be redeployed to other areas.
Proposition E Service Standards	Supports one or more of the five Proposition E Service Standards: System Reliability, System Performance, Staffing Performance, Customer Safety and Employee Satisfaction. See the detailed description in Figure 21 for each service standard definition. Meeting one or more of the service standards will satisfy the requirements for this criterion
Regular Replacement	The optimal rehabilitation or replacement of an asset at the end of its useful life and within the normal replacement cycle of that asset. Regular replacement occurs before the asset becomes deteriorated. Examples include the future fleet replacement projects.
Enhance Existing	Improves or enhances an existing asset or service. Enhancements are improvements to existing service that does not add or expand service. Examples are the Flynn Ventilation System & Roof and the Paratransit Debit Card projects
New/Expansion	Increases service beyond current schedules or programs. Examples include the Third Street Light Rail Projects and the Historic Vehicle Program.

Capital Fund Projections

As with the previous CIP update, Muni has worked with its funding agencies to develop capital revenue projections for the major fund sources for which it is eligible. Like the CIP, these projections cover the 20-year period from FY2006-FY2025. The capital revenue projections are extrapolations based on a review of recent Muni and regional funding history, and projections developed by Muni's funding agencies. Revenues projected for the 20-year period total $8.0 billion in federal, state and local fund sources.

Applying Funds

The capital revenue projections have been applied to the projects in the CIP using a multilevel prioritization process. This process allows Muni to consider the amount of funding projected to be available in a particular year and describes the tradeoffs in the choices made in the capital program. Key

considerations in this process are identifying appropriate funding sources for each project and identifying the required matching funds for each funding source.

As previously mentioned, Muni's capital needs ($15.6B) far outstrip the projected capital revenues ($8.0B). This gap widens when project eligibility requirements and timing are considered. For this reason many projects in the capital program will have to be deferred.

Major Changes Since FY2004 SRTP

Since the last SRTP was adopted in September 2003, there have been a number of significant changes to various aspects of the capital program. These changes are summarized here.

Federal 10% Flexible Funds

In previous years the programming of federal formula funds, consisting of Sect. 5307 and Sect. 5309 Fixed Guideway was conducted at the regional level solely through the use of a project scoring system. This scoring system assigned values to different types of projects, with a Score 16 being the typical highest scoring project (See Figure below). Due to the limited amount of formula funds available in any particular year in the region, only Score 16 projects have been funded. In this upcoming round of Transit Capital Prioritization, covering FY06-FY08, each transit operator will be able to use 10% of its total formula fund share for any lower scoring projects they choose. This will allow properties to fund projects such as facilities that are not normally funded through the federal formula program. For Muni these "flexible funds" will total approximately $5.2M per year. In the coming years Muni will use its flexible funds for preventive maintenance, vehicle rehabilitation projects, and a number of facility projects. These funds will help to take the pressure off of Prop K to fund 100% these types of projects and can thereby serve as leveraging to the federal funds. This will help to stretch Muni's limited Prop K dollars further.

Figure 88: MTC Transit Capital Priorities Scoring of Projects

Score	Category
16	Revenue Vehicle Replacement/Rehabilitation
16	Fixed Guideway Replacement/Rehabilitation
16	Ferry Replacement/Rehabilitation
16	TransLink®
15	Safety
14	ADA/Non-vehicle Access Improvement
13	Fixed/Heavy Equipment, Maintenance/Operating Facilities
12	Intermodal Stations
12	Station/Parking Rehabilitation
11	Service Vehicles
10	Tools and Equipment
9	Office Equipment
9	Capitalized Maintenance, including Tires/Tubes/Engines/Transmissions
8	Operational Improvement/Enhancements
8	Expansion

Regional Funding Caps

In MTC's Transit Capital Priorities process, funding caps are set on projects to help distribute the available funds equitably throughout the region. In the past, fixed guideway programs such as the Rail Replacement and Overhead Reconstruction programs could receive up to $7.5M in federal funds each year. For FY06-FY08, this cap has been raised to $13M per year for the Overhead Reconstruction and Rail Replacement Programs. This will allow Muni to pursue a number of projects that previously were

deferred due to funding constraints. The additional local match needed for these increased federal funds will be provided from Proposition K funding.

Regional Measure 2

In March 2004, Bay Area voters passed Regional Measure 2 (RM2), which raised bridge tolls on the seven state owned bridges (the Golden Gate Bridge is not owned by the State) from $2 to $3. The additional $1 will be used for a variety of projects to alleviate congestion in the transbay bridge corridors. At Muni, a number of capital and operating projects were included in RM2. For the Third Street Light Rail Project, funds have been allocated for Metro East Facility construction. Third Street startup and operating funding will also be available once the new light rail line nears opening. Capital funds are included for the purchase and rehabilitation of Historic Streetcars for service on a future E-Line, operating along existing tracks on The Embarcadero. Muni has been awarded RM2 funds in the Real Time Transit Information category for expansion of the NextBus real-time passenger information program, and some funds will be available for TransLink® -compatible faregates. Operating funds will be available to cover a portion of the cost to provide bus service along BART corridors during the hours when BART is not operating. During the so-called Owl hours of 12:00 midnight to 6:00AM, the 14-Mission will provide transit service in the BART corridor within San Francisco. Other regional transit operators will provide coverage into and out of San Francisco. Finally, capital funds will be available for TransLink® implementation.

Proposition K Sales Tax

In November 2003, San Francisco voters approved Proposition K (Prop K), an extension of the previous Proposition B half-cent sales tax for transportation projects. Out of the $2.8B projected to be generated over the next 30 years, Muni's share is about $1.5B. The SFCTA adopted the 30-year Prop K Strategic Plan in April 2005, making revenues available for project allocations. The funding available in the Strategic Plan is limited due to depressed revenues and financing costs. As a result, Muni is primarily able to program Prop. K funds as match to federal funds only. A companion to the Strategic Plan is the Prop K 5-Year Prioritization Programs (5YPPs). The 5YPPs process included development of project criteria and performance measures. The final output was a prioritized list of projects in five Prop K project categories. Prop K also restricts the use of sales tax revenues for operating and maintenance expenses. Although a number of projects received operating funds from Prop B, these projects will receive declining amounts of Prop K funds for the next five years.

Preventive Maintenance

To cover projected operating budget deficits, a portion of the activities typically covered by the operating budget will be funded as capitalized, or preventive, maintenance (PM). This is done through MTC's regional process, and requires deferring capital projects. In FY06, Muni will request approximately $12M in preventive maintenance funds.

Criteria

A criterion that measures the impact of a new project on the operating budget was added at the request of the MTA CAC. The purpose of the Operating Budget Benefit criterion is to measure the estimated cost savings on the operating budget after the proposed project is implemented. For example, midlife vehicle rebuilds should reduce the demand for unscheduled vehicle maintenance.

Major Findings

Match Shortfalls

Federal funds generally require matching funds from non-federal (state, regional or local) sources. At this time Muni is running low on non-federal match for a number of reasons. The largest share of local match is provided by local half-cent sales tax revenues authorized by Prop K. With the passage of Prop K in November 2003, a reliable source of matching funds is guaranteed for the next 30 years. However, the

slowdown in the economy has reduced sales tax revenues in recent years. Also, the finance charges needed to make funds available to projects ahead of the sales tax generation schedule will reduce the total amount of available Prop K funding. Another significant non-federal match source is Regional Bridge Toll (AB664) revenues. These funds are typically used for non-federal match to major programs such as the rehabilitation and replacement of fleet and infrastructure. As with sales tax revenues, the slowdown in the economy has driven down toll bridge revenues. At the same time competition for these funds has intensified. An effort that may increase the amount of bridge toll revenues available to Muni is the reevaluation of the revenue split between the East and West Bay, although a resolution of this matter may be a number of years off. Finally, state funds provided through the STIP are largely targeted to the Third Street Light Rail project. These state sources are largely federalized, with the result that they are ineligible as local match and must themselves be matched with non-federal funds (see description of Federalized State Funds).

Regional Priorities

Many of Muni's capital needs are not likely to be funded based on past regional funding history. Regional funding priority is given to the replacement and rehabilitation of vehicle fleets and fixed guideways (see Figure 87). Due to the need within the region for these types of projects, federal funds for facility, non-revenue vehicles, MIS, and equipment projects are very limited. This has changed somewhat with the introduction of the 10% flexible funds in FY06-FY08, but funding these types of projects remains a challenge.

Muni is exploring a number of strategies to address the need for these critical projects. Part of the funding need is covered in the Prop K sales tax expenditure plan, as described previously. Many other transit operators are able to provide funding for these types of projects in their operating budget. Given the current budget situation at Muni, this is not an option in the near term. However, in the future there may be opportunities to reserve a portion of new revenues generated by such means as land leases or asset leaseback arrangements for the capital program. Finally, Muni will continue to work with MTC and the other transit operators in the region to identify ways to provide greater flexibility within the Capital Priority Process to allow a wider range of Muni's needs to be funded through the federal funding programs. As the oldest transit property in the region with some facilities approximately 100 years old, Muni's needs are often different than other operators in the region.

Local Sources

As previously mentioned, the passage of Prop K has gone a long way towards addressing the required match needed to leverage federal funds for many of Muni's capital projects. In addition, there are a number of factors that could help to address this match shortfall that are not assumed in this CIP. Changes to the Transit Impact Development Fee (TIDF) program and additional San Francisco Municipal Railway Improvement Corporation (SFMRIC) bonding capacity could provide additional local revenues. As these potential fund sources become better defined they will be incorporated into subsequent revisions to the CIP.

Project Shortfalls

Capital projects have funding shortfalls for various reasons. A project that has a higher priority and is in an advanced state of readiness will normally be funded first. Projects that are implemented in phases or segments may show a shortfall because funds are not available for full implementation. There may be insufficient funds for large construction projects that are still in the planning phase and where construction has not started. Finally while federal funding can be identified for a project, the required non-federal match is not always available.

Impacts on the Operating Budget

Once a capital project has been funded, its impact on Muni's financial resources is not necessarily complete. Many projects add costs to the operating budget, such as additional operators needed for expanding service, or added maintenance costs to keep new systems in working order. For many major

capital projects, the financial impacts on the operating budget have been estimated and accounted for in the Operating Financial Plan. Muni will continue to develop and refine the ongoing operating costs associated with capital projects to ensure that the projected operating budget can adequately accommodate these changes.

Replacement Cycles

A related issue is the need to replace capital assets on a regular basis. For the major fleet and infrastructure programs this need has been identified. However, for many systems, facilities, and equipment, replacement needs have not been included in the CIP. Muni recognizes that the 20-year capital program should include provisions to replace and rehabilitate all of its capital assets and will work to develop these costs for future CIP updates. The first step to determine Muni's non-fleet replacement needs is the Facility Lifecyle project, which is programmed with Prop K funds. This project would map out Muni's facility rehabilitation, replacement, and expansion needs over a period of years to improve long-range planning for funding Muni's facility needs.

Federal Funds

The regional fund programming requirements limit the types of projects that commonly receive federal formula funds. Federal formula funds are typically programmed for the highest scoring projects, which are score 16 projects as described in Figure 87. As a result, lower scoring projects remain unfunded even though there appear to be adequate funds projected over the 20-year period. It is anticipated that projects identified through future calls for capital projects, increased costs, or new mandates will create a need for these revenues. Specifically, as the move toward zero emission revenue vehicles advances, it is anticipated that costs for replacement revenue vehicles will increase sufficiently to require a significantly greater share of federal formula funding, using the funds that appear "unused" in the future capital program.

Federalized State Funds

TEA-21, the current federal legislation that authorizes appropriations for Federally assisted transportation programs, gives State Departments of Transportation the flexibility to use Federal highway funds for either transit or roadway projects. In California, Caltrans/CTC primarily gives transit operators Federal flexible funds, instead of the prior practice of allocating state gas tax or general fund monies. Caltrans instead uses the state funds primarily for roadway projects. As a result, almost all of the state funds programmed for Muni have been "federalized" before they are allocated, and are shown in the CIP under Federal funds as State STP. This is another contributing factor to Muni's issue with match shortfalls, since these "federalized" state funds have to be matched. However, Muni can request "State Only" funds, but for the reasons described above, CTC rarely approves these types of requests.

CIP Summaries

Figures 89-96 provide summaries of the capital program and details on the individual projects that make up the program.

The pie charts in Figures 89-92 present a number of ways to look at the overall capital program. Figure 89 shows the breakdown of the $15.6B in costs by capital program. There is a total of $8.0B projected from all fund sources available to Muni. The proportion for each fund source is summarized in Figure 90. Of the $8.0B in total funds projected, the capital program is able to use $6.4B for capital projects, as shown in Figures 91 and 92. Taken together these figures show that Muni will be able to fund less than 39.5% of its capital needs through FY2025. This is due to a combination of the limited amount of funds available to Muni, and Muni's inability to match capital projects to the various funding program requirements.

Figure 93 provides a summary by program of the CIP cost and funds over the next 20 years.

Figure 94 provides a breakdown of funds used by Muni capital projects by fund source.

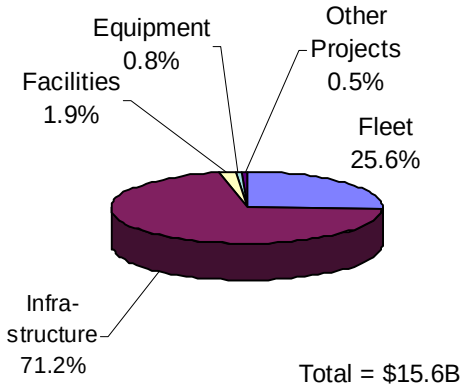
Figure 95 displays how the four levels of prioritization yield Muni's capital priorities. The capital project criteria are applied reading left to right so that the highest priority projects are those that are ongoing or committed. To take this explanation one step further, among the projects that are ongoing or committed, the next highest priority is given to those projects with a legal mandate. This process is continued through the New and Expansion criteria. As previously mentioned, this ranking does not establish an absolute priority. A project with a lower priority could be undertaken before a higher-ranking project due to such factors as project readiness, fund availability, or any number of special circumstances.

Figure 96 shows a summary of project cost and funds over the 20-year CIP. This table gives a general idea of the project schedule and whether the project is funded for any particular year and as a project as a whole. It is important to note that this summary includes all funds that have been allocated, are programmed, or are planning estimates. Each of these is described in greater detail below.

As funds move from planned to programmed and ultimately to allocated, the level of certainty that these funds will be available to the project increases. At the highest level are allocated, or awarded, funds. Allocated funds have been approved and are available for Muni to make charges against. Programmed funds have been committed through the federal, state, regional or local funding processes. For planning purposes, projects with programmed funds are treated as funded projects even though the funds have not been allocated, because they are almost certain to be allocated at a later date. Planned funds are estimated to be available based on the funding projections. Projects that contain planned funds may not have gone through project review and prioritization by a funding agency. Planned funds are the least certain, and should be used only as a guide to what might be available to a project in the future.

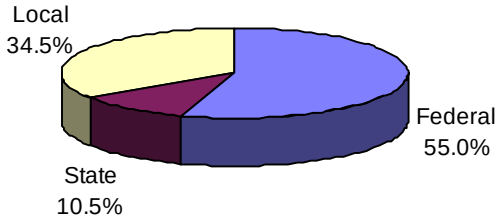
The individual Capital Project Descriptions that cover the remaining pages of the CIP show the status of funds from Figure 96, as well as a summary description of the project. FTA, as part of the review process for the New Starts funds Muni hopes to receive for the Central Subway project, has asked Muni to divide the CIP by State of Good Repair and Enhancement/Expansion projects. FTA wants to see that all of Muni's State of Good Repair needs can be funded given projected revenues. The designation of projects as State of Good Repair or Enhancement/Expansion projects is given for this purpose. Many of the projects have been described in greater detail in the previous chapters in this SRTP, and are not necessarily described in great detail here.

Figure 89 - Cost By Capital Program



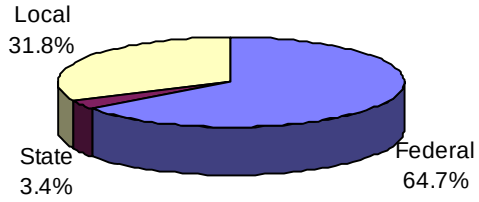
Total = $15.6B

Figure 90 - Projected Funds by Source



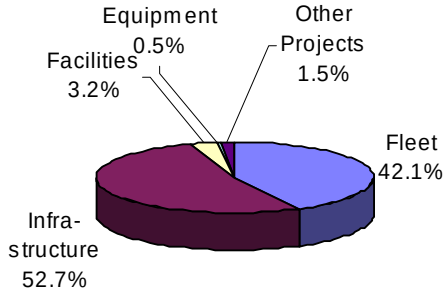
Total = $8B

Figure 91 - Funds Applied By Source



Total = $6.4B

Figure 92 - Funds By Capital Program



Total = $6.4B

Figures 88-91 do not include Operating & Maintenance Projects or Prop. B/K Operating Funds

Figure 93: Capital Improvement Program Summary

	Through FY05	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*	*FY15*
PROGRAM COST											
Fleet Program	1,126,765	46,573	17,087	31,052	97,092	112,578	72,411	122,334	58,827	240,527	356,708
Infrastructure Program	862,243	191,333	80,776	442,835	361,629	762,376	356,749	427,831	569,397	1,073,661	696,321
Facilities Program	207,222	31,459	1,000	40,604	1,000	6,836	1,300	1,000	1,000	1,000	2,212
Equipment Program	40,588	2,798	2,910	5,790	3,148	3,274	6,365	3,541	3,682	3,830	3,983
Other Projects	79,537	93	0	93	0	93	0	93	0	93	0
TOTAL COST	2,316,356	272,256	101,773	520,375	462,869	885,157	436,525	554,799	632,907	1,319,311	1,059,224
PROGRAM FUNDS											
Fleet Program	1,019,667	25,627	31,358	2,948	10,351	40,316	41,833	94,975	28,617	63,592	153,634
Infrastructure Program	835,848	90,538	134,206	199,994	248,164	291,187	315,557	191,969	172,131	181,450	167,100
Facilities Program	137,900	11,797	32,678	13,418	0	5,836	304	0	0	0	1,073
Equipment Program	9,336	0	0	3,247	1,000	1,000	3,368	1,000	1,000	1,000	1,000
Other Projects	72,889	25,112	47	47	47	47	47	47	47	47	47
TOTAL FUNDS	2,075,641	153,074	198,288	219,653	259,561	338,379	361,109	287,990	201,794	246,088	322,853

Figure 93: Capital Improvement Program Summary (Cont.)

All Amounts in Escalated Dollars

FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Total	% Total
48,669	30,288	208,396	35,975	172,040	191,880	76,480	158,214	698,390	94,107	2,869,630	3,996,395	25.6%
808,853	386,147	95,157	30,000	1,356,242	37,500	235,924	38,184	39,225	2,270,532	10,260,573	11,123,116	71.2%
1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	0	0	95,111	302,333	1.9%
4,142	4,308	4,480	4,659	4,846	5,040	5,241	5,451	3,204	3,332	84,024	124,612	0.8%
93	0	93	0	93	0	93	0	93	0	931	80,468	0.5%
862,757	421,743	309,127	71,635	1,534,220	235,419	318,738	202,849	740,913	2,367,972	13,310,568	15,626,924	100.0%
154,867	72,239	127,615	108,772	109,092	83,086	98,967	114,265	156,134	174,050	1,692,335	2,712,002	42.1%
163,388	47,840	52,128	29,200	61,604	37,700	62,630	37,781	37,560	37,560	2,559,680	3,395,529	52.7%
0	0	0	0	0	0	0	0	0	0	65,106	203,006	3.2%
1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	0	0	20,615	29,951	0.5%
47	47	47	47	47	47	47	47	47	47	25,996	98,885	1.5%
319,302	121,126	180,789	139,019	171,742	121,832	162,643	153,092	193,740	211,657	4,363,732	6,439,373	100.0%

Figure 94: Fund Source Summary

Fund Source	*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*	*FY15*
FEDERAL											
Section 9 - FTA - Formula Replacement	83,307										
Section 5307 - FTA	387,938	32,889	78,406	21,689	3,383	27,000	34,517	50,581	25,000	59,430	108,968
Section 5307 - FTA - ADA Set-Aside	2,421										
Section 3 - FTA - Fixed Guideway/Rail Mod.	101,237										
Section 3 - FTA - Bus/Alternative Fuels	24,056										
Section 5309 - FTA - Fixed Guideway	209,623	35,325	44,944	37,539	29,674	33,676	24,943	39,502	25,020	25,061	28,660
Section 5309 - FTA - New Starts & Extension	20,253	20,000	20,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000
Section 5309 - FTA - Bus/Alternative Fuels	19,620	11,524	4,000								
Section 8 - Planning	82										
Section 5303 - FTA - Planning	191		41	41	41	41	41	41	41	41	41
Federal Surface Transportation Program	50,261	2,500		13,168	1,000	9,880	3,368	1,954	1,000	2,032	2,073
Federal Congestion Mitigation	37,053			33,518	1,429	15,477	3,061	7,256	12,031	20,068	
Federal Transportation Enhancement Activitie	4,049	276									
State Surface Transportation Program	176,282			22,570	30,000	32,200	30,000				
Federal Emergency Management	313										
Federal Other - Various Sources	17,451										
Subtotal Federal Funds	*1,134,136*	*102,514*	*147,391*	*208,525*	*145,527*	*198,274*	*175,931*	*179,334*	*143,093*	*186,632*	*219,742*
STATE											
State Regional Improvement Program	0				0						
State Gas Tax Revenues	2,296										
State Transit Capital Improvement	24,951										
State Traffic Systems Management	712										
Traffic Congestion Relief Program	147,000										
Prop 108 Rail Bonds	32,535										
Prop 116 Rail Bonds	12,070										
Petroleum Violation Escrow Account	239										
State Other - Various Resources	534										
Subtotal State Funds	*220,338*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
LOCAL											
AB 664 - Bridge Tolls	39,655	2,523	2,589	2,590	2,591	2,593	2,594	2,595	2,596	2,609	2,623
Regional Measure 1 - Bridge Tolls	5,193			1,500	1,500	1,500					
Regional Measure 2 - Bridge Tolls	66,220	9,773	2,239								
TDA/STA - Regional	1,518										
TFCA - AB 434 - Regional	1,300	625	2,600	2,600	2,600						
TFCA - AB 434 - Program Manager Fund	1,073			380			49				
Prop. B Capital - SF Transportation Sales Tax	334,678										
Prop. K - San Francisco 1/2-cent Sales Tax	189,897	37,505	38,142	499	55,762	35,979	132,430	56,056	6,100	6,841	49,421
LRV Lease/Leaseback Funds	15,754										
SF Muni Railway Improvement Corp.	19,113										
Transit Impact Development Fee	14,940										
Hetch Hetchy Capital Reserves	82										
General Fund - SF City	23										
Municipal Transportation Fund	6,532	1,144	5	5	5	5	5	5	5	5	5
BART Capital Reserves	57										
Local Other - Various Resources	24,944	(1,392)			50,000	96,369	50,000	50,000	50,000	50,000	50,000
Match Shortfall	187	382	5,322	3,555	1,575	3,659	100				1,062
Subtotal Local Funds	*721,166*	*50,560*	*50,897*	*11,128*	*114,034*	*140,104*	*185,178*	*108,656*	*58,702*	*59,456*	*103,111*
TOTAL CAPITAL FUNDS	2,075,641	153,074	198,288	219,653	259,561	338,379	361,109	287,990	201,794	246,088	322,853

Figure 94: Fund Source Summary (Cont.)

All Amounts in Escalated 000s

FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Fund Total	Projected Funds	Surplus / Shortfall
										0	83,307	83,307	0
85,790	63,402	101,192	62,990	31,798	78,553	69,152	45,000	47,317	45,000	1,062,055	1,449,994	2,377,433	927,440
										0	2,421	2,421	0
										0	101,237	101,237	0
										0	24,056	24,056	0
39,941	29,040	38,575	34,998	51,533	31,396	56,452	61,510	85,000	115,264	868,055	1,077,678	1,139,322	61,644
61,921										741,921	762,174	755,097	(7,077)
										15,524	35,144	111,714	76,570
										0	82	82	0
41	41	41	41	41	41	41	41	41	41	783	974	1,014	40
2,116	1,000	2,207	1,000	2,305	1,000	2,500	1,000			50,102	100,363	263,372	163,009
20,751	127	21,721		22,599		23,430	81			181,549	218,602	243,064	24,462
										276	4,325	20,813	16,488
										114,770	291,052	700,010	408,958
										0	313	313	0
										0	17,451	17,451	0
210,561	*93,610*	*163,736*	*89,029*	*108,277*	*110,990*	*151,575*	*107,633*	*132,358*	*160,305*	*3,035,036*	*4,169,172*	*5,840,705*	*1,671,533*
										0	0	0	0
										0	2,296	2,296	0
										0	24,951	24,951	0
										0	712	712	0
										0	147,000	147,000	0
										0	32,535	32,535	0
										0	12,070	12,070	0
										0	239	239	0
										0	534	534	0
0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*220,338*	*220,338*	*0*
2,636	2,649	2,662	2,675	2,689	2,702	2,716	2,729			47,360	87,015	92,580	5,564
										4,500	9,693	32,166	22,473
										12,012	78,232	73,483	(4,749)
										0	1,518	1,518	0
										8,425	9,725	61,300	51,575
										429	1,502	8,873	7,371
										0	334,678	334,678	0
51,681	5,600	11,996	46,895	59,771	7,134	7,347	41,725	60,377	50,346	761,607	951,505	1,158,067	206,562
										0	15,754	15,754	0
										0	19,113	19,113	0
										0	14,940	14,940	0
										0	82	82	0
										0	23	23	0
5	5	5	5	5	5	5	5	5	5	1,245	7,777	6,639	(1,139)
										0	57	57	0
50,000	18,113									463,090	488,034	72,313	(415,721)
4,419	1,149	2,390	414	1,000	1,000	1,000	1,000	1,000	1,000	30,027	30,214	187	(30,027)
108,741	*27,517*	*17,053*	*49,990*	*63,465*	*10,842*	*11,068*	*45,460*	*61,382*	*51,352*	*1,328,696*	*2,049,862*	*1,891,772*	*(158,090)*
319,302	121,126	180,789	139,019	171,742	121,832	162,643	153,092	193,740	211,657	4,363,732	6,439,373	7,952,816	1,513,443

Figure 94: Fund Source Summary (Cont.)

Fund Source	*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*	*FY15*
PROJECTED FUNDS											
Federal Funds	1,134,136	138,426	149,659	241,997	232,361	237,973	244,321	250,567	257,047	263,783	270,805
State Funds	220,338	0	0	0	0	0	0	0	0	0	0
Local Funds	721,166	64,046	53,984	72,814	69,585	110,355	120,888	52,489	71,490	45,003	47,916
TOTAL PROJECTED FUNDS	2,075,641	202,472	203,643	314,811	301,946	348,328	365,209	303,056	328,538	308,786	318,721

Figure 94: Fund Source Summary (Cont.)

All Amounts in Escalated 000s

FY16	*FY17*	*FY18*	*FY19*	*FY20*	*FY21*	*FY22*	*FY23*	*FY24*	*FY25*	*20-Year Total*	*Fund Total*	*Projected Funds*	*Surplus / Shortfall*
258,949	205,690	213,571	221,757	230,197	238,967	248,067	257,520	267,347	277,565	4,706,569	5,840,705		
0	0	0	0	0	0	0	0	0	0	0	220,338		
41,529	42,143	42,556	42,969	66,683	43,996	44,610	45,223	45,847	46,480	1,170,606	1,891,772		
300,478	247,833	256,127	264,726	296,879	282,963	292,677	302,743	313,194	324,045	5,877,175	7,952,816		

Figure 95: Capital Project Criteria

Project Name	*Ongoing / Committed*	*Legally Mandated*	*Safety / Security*	*Deteriorated Asset*	*Access-ibility*	*Prop. E Standard*	*Op Budget Benefit*	*Regular Replacement*	*Enhance Existing*	*New / Expansion*
Fleet Program										
MC Replace-30 Hybrid (30')	✔	✔		✔						
MC Replace-56 Hybrids (40')	✔	✔		✔						
MC Clean Air Device Retrofit	✔	✔							✔	
Motor Coach AC Gilligs	✔	✔								
Trolley Replace-33 art/240 std	✔			✔	✔	✔				
LRV Procurement - 128 +8	✔			✔		✔				
Motor Coach Replace-375 Diesel	✔			✔		✔				
Historic Vehicle Program	✔			✔						✔
Paratransit Vans/Debit Cards	✔				✔			✔		✔
Paratransit Vans 2004	✔				✔			✔		
DVAS Vehicle Retrofit	✔				✔				✔	
Cable Car Vehicle Renovation	✔							✔		
LRV Retrofit (Mod. 12)	✔								✔	
Historic Vehicle NJT PCCs	✔									✔
Breda Safety Modifications			✔							
Fareboxes-Inductive Coin Sensors				✔		✔	✔		✔	
NRV Replacement Program				✔				✔		
Motor Coach Rehab - 12 Artics				✔						
Paratransit Vans 2006					✔			✔		
Paratransit Vans Future					✔			✔		
Paratransit Van AVL System					✔				✔	
Automatic Passenger Counting Sys						✔	✔		✔	
LRV-Overhaul Program						✔	✔		✔	
Motor Coach Mid-life Rebuild						✔	✔		✔	
Trolley Coach Mid-life Rebuild						✔	✔		✔	
Trolley Coach Rebuild 60 Artics						✔	✔		✔	
Fareboxes-Transfer/Fare Receipt						✔	✔		✔	
Fareboxes-Replacement Program						✔		✔		✔
Historic Vehicle Rehabilitation						✔			✔	
LRV - Replace 151 Breda Cars								✔		
Motor Coach Replace-Future								✔		
Trolley Coach Replace-Future								✔		
MC Reserve-End of Life Rehab									✔	
LRV-JKLMN Expansion										✔

Figure 95: Capital Project Criteria (Cont.)

Project Name	*Ongoing / Committed*	*Legally Mandated*	*Safety / Security*	*Deteriorated Asset*	*Access-ibility*	*Prop. E Standard*	*Op Budget Benefit*	*Regular Replacement*	*Enhance Existing*	*New / Expansion*
Infrastructure Program										
Radio Comm System & CAD Replace	✔	✔		✔		✔				
Metro Accessibility Program	✔	✔							✔	
Escalator Rehabilitation	✔		✔	✔			✔			
TPS - Bus Stop Improvements	✔		✔			✔	✔		✔	
Wayside Fare Collection	✔			✔	✔	✔			✔	✔
Cable Car Infra. Rehab 1998-2009	✔			✔		✔		✔	✔	
Overhead Rehab 1998-2009	✔			✔		✔		✔	✔	
Rail Replacement 1998-2009	✔			✔		✔		✔	✔	
TPS - Priority Signal Systems	✔					✔	✔		✔	
Automatic Vehicle Location Sys	✔					✔				✔
Operator Restrooms	✔					✔				✔
Third Street Phase 1 - IOS/MME	✔					✔				✔
Third Street Phase 2 - CS	✔					✔				✔
Bus Rapid Transit - Geary	✔						✔		✔	
Bus Rapid Transit - Van Ness	✔						✔		✔	
Route Electrification Program	✔								✔	✔
AVL Enhancements	✔								✔	
Third Street Phase 1 - MB Loop	✔									✔
Third Street Phase 1 - TVMs	✔									✔
TransLink Demonstration	✔									✔
Curb Ramp Remediation		✔			✔					
Subway Blue-Light Phone Replace			✔	✔					✔	
Subway PA System Replacement			✔	✔						
Motive Power Maintenance Phone			✔	✔						
M-Line New Stub Terminal			✔		✔				✔	
Subway Seismic Retrofit Study			✔						✔	
Cable Car Radio			✔						✔	
Wayside/Central Train Control				✔						
Accessible Lift Replacement					✔	✔			✔	
Subway Station Talking Signs					✔					✔
Bus Rapid Transit Program						✔	✔		✔	
Transit Preferential Streets						✔	✔		✔	
Comm Connect & Pass Info						✔			✔	
Maint. Yards Wireless Networking							✔			✔
Cable Car Infra. Rehab 2010-2019								✔		
Cable Car Infra. Rehab 2020-2029								✔		

Figure 95: Capital Project Criteria (Cont.)

Project Name	*Ongoing / Committed*	*Legally Mandated*	*Safety / Security*	*Deteriorated Asset*	*Access-ibility*	*Prop. E Standard*	*Op Budget Benefit*	*Regular Replacement*	*Enhance Existing*	*New / Expansion*
Cable Car Infra. Rehab 2030-2039								✔		
Overhead Rehab 2010-2019								✔		
Overhead Rehab 2020-2029								✔		
Overhead Rehab 2030-2039								✔		
Rail Replacement 2010-2019								✔		
Rail Replacement 2020-2029								✔		
Rail Replacement 2030-2039								✔		
Subway Restroom Rehabilitation								✔		
MMX Terminal Improvements									✔	✔
Metro Accessibility-Beyond Key									✔	
HLRV Ext.-Ft. Mason/The Presidio										✔
HLRV Ext.-Golden Gate Park										✔
LRT-Chinatown/North Beach Ext										✔
LRT-Geary										✔
LRT-Geneva/Ocean										✔
LRT-Van Ness Corridor										✔
Cable Car Ext. to Fish Wharf										✔

Figure 95: Capital Project Criteria (Cont.)

Project Name	*Ongoing / Committed*	*Legally Mandated*	*Safety / Security*	*Deteriorated Asset*	*Access-ibility*	*Prop. E Standard*	*Op Budget Benefit*	*Regular Replacement*	*Enhance Existing*	*New / Expansion*
Facilities Program										
Flynn Ventilation System & Roof	✔	✔	✔						✔	
Woods-Fuel, Wash & Lifts	✔	✔						✔		
Potrero Rehabilitation	✔		✔	✔						
Flynn Facility Lift Modification	✔		✔						✔	
Central Control - Facility	✔			✔		✔			✔	
Potrero/Presidio-TC Lifts	✔			✔		✔			✔	
Presidio Rehabilitation	✔			✔		✔			✔	
Islais Creek Facility	✔			✔		✔				
Fixed Facility Rehabilitation	✔			✔				✔		
Revenue Center Replacement	✔			✔					✔	
Burke Avenue Facility	✔			✔						
Facility Pres./Imp. Program	✔			✔						
Green Roof/HVAC Rehabilitation	✔			✔						
Geneva Historic Car Enclosure	✔					✔	✔		✔	
One South Van Ness	✔							✔		
Facilities - Misc Projects	✔									
Cable Car Barn CCTV			✔	✔					✔	
Presidio CCTV Improvement			✔	✔					✔	
Subway Fire Alarm & Detection			✔	✔						
Facility Safety Improvements			✔	✔						
Training Center				✔		✔				
Green - LRV Washer Replacement				✔			✔			
Subway Station Improvements					✔			✔		
Facility Lifecycle Plan								✔		
Presidio Fire Detection System								✔		
Cable Car Barn Facility Improve									✔	
Cable Car Museum Renovation									✔	
Green Spray Cabinet and Oven									✔	
Parts Storage Improvements									✔	
Presidio Maintenance Area Mods									✔	
Scott Center Parking Lot									✔	
Green Facility Door Replacement									✔	
Presidio Shop Door Motors									✔	
Subway Relay Rm Security/Access									✔	
ATCS Test & Repair Shop										✔

Figure 95: Capital Project Criteria (Cont.)

Project Name	*Ongoing / Committed*	*Legally Mandated*	*Safety / Security*	*Deteriorated Asset*	*Access-ibility*	*Prop. E Standard*	*Op Budget Benefit*	*Regular Replacement*	*Enhance Existing*	*New / Expansion*
Equipment Program										
MIS: Scheduling Sys Replacement	✔			✔		✔	✔			
Enterprise Application Interface	✔					✔			✔	
Data Processing & Office Equip	✔							✔		
Misc Equip Phase 2	✔							✔		
Voice Data Recorder Cen. Control		✔		✔					✔	
Signal Vital Relay Test System			✔	✔		✔				
Training Fleet Hand Held Radios			✔						✔	
MIS: Revenue Reconciliation DB				✔			✔		✔	
Misc Equip Program				✔				✔		
MIS: Project Mgmt Sys Replace				✔					✔	
PBX Telephone System & Equipment				✔					✔	
Motive Power SCADA System				✔						
Voice Data Recorder Motive Power				✔						
Proof of Payment Wireless						✔	✔		✔	
Transit Signage Program						✔		✔	✔	
Driver Training Simulators						✔			✔	
MIS: Human Resources Mgmt System						✔			✔	
Travel Modeling/Micro-Simulation						✔			✔	
Data Processing - Future Phase								✔		
Electronic Document Management									✔	✔
Geographical Information System									✔	
Worker's Comp Wireless System									✔	

Figure 95: Capital Project Criteria (Cont.)

Project Name	*Ongoing / Committed*	*Legally Mandated*	*Safety / Security*	*Deteriorated Asset*	*Access-ibility*	*Prop. E Standard*	*Op Budget Benefit*	*Regular Replacement*	*Enhance Existing*	*New / Expansion*
Other Projects Program										
Short Range Transit Plan	✔	✔						✔		
Graffiti Prevention & Security	✔		✔			✔				
Transbay Terminal Replacement	✔			✔						
Preventive Maintenance	✔					✔				
Bayview Connections Station Area	✔									✔
Balboa Park Station Area									✔	
Treasure Island Ferry Terminal										✔

Figure 96: Project Cost / Fund Summary

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
Fleet Program											
Automatic Passenger Counting Sys	Cost	8,274						370			
	Funds	0						100			
Breda Safety Modifications	Cost	16,869									
	Funds	0		16,869							
Cable Car Vehicle Renovation	Cost	9,833	1,678	1,008	1,048	1,090	1,134	1,179	1,226	1,275	1,326
	Funds	9,259	1,912	1,008	1,048	1,090	1,134	1,179	1,226	1,275	1,326
DVAS Vehicle Retrofit	Cost	11,989									
	Funds	1,570									
Fareboxes-Inductive Coin Sensors	Cost	513									
	Funds	0									
Fareboxes-Replacement Program	Cost	0							32,270		
	Funds	0							32,270		
Fareboxes-Transfer/Fare Receipt	Cost	2,163									
	Funds	0									
Historic Vehicle NJT PCCs	Cost	6,085									
	Funds	6,085									
Historic Vehicle Program	Cost	19,868									
	Funds	21,361	4,874	2,239							
Historic Vehicle Rehabilitation	Cost	1,395			4,679	7,300	17,714				
	Funds	0	1,395	9,742		7,877	11,388				
LRV-JKLMN Expansion	Cost	0									
	Funds	0									
LRV-Overhaul Program	Cost	25,722	10,624	3,315	10,342	10,756	8,389	12,926	4,033	12,583	13,086
	Funds	0									
LRV Procurement - 128 +8	Cost	472,170									
	Funds	472,776									
LRV - Replace 151 Breda Cars	Cost	0									
	Funds	0									
LRV Retrofit (Mod. 12)	Cost	12,274									
	Funds	12,274									
MC Clean Air Device Retrofit	Cost	8,305									
	Funds	8,305									
Motor Coach Mid-life Rebuild	Cost	0	10,266			42,340	44,034		7,216	28,819	
	Funds	0									
Motor Coach AC Gilligs	Cost	4,100	250								
	Funds	4,100	625								
Motor Coach Rehab - 12 Artics	Cost	3,906									
	Funds	4,146	0								
MC Replace-30 Hybrid (30')	Cost	30,775									
	Funds	22,892	7,883								
Motor Coach Replace-375 Diesel	Cost	167,656									
	Funds	167,646	0								
MC Replace-56 Hybrids (40')	Cost	51,588									
	Funds	46,855	4,731								
Motor Coach Replace-Future	Cost	0					38,959	52,277			205,059
	Funds	0					27,366	37,782	23,351		52,344
MC Reserve-End of Life Rehab	Cost	0	10,266	10,676						13,509	
	Funds	0									
NRV Replacement Program	Cost	21,289	2,007	2,088	2,171	2,258	2,348	2,442	2,540	2,642	2,747
	Funds	0									

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											370	8,644	
											100	100	(8,544)
											0	16,869	
											16,869	16,869	0
1,380	1,435	1,492	1,552	1,614	1,678	1,746	1,815	1,888	2,183	2,270	30,019	39,852	
1,380	1,435	1,492	1,552	1,614	1,678	1,746	1,815	1,888			25,799	35,058	(4,793)
											0	11,989	
											0	1,570	(10,419)
											0	513	
											0	0	(513)
0					0				1,538		33,808	33,808	
											32,270	32,270	(1,538)
											0	2,163	
											0	0	(2,163)
											0	6,085	
											0	6,085	0
											0	19,868	
											7,113	28,474	8,606
4,618	19,212	4,995	17,317	12,607	26,222					6,836	121,501	122,896	
4,618	19,212	4,995	21,956	10,121	24,068					10,239	125,613	125,613	2,717
48,082											48,082	48,082	
											0	0	(48,082)
10,207	21,231	4,907	15,309	15,921	17,018	25,830	5,970	18,625	19,370	20,705	261,144	286,867	
											0	0	(286,867)
											0	472,170	
											0	472,776	606
							64,935	32,468	493,455	50,454	641,312	641,312	
							27,353	87,377	114,631	138,811	368,172	368,172	(273,140)
											0	12,274	
											0	12,274	0
											0	8,305	
											0	8,305	0
			8,766		17,777			101,323	76,252		336,791	336,791	
											0	0	(336,791)
											250	4,350	
											625	4,725	375
											0	3,906	
											0	4,146	240
											0	30,775	
											7,883	30,775	0
											0	167,656	
											0	167,646	(10)
											0	51,586	
											4,731	51,586	0
249,602			148,192								694,090	694,090	
147,636	130,369	65,752	103,544	78,240	6,798				13,493		686,675	686,675	(7,415)
		15,803			9,876					9,612	69,742	69,742	
											0	0	(69,742)
2,857	2,972	3,090	3,214	3,343	3,476	3,615	3,760	3,910	4,067	4,229	59,779	81,067	
											0	0	(81,067)

Figure 96: Project Cost / Fund Summary (Cont.)

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
Paratransit Van AVL System	Cost	284									
	Funds	0									
Paratransit Vans 2004	Cost	1,200	796								
	Funds	910	796								
Paratransit Vans 2006	Cost	0	1,911								
	Funds	0	1,911								
Paratransit Vans Future	Cost	0				1,766		3,216			2,097
	Funds	0			400	1,383	428	2,772	459		2,134
Paratransit Vans/Debit Cards	Cost	6,899									
	Funds	6,903									
Trolley Coach Mid-life Rebuild	Cost	0	8,774		12,811	31,582					16,210
	Funds	0									
Trolley Coach Rebuild 60 Artics	Cost	7,831									
	Funds	0	1,500	1,500	1,500						
Trolley Replace-33 art/240 std	Cost	235,780									
	Funds	234,584									
Trolley Coach Replace-Future	Cost	0							75,048		
	Funds	0							37,668	27,341	7,787

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											0	284	
											0	0	(284)
											796	1,996	
											796	1,707	(290)
											1,911	1,911	
											1,911	1,911	0
	3,820			2,491		4,537			2,959		20,886	20,886	
	3,851		564	1,951	604	3,987	647		3,010		22,188	22,188	1,302
											0	6,899	
											0	6,903	5
39,982			14,047								123,387	123,387	
											0	0	(123,387)
											0	7,831	
											4,500	4,500	(3,331)
											0	235,780	
											0	234,584	(1,196)
					95,993	156,152			98,566		425,760	425,760	
				16,846	75,944	77,353	69,152	25,000	25,000	25,000	387,091	387,091	(38,669)

Figure 96: Project Cost / Fund Summary (Cont.)

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
Infrastructure Program											
Accessible Lift Replacement	Cost	0					3,202				
	Funds	0					3,202				
Automatic Vehicle Location Sys	Cost	14,078									
	Funds	12,949	3,637			0					
AVL Enhancements	Cost	8,948									
	Funds	8,948									
Bus Rapid Transit - Geary	Cost	368			159,430						
	Funds	368		1,250	1,500	3,250	1,500	35,000			
Bus Rapid Transit - Van Ness	Cost	134			93,634						
	Funds	134	750	1,000	1,500	14,455					
Bus Rapid Transit Program	Cost	0						7,259	3,553	200,129	
	Funds	0	450	400	10,809	200	200	1,459	405	12,260	950
Cable Car Ext. to Fish Wharf	Cost	0					44,550				
	Funds	0									
Cable Car Infra. Rehab 1998-2009	Cost	20,740	9,372	9,387	9,359	9,401					
	Funds	21,099	9,375	9,762	9,755	9,748					
Cable Car Infra. Rehab 2010-2019	Cost	0					10,000	10,000	10,000	10,000	10,000
	Funds	0					9,000	9,000	9,000	9,000	9,000
Cable Car Infra. Rehab 2020-2029	Cost	0									
	Funds	0									
Cable Car Infra. Rehab 2030-2039	Cost	0									
	Funds	0									
Cable Car Radio	Cost	196									
	Funds	0									
Comm Connect & Pass Info	Cost	2,620									
	Funds	2,620									
Curb Ramp Remediation	Cost	300									
	Funds	300									
Escalator Rehabilitation	Cost	110	2,538	2,376	2,520	2,556	2,473	2,466			
	Funds	110	2,500	2,500	2,500	2,500	2,500	2,500			
HLRV Ext.-Ft. Mason/The Presidio	Cost	0					151,911				
	Funds	0	500							200	200
HLRV Ext.-Golden Gate Park	Cost	0									
	Funds	0									
LRT-Chinatown/North Beach Ext	Cost	0									
	Funds	0									
LRT-Geary	Cost	0				44,724	79,525	117,700	123,597	129,789	613,232
	Funds	0						55,000			
LRT-Geneva/Ocean	Cost	0									
	Funds	0									
LRT-Van Ness Corridor	Cost	0									
	Funds	0									
Maint. Yards Wireless Networking	Cost	108									
	Funds	0									
Metro Accessibility-Beyond Key	Cost	0	852		921		996		1,078		1,166
	Funds	0			2,266		882		954		1,032
Metro Accessibility Program	Cost	20,292									
	Funds	16,732	0								
M-Line New Stub Terminal	Cost	14,038									
	Funds	0									

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											3,202	3,202	
											3,202	3,202	0
											0	14,078	
											3,637	16,586	2,508
											0	8,948	
											0	8,948	0
											159,430	159,798	
											42,500	42,868	(116,930)
											93,634	93,768	
											17,705	17,839	(75,929)
					143,833						354,773	354,773	
7,700	200	200	200	200	22,704	200	200	200	60	60	59,057	59,057	(295,716)
											44,550	44,550	
											0	0	(44,550)
											37,519	58,259	
											38,641	59,739	1,481
10,000	10,000	10,000	10,000	10,000							100,000	100,000	
9,000	9,000	9,000	9,000	9,000							90,000	90,000	(10,000)
					12,500	12,500	12,500	12,500	12,500	12,500	75,000	75,000	
					12,500	12,500	12,500	12,500	12,500	12,500	75,000	75,000	0
											0	0	
											0	0	0
											0	196	
											0	0	(196)
											0	2,620	
											0	2,620	0
											0	300	
											0	300	0
											14,929	15,039	
											15,000	15,110	71
											151,911	151,911	
200	200	200									1,500	1,500	(150,411)
					50,524						50,524	50,524	
											0	0	(50,524)
					1,122,302						1,122,302	1,122,302	
											0	0	(1,122,302)
643,953	676,213	355,045									2,783,778	2,783,778	
											55,000	55,000	(2,728,778)
											0	0	
											0	0	0
										2,233,032	2,233,032	2,233,032	
											0	0	(2,233,032)
											0	108	
											0	0	(108)
	1,261		1,364		1,475		1,595		1,725		12,432	12,432	
	1,116		1,207		1,305		1,500				10,260	10,260	(2,171)
											0	20,292	
											0	16,732	(3,560)
											0	14,038	
											0	0	(14,038)

Figure 96: Project Cost / Fund Summary (Cont.)

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
MMX Terminal Improvements	Cost	5,732									
	Funds	0									
Motive Power Maintenance Phone	Cost	0	9								
	Funds	0	9								
Operator Restrooms	Cost	2,734		380					462		
	Funds	2,405									
Overhead Rehab 1998-2009	Cost	53,691	15,394	11,206	8,800	8,100					
	Funds	60,519	16,520	16,250	16,250	10,750					
Overhead Rehab 2010-2019	Cost	0					10,000	10,000	10,000	10,000	10,000
	Funds	0					10,000	10,000	10,000	10,000	10,000
Overhead Rehab 2020-2029	Cost	0									
	Funds	0									
Overhead Rehab 2030-2039	Cost	0									
	Funds	0									
Radio Comm System & CAD Replace	Cost	83,787									
	Funds	7,258	1,572	59,600	14,594						
Rail Replacement 1998-2009	Cost	82,410	9,505	9,413	9,369	9,482					
	Funds	95,682	10,543	15,094	16,250	10,750					
Rail Replacement 2010-2019	Cost	0					10,000	10,000	10,000	10,000	10,000
	Funds	0					10,000	10,000	10,000	10,000	10,000
Rail Replacement 2020-2029	Cost	0									
	Funds	0									
Rail Replacement 2030-2039	Cost	0									
	Funds	0									
Route Electrification Program	Cost	0	43,987		134,630		81,567		115,844		233,142
	Funds	0		2,600	19,290	6,100	14,148		6,692		18,790
Subway Blue-Light Phone Replace	Cost	1,819									
	Funds	0			4,092						
Subway PA System Replacement	Cost	5,300									
	Funds	0			9,733						
Subway Restroom Rehabilitation	Cost	0						1,066			
	Funds	0									
Subway Seismic Retrofit Study	Cost	585	0								
	Funds	0									
Subway Station Talking Signs	Cost	3,375									
	Funds	0			655						
Third Street Phase 1 - IOS/MME	Cost	484,959	51,442	8,754	0	1,177	53,712				
	Funds	540,868	11,807		0		46,369			200	200
Third Street Phase 1 - MB Loop	Cost	0	1,755								
	Funds	0	570	1,484							
Third Street Phase 1 - TVMs	Cost	0	3,060								
	Funds	0	3,060								
Third Street Phase 2 - CS	Cost	35,551	23,901	25,133	16,883	252,106	306,777	187,868	147,082	201,320	180,471
	Funds	46,114	20,000	20,000	80,000	188,982	192,051	190,747	154,559	130,000	130,000
TPS - Bus Stop Improvements	Cost	1,527									
	Funds	1,527									
TPS - Priority Signal Systems	Cost	2,684									
	Funds	2,684									
Transit Preferential Streets	Cost	10,736	9,359	11,072	3,290	34,083	7,664	10,390	6,217	8,159	15,850
	Funds	337			7,599	1,429	1,329	1,851	359	471	1,278
TransLink Demonstration	Cost	4,741									
	Funds	4,741									

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											0	5,732	
											0	0	(5,732)
											9	9	
											9	9	0
		562									1,403	4,137	
											0	2,405	(1,732)
											43,500	97,191	
											59,770	120,289	23,098
10,000	10,000	10,000	10,000	10,000							100,000	100,000	
10,000	10,000	10,000	10,000	10,000							100,000	100,000	0
					12,500	12,500	12,500	12,500	12,500	12,500	75,000	75,000	
					12,500	12,500	12,500	12,500	12,500	12,500	75,000	75,000	0
											0	0	
											0	0	0
											0	83,787	
											75,767	83,024	(763)
											37,769	120,179	
											52,637	148,319	28,140
10,000	10,000	10,000	10,000	10,000							100,000	100,000	
10,000	10,000	10,000	10,000	10,000							100,000	100,000	0
					12,500	12,500	12,500	12,500	12,500	12,500	75,000	75,000	
					12,500	12,500	12,500	12,500	12,500	12,500	75,000	75,000	0
											0	0	
											0	0	0
	88,350		63,794				196,829				958,142	958,142	
	20,751		21,721				23,430				133,522	133,522	(824,620)
											0	1,819	
											4,092	4,092	2,273
											0	5,300	
											9,733	9,733	4,433
											1,066	1,066	
											0	0	(1,066)
											0	585	
											0	0	(585)
											0	3,375	
											655	655	(2,720)
											115,085	600,044	
200	200	200									59,176	600,044	0
											1,755	1,755	
											2,054	2,054	298
											3,060	3,060	
											3,060	3,060	0
22,367	13,029										1,376,937	1,412,488	
130,000	111,921	18,113									1,366,374	1,412,488	0
											0	1,527	
											0	1,527	0
											0	2,684	
											0	2,684	0
		540			608			684			107,915	118,651	
		127			95			81			14,619	14,956	(103,695)
											0	4,741	
											0	4,741	0

Figure 96: Project Cost / Fund Summary (Cont.)

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
Wayside Fare Collection	Cost	680	16,449								
	Funds	10,453	6,676								
Wayside/Central Train Control	Cost	0	3,710	3,055	4,000						
	Funds	0	2,568	4,267	3,200						

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											16,449	17,129	
											6,676	17,129	0
											10,765	10,765	
											10,035	10,035	(730)

Figure 96: Project Cost / Fund Summary (Cont.)

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
Facilities Program											
ATCS Test & Repair Shop	Cost	109									
	Funds	0									
Burke Avenue Facility	Cost	11,125	3,106								
	Funds	11,750	2,481								
Cable Car Barn CCTV	Cost	102									
	Funds	0									
Cable Car Barn Facility Improve	Cost	925									
	Funds	0									
Cable Car Museum Renovation	Cost	11,249									
	Funds	0									
Central Control - Facility	Cost	18,513									
	Funds	1,413									
Facilities - Misc Projects	Cost	2,338									
	Funds	2,321									
Facility Lifecycle Plan	Cost	0									
	Funds	0	300								
Facility Pres./Imp. Program	Cost	1,477		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	Funds	486									
Facility Safety Improvements	Cost	657	1,392								
	Funds	0		2,049							
Fixed Facility Rehabilitation	Cost	34,390									
	Funds	31,321									
Flynn Facility Lift Modification	Cost	4,250									
	Funds	4,250									
Flynn Ventilation System & Roof	Cost	8,778									
	Funds	3,696		5,668	1,470						
Geneva Historic Car Enclosure	Cost	4,150									
	Funds	4,150									
Green - LRV Washer Replacement	Cost	0	1,825								
	Funds	0	0								
Green Spray Cabinet and Oven	Cost	0	304								
	Funds	0						304			
Green Facility Door Replacement	Cost	0	7,050								
	Funds	0									
Green Roof/HVAC Rehabilitation	Cost	712	973								
	Funds	576		647							
Islais Creek Facility	Cost	73,751									
	Funds	48,050	9,016	21,722							
One South Van Ness	Cost	10									
	Funds	801									
Parts Storage Improvements	Cost	450									
	Funds	0									
Potrero Rehabilitation	Cost	3,853	5,380								
	Funds	4,839									
Potrero/Presidio-TC Lifts	Cost	200									
	Funds	200									
Presidio CCTV Improvement	Cost	110									
	Funds	0									
Presidio Fire Detection System	Cost	0	2,854								
	Funds	0	0								

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											0	109	
											0	0	(109)
											3,106	14,231	
											2,481	14,231	0
											0	102	
											0	0	(102)
											0	925	
											0	0	(925)
											0	11,249	
											0	0	(11,249)
											0	18,513	
											0	1,413	(17,100)
											0	2,338	
											0	2,321	(17)
											0	0	
											300	300	300
1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000			17,000	18,477	
											0	486	(17,991)
											1,392	2,049	
											2,049	2,049	0
											0	34,390	
											0	31,321	(3,070)
											0	4,250	
											0	4,250	0
											0	8,778	
											7,139	10,835	2,056
											0	4,150	
											0	4,150	0
											1,825	1,825	
											0	0	(1,825)
											304	304	
											304	304	0
											7,050	7,050	
											0	0	(7,050)
											973	1,685	
											647	1,222	(463)
											0	73,751	
											30,738	78,788	5,037
											0	10	
											0	801	791
											0	450	
											0	0	(450)
											5,380	9,233	
											0	4,839	(4,394)
											0	200	
											0	200	0
											0	110	
											0	0	(110)
											2,854	2,854	
											0	0	(2,854)

Figure 96: Project Cost / Fund Summary (Cont.)

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
Presidio Maintenance Area Mods	Cost	1,170									
	Funds	0									
Presidio Shop Door Motors	Cost	0			127						
	Funds	0									
Presidio Rehabilitation	Cost	1,500									
	Funds	360									
Revenue Center Replacement	Cost	423	6,749								
	Funds	423									
Scott Center Parking Lot	Cost	0									
	Funds	0									
Subway Fire Alarm & Detection	Cost	0	1,825								
	Funds	0			3,948						
Subway Relay Rm Security/Access	Cost	324									
	Funds	0									
Subway Station Improvements	Cost	0					5,836				
	Funds	0					5,836				
Training Center	Cost	0			39,478						
	Funds	0			7,000						
Woods-Fuel, Wash & Lifts	Cost	26,658									
	Funds	23,265		2,592	1,000						

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											0	1,170	
											0	0	(1,170)
											127	127	
											0	0	(127)
											0	1,500	
											0	360	(1,139)
											6,749	7,172	
											0	423	(6,749)
1,212											1,212	1,212	
1,073											1,073	1,073	(139)
											1,825	1,825	
											3,948	3,948	2,123
											0	324	
											0	0	(324)
											5,836	5,836	
											5,836	5,836	0
											39,478	39,478	
											7,000	7,000	(32,478)
											0	26,658	
											3,592	26,858	200

Figure 96: Project Cost / Fund Summary (Cont.)

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
Equipment Program											
Data Processing & Office Equip	Cost	4,798									
	Funds	3,802									
Data Processing - Future Phase	Cost	14,650	1,582	1,645	1,711	1,779	1,850	1,924	2,001	2,081	2,165
	Funds	0									
Driver Training Simulators	Cost	934									
	Funds	0									
Electronic Document Management	Cost	379									
	Funds	0									
Enterprise Application Interface	Cost	887									
	Funds	0									
Geographical Information System	Cost	379									
	Funds	0									
MIS: Human Resources Mgmt System	Cost	0						2,960			
	Funds	0						2,368			
MIS: Project Mgmt Sys Replace	Cost	0			790						
	Funds	0			500						
MIS: Revenue Reconciliation DB	Cost	0			1,974						
	Funds	0			1,747						
MIS: Scheduling Sys Replacement	Cost	4,200									
	Funds	4,200									
Misc Equip Program	Cost	10,575	1,217	1,265	1,316	1,369	1,423	1,480	1,539	1,601	1,665
	Funds	0			1,000	1,000	1,000	1,000	1,000	1,000	1,000
Misc Equip Phase 2	Cost	1,334									
	Funds	1,334									
Motive Power SCADA System	Cost	108									
	Funds	0									
PBX Telephone System & Equipment	Cost	551									
	Funds	0									
Proof of Payment Wireless	Cost	379									
	Funds	0									
Signal Vital Relay Test System	Cost	13									
	Funds	0									
Training Fleet Hand Held Radios	Cost	19									
	Funds	0									
Transit Signage Program	Cost	351									
	Funds	0									
Travel Modeling/Micro-Simulation	Cost	87									
	Funds	0									
Voice Data Recorder Cen. Control	Cost	574									
	Funds	0									
Voice Data Recorder Motive Power	Cost	47									
	Funds	0									
Worker's Comp Wireless System	Cost	324									
	Funds	0									

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											0	4,798	
											0	3,802	(995)
2,251	2,341	2,435	2,532	2,634	2,739	2,848	2,962	3,081	3,204	3,332	47,098	61,749	
											0	0	(61,749)
											0	934	
											0	0	(934)
											0	379	
											0	0	(379)
											0	887	
											0	0	(887)
											0	379	
											0	0	(379)
											2,960	2,960	
											2,368	2,368	(592)
											790	790	
											500	500	(290)
											1,974	1,974	
											1,747	1,747	(227)
											0	4,200	
											0	4,200	0
1,732	1,801	1,873	1,948	2,026	2,107	2,191	2,279	2,370			31,202	41,777	
1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000			16,000	16,000	(25,777)
											0	1,334	
											0	1,334	0
											0	108	
											0	0	(108)
											0	551	
											0	0	(551)
											0	379	
											0	0	(379)
											0	13	
											0	0	(13)
											0	19	
											0	0	(19)
											0	351	
											0	0	(351)
											0	87	
											0	0	(87)
											0	574	
											0	0	(574)
											0	47	
											0	0	(47)
											0	324	
											0	0	(324)

Figure 96: Project Cost / Fund Summary (Cont.)

Project Name		*Through FY05*	*FY06*	*FY07*	*FY08*	*FY09*	*FY10*	*FY11*	*FY12*	*FY13*	*FY14*
Other Projects Program											
Balboa Park Station Area	Cost	0									
	Funds	0	1,140								
Bayview Connections Station Area	Cost	2,510									
	Funds	4,019	215								
Graffiti Prevention & Security	Cost	4,427									
	Funds	2,988									
Preventive Maintenance	Cost	43,641	0								
	Funds	39,016	16,991								
Short Range Transit Plan	Cost	228	93		93		93		93		93
	Funds	316	5	47	47	47	47	47	47	47	47
Transbay Terminal Replacement	Cost	26,606									
	Funds	24,425	6,760								
Treasure Island Ferry Terminal	Cost	2,124									
	Funds	2,124									

Figure 96: Project Cost / Fund Summary (Cont.)

All Amounts in Escalated $000s

FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	20-Year Total	Project Total	Surplus / Shortfall
											0	0	
											1,140	1,140	1,140
											0	2,510	
											215	4,234	1,724
											0	4,427	
											0	2,988	(1,439)
											0	43,641	
											16,991	56,007	12,366
	93		93		93		93		93		931	1,159	
47	47	47	47	47	47	47	47	47	47	47	890	1,206	47
											0	26,606	
											6,760	31,185	4,579
											0	2,124	
											0	2,124	0

Capital Project Descriptions

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Automatic Passenger Counting System

Enhancement/Expansion

Procure and install on-board automatic passenger counting (APC) equipment on Muni's revenue fleet, exclusive of historic rail and cable cars. APC equipment counts on- and off-loading passengers, and logs the data to an on-board computer. A companion system would transmit the logged data on demand to wayside servers for processing. The project includes acquisition of a database application program to process the APC data.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$0	$0
Local	$0	$0	$100	$100
Project Funds	$0	$0	$100	$100
Project Cost				$8,644
Surplus (Shortfall)				($8,544)

Breda Safety Modifications

State of Good Repair

A group of projects to improve the Breda Light Rail Vehicle, including: Auto Drop Pantograph, Crew Door Control Switch, Emergency Door Release, Interlock Step Cutout/Door, Lighting Ballasts Replace, Master Controller Mod, Onboard Event Recorder, and Sensitive Edge Body Seals.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$13,495	$13,495
Local	$0	$0	$3,374	$3,374
Project Funds	$0	$0	$16,869	$16,869
Project Cost				$16,869
Surplus (Shortfall)				$0

Cable Car Vehicle Renovation Program

State of Good Repair

Provides for the phased overhaul and reconstruction of the cable car fleet to maintain system reliability and productivity. Currently each car is unique and parts must be fabricated for each individual car. One goal of the renovation program is to start to standardize major vehicle components. Minor overhauls are scheduled every 15 years, major overhauls at 30-35 years and reconstruction at 60-70 years. At any one time, a total of four cars may be undergoing renovation.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$7,516	$0	$20,640	$28,156
State	$125	$0	$0	$125
Local	$1,610	$0	$5,168	$6,778
Project Funds	$9,251	$0	$25,807	$35,058
Project Cost				$39,852
Surplus (Shortfall)				($4,793)

Digital Voice Annunciation System (DVAS) Vehicle Retrofit

State of Good Repair

Will allow all ADA-related announcements to be made automatically without driver intervention. At a minimum the announcements will include stops at transfer points, major destinations and lines, and destinations at stops served by multiple lines. The first phase will retrofit 12 articulated motor coaches and 60 articulated trolley coaches. Future phases include the retrofit of 151 LRV2/3s.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$1,389	$0	$0	$1,389
Local	$1	$0	$179	$181
Project Funds	$1,391	$0	$179	$1,570
Project Cost				$11,989
Surplus (Shortfall)				($10,419)

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Fareboxes - Inductive Coin Sensors

Enhancement/Expansion

Purchase and install 1,400 Inductive Coin Sensors (ICS) to replace the Coin Size Sensors currently used in the farebox system. The new ICS validates coins by size, mass and metallic content, in contrast to the old optical sensor that relied upon LEDs for sizing based upon coin diameter. The existing coin module optical sensors have been discontinued. The new ICS has higher reliability and also sharply reduces maintenance costs.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$513
Surplus (Shortfall)				($513)

Fareboxes - Replacement Program

State of Good Repair

Procure additional fareboxes for expansion vehicles used to provide for new services. Spares have been exhausted and additional fareboxes are needed to put new vehicles into service. In FY2003 Muni purchased 45 fareboxes to cover Historic LRV expansion needs. This project also provides for the replacement of the entire farebox fleet once it has reached the end of its useful life.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$24,848	$24,848
Local	$0	$7,422	$0	$7,422
Project Funds	$0	$7,422	$24,848	$32,270
Project Cost				$33,808
Surplus (Shortfall)				($1,538)

Fareboxes - Transfer/Fare Receipt Printers

Enhancement/Expansion

Purchase and install automatic on-board printing of time-stamped transfers and fare receipts. The printers will be stand-alone machines that take the place of operators' cutting transfers by hand. This system will help ensure that transfers are cut accurately, which could lead to higher fare revenue recovery.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$2,163
Surplus (Shortfall)				($2,163)

Historic Vehicle NJT PCCs

Enhancement/Expansion

Purchase and rehabilitate 11 PCCs from New Jersey Transit for use on the F-line.

Fund Source	Allocated	›grammed	Planned	Total
Local	$5,710	$0	$375	$6,085
Project Funds	$5,710	$0	$375	$6,085
Project Cost				$6,085
Surplus (Shortfall)				$0

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Historic Vehicle Program

State of Good Repair

Phased rehabilitation of the Historic Light Rail Vehicle fleet for operation on the F-Line. CPUC and ADA on 10 Milan cars; Milan enhancements including brake interlock system and backup master controller; CPUC and ADA on 6 vehicles, plus the major overhaul of 1 vehicle; rehab up to 12 existing vehicles to expand service; and farebox procurement for the historic fleet. These are in addition to the 27 vehicles now in revenue service.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$17,564	$276	$0	$17,840
Local	$8,087	$2,547	$0	$10,634
Project Funds	$25,651	$2,823	$0	$28,474
Project Cost				$19,868
Surplus (Shortfall)				$8,606

Historic Vehicle Rehabilitation

State of Good Repair

Phased rehabilitation of the Historic Light Rail Vehicle fleet. Rehabilitations are scheduled to occur every 20 years. Historic vehicles currently operate on the F-Line between Castro and Fisherman's Wharf via the Ferry Building. The goal of this program is to retain a high state of reliability throughout the life of the vehicle and to smooth out maintenance demands on this fleet.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$88,292	$88,292
Local	$0	$11,504	$15,577	$27,081
Project Funds	$0	$11,504	$103,869	$115,373
Project Cost				$122,896
Surplus (Shortfall)				($7,523)

Light Rail Vehicle - JKLMN Line Expansion

Enhancement/Expansion

Purchase additional light rail vehicles to increase the level of service on the existing J-, K-, L-, M- and N-lines. The additional vehicles will be used to even out loads on the existing Metro lines. Delivery of the first 10 vehicles is planned for 2015.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$48,082
Surplus (Shortfall)				($48,082)

Light Rail Vehicle - Overhaul Program

Enhancement/Expansion

Systematic overhaul of all light rail vehicles every five years including: HVAC, brakes, couplers, pantograph, propulsion, doors, carbody, seats and cab, as needed. The goal of this program is to retain a high state of reliability throughout the life of the vehicle and to smooth out maintenance demands on this fleet. The first round of overhauls should have been scheduled for FY2003, based on vehicle in service dates.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$286,867
Surplus (Shortfall)				($286,867)

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Light Rail Vehicle Procurement - 128 Replacement & 8 Expansion

State of Good Repair

Purchase 128 LRVs to replace the 128 Boeing-Vertol SLRVs and eight LRVs to be used for expansion service on the Muni Metro Turnback and Extension. The new LRVs will help to improve service reliability on the Metro system and reduce maintenance problems in the LRV fleet.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$329,188	$0	$0	$329,188
State	$57,399	$0	$0	$57,399
Local	$85,589	$600	$0	$86,189
Project Funds	$472,176	$600	$0	$472,776
Project Cost				$472,170
Surplus (Shortfall)				$606

Light Rail Vehicle Procurement - Replace 151 Breda Cars

State of Good Repair

Replacement of the 151 car Breda Light Rail Vehicle fleet at the end of its useful life. This represents the first year of a multi-year procurement project that extends beyond the 20-year CIP.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$75,000	$75,000
Local	$0	$35,025	$4,704	$39,730
Project Funds	$0	$35,025	$79,704	$114,730
Project Cost				$641,312
Surplus (Shortfall)				($526,582)

Light Rail Vehicle Retrofit (Mod. 12)

State of Good Repair

Address specific elements of the Breda design to make the vehicles more reliable, improve safety, and meet legal requirements. Consists of two components: video surveillance equipment and brake monitoring and control device (EBALD). Breda Leaseback funds of $10 million in this project are the local commitment in exchange for using Sect. 5307 funds in FY2003 for preventive maintenance.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$0	$0
Local	$12,274	$0	$0	$12,274
Project Funds	$12,274	$0	$0	$12,274
Project Cost				$12,274
Surplus (Shortfall)				$0

Motor Coach Clean Air Device Retrofit

State of Good Repair

CARB legislation adopted on Jan. 23, 2001, requires Muni to retrofit all diesel powered buses with low emission traps and convert to ultra-low sulfur diesel fuel by 2006. The implementation of these two elements will dramatically reduce the particulate matter (PM) exhaust emissions of Muni's diesel buses. The project uses a combination PM/NOx device on 375 motor coaches.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$6,813	$0	($402)	$6,411
State	$534	$0	$0	$534
Local	$1,360	$0	$0	$1,360
Project Funds	$8,707	$0	($402)	$8,305
Project Cost				$8,305
Surplus (Shortfall)				$0

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Motor Coach Mid-life Rebuild Program

Enhancement/Expansion

Provide for mid-life rebuilds of every vehicle in the motor coach fleet including: engine rehab/replacement, transmissions, differentials, suspension systems, wheelchair lifts, passenger and driver seats, glass, and body repair and paint. This cost does not include: tires, tubes, oil, fluid or lubricant changes, wiper replacement, or bus cleaning. Mid-life rebuilds are necessary to maintain adequate vehicle availability throughout its regular useful life.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$336,791
Surplus (Shortfall)				($336,791)

Motor Coach Purchase 45 AC Transit Gilligs

State of Good Repair

Purchase 45 1993 Gillig motor coaches from AC Transit to replace 45 1988/89 New Flyers in Muni's fleet. Includes installation of Cleaire devices.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$365	$0	$0	$365
Local	$3,735	$0	$625	$4,360
Project Funds	$4,100	$0	$625	$4,725
Project Cost				$4,350
Surplus (Shortfall)				$375

Motor Coach Rehabilitation - 12 Artics to Extend Life

State of Good Repair

Perform an end of useful life rehab on 12 New Flyer articulated motor coaches to extend useful life by seven years. Includes rehab or replacement of engines, differentials, axles, brakes, suspension, wheelchair lift, windows, body work, paint, and steering, air, electrical, heating and cooling systems. Also includes installation of low emission (PM/NOx) traps.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$3,125	$0	$0	$3,125
Local	$781	$0	$240	$1,021
Project Funds	$3,906	$0	$240	$4,146
Project Cost				$3,906
Surplus (Shortfall)				$240

Motor Coach Replacement Program - 30 Hybrid 30-foot

State of Good Repair

Phased replacement of Muni's fleet of motor coaches. Project will replace 30 30-foot 1990 Orions. Based on conclusions gained from the Alternative Fuels Demonstration Project it was determined that hybrid-electric technologies would best address Muni's short term fleet goals. This project will help Muni to meet the mandates of Proposition I.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$7,392	$0	$6,306	$13,698
Local	$0	$15,500	$1,577	$17,077
Project Funds	$7,392	$15,500	$7,883	$30,775
Project Cost				$30,775
Surplus (Shortfall)				$0

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Motor Coach Replacement Program - 375 Diesel

State of Good Repair

Phased replacement of Muni's fleet of motor coaches beginning in FY99/00. 45 standard coaches from NABI and 135 standard coaches from Neoplan will replace all 180-1984 Flyer coaches. 100 articulated coaches from Neoplan will replace 100-1984 MAN articulated coaches. Muni will receive 71 standard coaches and 24 articulated coaches to allow for the retirement of a like number of 1988 and 1989 Flyers standard and articulated coaches. The remainder of the fleet will be replace through the 56-Hybrid (40') and 30-Hybrid (30') procurements.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$119,704	$0	$0	$119,704
Local	$47,427	$516	$0	$47,942
Project Funds	$167,131	$516	$0	$167,646
Project Cost				$167,656
Surplus (Shortfall)				($10)

Motor Coach Replacement Program - 56 Hybrids 40-foot

State of Good Repair

Phased replacement of Muni's fleet of motor coaches. A total of 56 coaches will be replaced, 51 40-foot 1988/1989 New Flyers and 5 30-foot 1990 Orions. Based on conclusions gained from the Alternative Fuels Demonstration Project it was determined that hybrid-electric technologies would best address Muni's short term fleet goals. This project will help Muni to meet the mandates of Proposition I.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$22,205	$0	$3,784	$25,990
Local	$24,580	$70	$946	$25,596
Project Funds	$46,785	$70	$4,731	$51,586
Project Cost				$51,586
Surplus (Shortfall)				$0

Motor Coach Replacement Program - Future Phases

State of Good Repair

Provides for the phased replacement of the motor coach fleet when vehicles reach the end of their useful lives. The vehicles and the years in which they will be replaced are detailed in the Fleet Plan chapter of the FY2004 SRTP. The details and justification for this program are also provided in the Fleet Plan chapter of the FY2004 SRTP.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$534,449	$534,449
Local	$0	$119,915	$18,818	$138,733
Project Funds	$0	$119,915	$553,267	$673,182
Project Cost				$694,090
Surplus (Shortfall)				($20,908)

Motor Coach Reserve Fleet - End of Life Rehab

Enhancement/Expansion

Continue to maintain a viable reserve fleet by providing for an end of useful life rehabilitation on part of the motor coach fleet to allow these vehicles to function in a reserve capacity for up to 10 years. The reserve fleet is used to provide substitution service for fixed guideway services, meet training needs and for special services. A complete description is provided in the Fleet Plan chapter of the FY2004 SRTP.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$69,742
Surplus (Shortfall)				($69,742)

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Non Revenue Vehicle Replacement Program

Enhancement/Expansion

Purchase and replace non revenue vehicles such as specialized maintenance vehicles, light and heavy duty trucks and sedans that are used system-wide. A backlog of replacement needs currently exists resulting in the need to maintain vehicles well beyond their useful life. In addition to this backlog a number of vehicles were added to the program through the 2000 and 2002 Call for Capital Projects.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$81,067
Surplus (Shortfall)				($81,067)

Paratransit Van Automatic Vehicle Locator System

Enhancement/Expansion

Purchase and install AVL equipment in paratransit vans and link the associated data stream to the Mobility Master software at the Paratransit Broker's office. The AVL system will be used to increase the monitoring of paratransit vans, enhance communications between dispatchers and drivers, improve the customer reliability response to "where's my ride" phone calls, and to generate more accurate on-time performance reports.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$284
Surplus (Shortfall)				($284)

Paratransit Vans 2004

State of Good Repair

Purchase 20 van conversions for the paratransit program. Van conversions are large-sized vans, designed to carry 1-2 wheelchairs and 12 seated passengers. The vans will be used in the Paratransit Lift Van/ADA Access shared ride program where multiple customers can share trips. The vans are scheduled to be in service by the end of 2005. Muni anticipates recovering the full cost of the vehicles in lower per trip operating costs that will be bid by the van providers who will no longer need to provide their own vehicles for the provision of these services. The recovered cost could partially offset growth in the program.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$580	$0	$624	$1,203
Local	$85	$419	$0	$503
Project Funds	$664	$419	$624	$1,707
Project Cost				$1,996
Surplus (Shortfall)				($290)

Paratransit Vans 2006

State of Good Repair

Purchase 34 van conversions for the paratransit program. Van conversions are large-sized vans that are designed to carry 1-2 wheelchairs and 12 seated passengers. The vans will be used in the Paratransit Lift Van/ADA Access shared ride program where multiple customers can share trips. The vans are scheduled to be in service by the end of 2007. Muni anticipates recovering the full cost of the vehicles in lower per trip operating costs that will be bid by the van providers who will no longer need to provide their own vehicles for the provision of these services. That recovered cost could partially

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$1,497	$1,497
Local	$0	$200	$214	$415
Project Funds	$0	$200	$1,711	$1,911
Project Cost				$1,911
Surplus (Shortfall)				$0

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Paratransit Vans Future Procurements

State of Good Repair

Phased replacement of the Paratransit Van fleet.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$14,039	$14,039
Local	$0	$4,118	$1,021	$5,139
Project Funds	$0	$4,118	$15,060	$19,178
Project Cost				$20,886
Surplus (Shortfall)				($1,708)

Paratransit Vans/Debit Cards

State of Good Repair

Purchase accessible vans to be used by local taxi service providers as part of the ramp taxi program. Muni will be expanding this fleet to 54 accessible minivans and replacing vehicles on a four-year cycle. Additional vans will help meet the growing demand for paratransit trips. These vehicles constitute only a portion of the vehicles used to provide paratransit service, the majority are under contract to Muni through its paratransit broker and multiple service providers. Also includes the procurement of a debit card system to replace taxi scrip.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$5,509	$0	$0	$5,509
Local	$1,149	$245	$0	$1,395
Project Funds	$6,658	$245	$0	$6,903
Project Cost				$6,899
Surplus (Shortfall)				$5

Trolley Coach Mid-life Rebuild Program

Enhancement/Expansion

Provide for mid-life rebuilds of every vehicle in the trolley coach fleet. Mid-life rebuilds are necessary to maintain adequate vehicle availability throughout a fleets' regular useful life. The details of this program are described in the Fleet Plan chapter of the FY2004 SRTP.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$123,387
Surplus (Shortfall)				($123,387)

Trolley Coach Rebuild 60 Articulated New Flyers

State of Good Repair

This project includes a number of components to overhaul the 60-New Flyer Articulated Trolley Coaches. 1) Frames, 2) Kiepe Retriever, 3) Inverter Replacement, 4) battery management, and 5) minor overhaul of major components.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$1,156	$1,156
Local	$0	$4,500	($1,156)	$3,344
Project Funds	$0	$4,500	$0	$4,500
Project Cost				$7,831
Surplus (Shortfall)				($3,331)

Fleet Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Trolley Coach Replacement - 33 Articulated & 240 Standards

State of Good Repair

Replace the fleet of 295 Flyer standard trolley coaches with 33 articulated and 240 standard coaches. Replacement of a number of standard coaches with articulated coaches is needed to better meet heavy ridership demand on the 49-Van Ness/Mission, 30-Stockton, 45-Union/Stockton, 5-Fulton, and 22-Fillmore lines. The new trolley coaches will all have accessibility features, including wheelchair lifts, kneeling capability and ADA compliant signage.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$187,477	$0	$0	$187,477
State	$11,136	$0	$0	$11,136
Local	$35,727	$479	($235)	$35,971
Project Funds	$234,340	$479	($235)	$234,584
Project Cost				$235,780
Surplus (Shortfall)				($1,196)

Trolley Coach Replacement - Future Phases

State of Good Repair

Phased replacement of the trolley coach fleet when vehicles reach the end of their useful lives. The details and justification for this program are provided in the Fleet Plan chapter of the FY2004 SRTP. Additional vehicles that may be required as a result of route conversion or extensions are included in the Route Electrification Program.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$251,939	$251,939
Local	$0	$75,754	$9,397	$85,152
Project Funds	$0	$75,754	$261,337	$337,091
Project Cost				$425,760
Surplus (Shortfall)				($88,669)

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Accessible Lift Replacement with Ramps (5 locations)

State of Good Repair

Replace the four wayside lifts on Market Street and the wayside lift at San Jose and Geneva with wayside platforms. Replacing the lifts with platforms will improve access to the Metro system for wheelchair users and reduce operational impacts on the system. Lifts are generally unreliable because they are subject to breakdowns. Passengers requiring the lift must operate a gate to access it, and may not be visible to operators once situated behind the gate.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$2,834	$2,834
Local	$0	$0	$368	$368
Project Funds	$0	$0	$3,202	$3,202
Project Cost				$3,202
Surplus (Shortfall)				$0

Automatic Vehicle Location System - Integration with GPS & Radio Systems

State of Good Repair

Continue implementation of a Global Positioning System (GPS)-based Automatic Vehicle Location (AVL) system for Muni's revenue fleet and inspector vehicles to track schedule adherence, expedite response to emergencies and road call requests, and collect passenger data. To date, all LRV, historic streetcars, cable cars and trolley coaches have been equipped. Remaining phases include equipping all motor coaches and installing up to 400 bus shelter signs.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$1,987	$2,508	$0	$4,495
Local	$2,525	$0	$9,566	$12,091
Project Funds	$4,512	$2,508	$9,566	$16,586
Project Cost				$14,078
Surplus (Shortfall)				$2,508

Automatic Vehicle Location System Enhancements

Enhancement/Expansion

Enhancements to the AVL/GPS project including: significantly expanding deployment of wayside passenger information signage and improving the arrival messages in the Metro Subway. This will make the project RM-2 compliant.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$8,948	$8,948
Project Funds	$0	$0	$8,948	$8,948
Project Cost				$8,948
Surplus (Shortfall)				$0

Bus Rapid Transit - Geary

Enhancement/Expansion

Design and implement a rail-ready BRT project on Geary Boulevard. Project includes planning, environmental, engineering, and construction; elements may include a dedicated lanes, better shelters, and information systems. A first phase project is TPS treatments on Geary east of Van Ness, including stop respacing, lane reconfiguration, bus bulbs, and signal priority.

Fund Source	Allocated	›grammed	Planned	Total
Local	$368	$0	$42,500	$42,868
Project Funds	$368	$0	$42,500	$42,868
Project Cost				$159,798
Surplus (Shortfall)				($116,930)

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Bus Rapid Transit - Van Ness

Enhancement/Expansion

Design and implement a BRT project on Van Ness Avenue from Mission to North Point. Project includes planning, environmental, engineering, and construction and may be implemented in phases. Project would be limited to the roadway and will require coordination with DPW landscaping and resurfacing projects.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$134	$0	$0	$134
Local	$0	$0	$17,705	$17,705
Project Funds	$134	$0	$17,705	$17,839
Project Cost				$93,768
Surplus (Shortfall)				($75,929)

Bus Rapid Transit Program

Enhancement/Expansion

Design and implement BRT in San Francisco to improve service reliability, reduce travel time, and improve passenger comfort. BRT is rubber-tired vehicle operation configured to offer speeds, capacity, and comfort similar to rail transit through the use of exclusive travel lanes, limited stops, signal priority, low-floor transit vehicles, prepaid fare systems, and passenger information. Corridors identified for possible BRT development after Geary and Van Ness are Potrero Avenue, 19th Avenue, 16th Street, Folsom Street, and the Evans/Innes corridor to Hunters Point. The 2005-09 program also includes BRT marketing and materials.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$46,137	$46,137
Local	$0	$12,800	$0	$12,800
Project Funds	$0	$12,800	$46,137	$58,937
Project Cost				$354,773
Surplus (Shortfall)				($295,836)

Cable Car Extension to Fisherman's Wharf

Enhancement/Expansion

Construct an extension of the Powell/Mason cable car line to a new off-street terminal inside the Fisherman's Wharf area. Benefits include improved service for Fisherman's Wharf-bound passengers, enhanced passenger safety and improved traffic circulation. Project cost and schedule has yet to be determined.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$44,550
Surplus (Shortfall)				($44,550)

Cable Car Infrastructure Rehabilitation Program FY1998-2009

State of Good Repair

Includes various guideway and infrastructure repair and improvement projects on the Cable Car system. Covers all street components of the Cable Car system, such as pulleys, switches and turntables, exclusive of rail which is in the Rail Replacement Program. A detailed description of the Cable Car infrastructure is provided in the Cable Car System Capital Plan (1998). A detailed project listing is included in the Infrastructure Program chapter of the Short Range Transit Plan.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$16,663	$0	$30,000	$46,663
Local	$1,933	$9,375	$1,769	$13,076
Project Funds	$18,596	$9,375	$31,769	$59,739
Project Cost				$58,259
Surplus (Shortfall)				$1,481

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Cable Car Infrastructure Rehabilitation Program FY2010-2019

State of Good Repair

Includes various guideway and infrastructure repair and improvement projects on the Cable Car system. Covers all street components of the Cable Car system, such as pulleys, switches and turntables, exclusive of rail which is in the Rail Replacement Program. A detailed description of the Cable Car infrastructure is provided in the Cable Car System Capital Plan (1998).

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$80,000	$80,000
Local	$0	$10,000	$0	$10,000
Project Funds	$0	$10,000	$80,000	$90,000
Project Cost				$100,000
Surplus (Shortfall)				($10,000)

Cable Car Infrastructure Rehabilitation Program FY2020-2029

State of Good Repair

Includes various guideway and infrastructure repair and improvement projects on the Cable Car system. Covers all street components of the Cable Car system, such as pulleys, switches and turntables, exclusive of rail which is in the Rail Replacement Program. A detailed description of the Cable Car infrastructure is provided in the Cable Car System Capital Plan (1998).

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$40,000	$40,000
Local	$0	$6,000	$4,000	$10,000
Project Funds	$0	$6,000	$44,000	$50,000
Project Cost				$75,000
Surplus (Shortfall)				($25,000)

Cable Car Radio

Enhancement/Expansion

Procure and install fixed on-board radios for 40 cable cars + 4 spare sets, plus central control hardware and maintenance equipment replacing the handheld radios which Cable Car Operators are issued today. The equipment would be voice-compatible and non-interfering with the existing Metrocom radio system, transmitting on one channel, using an existing licensed frequency.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$196
Surplus (Shortfall)				($196)

Communications Connectivity & Passenger Information - Central to Subway

Enhancement/Expansion

Provide multipurpose connectivity in the Metro subway and facilitate modernization of safety, security, and passenger information and control systems on platforms, in agent booths, and in signal relay rooms. Will enable utilization of unallocated capacity of the existing fiber-optic cables to establish high-speed connectivity with the Metro Subway. Add two large (60") displays in concourse areas. Large format displays enhance timely communication of system performance and arrival predictions to Muni patrons. Add a wired communications link to the facility at 30 Duboce.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$2,620	$2,620
Project Funds	$0	$0	$2,620	$2,620
Project Cost				$2,620
Surplus (Shortfall)				$0

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Curb Ramp Remediation

State of Good Repair

Repair or reconstruct curb ramps that are on the path of travel to Muni Key Stops and Stations and that FTA Assessments have identified as ADA noncompliant. Construct curb ramps near key stops/stations where needed to make path of travel ADA compliant. Over 80 curb ramps have been identified.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$300	$300
Project Funds	$0	$0	$300	$300
Project Cost				$300
Surplus (Shortfall)				$0

Escalator Rehabilitation

State of Good Repair

Escalators were constructed as part of the BART/Muni Metro project completed in 1972. Based on an agreement between the city and BART, Muni is responsible for 28 of these escalators in 7 stations. This project will replace or rehabilitate each escalator to conform to current codes and incorporate modern safety features. The work should result in reduced maintenance costs and unit down time.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$12,000	$12,000
Local	$110	$3,000	$0	$3,110
Project Funds	$110	$3,000	$12,000	$15,110
Project Cost				$15,039
Surplus (Shortfall)				$71

Historic Streetcar Extension to Fort Mason/The Presidio

Enhancement/Expansion

A unique partnership of non-profit agencies, the National Park Service and Muni is exploring plans to extend the proposed E-line from Fisherman's Wharf through National Park Service lands in Aquatic Park and Fort Mason, using the historic railway tunnel between the foot of Van Ness Avenue and Fort Mason Center. From Fort Mason, further extension of historic streetcar service to The Presidio is also under consideration.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$1,500	$0	$1,500
Project Funds	$0	$1,500	$0	$1,500
Project Cost				$151,911
Surplus (Shortfall)				($150,411)

Historic Streetcar Extension to Golden Gate Park

Enhancement/Expansion

This project would provide a track extension from the vicinity of existing tracks at Irving Street and 9th Avenue northward into Golden Gate Park to a terminal in the vicinity of the Golden Gate Park Concourse. The project would allow for F-Line Historic Streetcar service along Market Street, on Duboce Avenue, N-Line tracks through the Sunset Tunnel to Irving Street, and proposed tracks to the museums and music concourse area in Golden Gate Park.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$50,524
Surplus (Shortfall)				($50,524)

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Light Rail Transit Line - Chinatown/North Beach Extension

Enhancement/Expansion

Muni envisions extending the Central Subway further north from the planned terminal at Stockton/Clay in Chinatown, through North Beach and into Fisherman's Wharf. It could come to the surface and extend into the Marina on a surface alignment via Lombard or Chestnut, with a terminal at the Presidio. The subway could be built to accommodate trolley coaches as well as light rail.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$1,122,302
Surplus (Shortfall)				($1,122,302)

Light Rail Transit Line - Geary

Enhancement/Expansion

Construct a surface/subway LRT line to replace the 38-Geary lines. Geary is in the Four Corridors Plan and is next in priority for major investment after the Central Subway. Light rail service on Geary would increase reliability by ensuring that auto traffic would not impede transit vehicles, capacity would increase, travel time would decrease, and quality of service for riders would improve.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$55,000	$55,000
Project Funds	$0	$0	$55,000	$55,000
Project Cost				$2,783,778
Surplus (Shortfall)				($2,728,778)

Light Rail Transit Line - Geneva/Ocean

Enhancement/Expansion

Extend service in this corridor using an exclusive ROW. The K-line would continue to operate on Ocean and an extension of the Third Street LRT would operate on Geneva with a terminal at Balboa Park BART or Phelan Loop.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$0
Surplus (Shortfall)				$0

Light Rail Transit Line - Van Ness Corridor

Enhancement/Expansion

Muni's vision is to have surface LRT in semi-exclusive ROW on Van Ness, one of the Four Corridors. However, there are substantial operating questions of how this line would fit into the existing route network and how it would connect with other lines and maintenance facilities.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$2,233,032
Surplus (Shortfall)				($2,233,032)

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Maintenance Yards Wireless Networking

Enhancement/Expansion

Install high-speed wireless networking access points at vehicle yards, using the 802.11A standard. The network will make possible remote data collection, diagnostics and communications from devices installed on vehicles or portable devices in yards.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$108
Surplus (Shortfall)				($108)

Metro Accessibility - Beyond Key Stops

Enhancement/Expansion

Includes two projects from the 2001 call for projects; Metro Rail Accessibility Lawsuit Mitigation and Metro Access Beyond Key Stops.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$10,260	$10,260
Project Funds	$0	$0	$10,260	$10,260
Project Cost				$12,432
Surplus (Shortfall)				($2,171)

Metro Accessibility Program

State of Good Repair

Provide accessibility improvements on the Metro system and key station compliance with the ADA. The program also provides for the development and installation of safety and security improvements to aid disabled Muni riders, and will support minor accessibility improvements to the LRV fleet. Future phases of the program will provide additional accessibility improvements beyond those required by the ADA.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$10,044	$0	$0	$10,044
State	$2,507	$0	$0	$2,507
Local	$4,182	$0	$0	$4,182
Project Funds	$16,732	$0	$0	$16,732
Project Cost				$20,292
Surplus (Shortfall)				($3,560)

M-Line New Stub Terminal at Balboa Park BART

Enhancement/Expansion

Construct a surface two-track stub terminal at Balboa Park in or adjacent to the current BART "kiss-ride" roadway. Provides a shorter path for patrons between BART and other Balboa Park facilities. Provides direct access to the stairway south of Geneva Avenue leading to the BART mezzanine. Improves safety and travel time for passengers and modest running time savings for Muni.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$14,038
Surplus (Shortfall)				($14,038)

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

MMX Terminal Improvements

Enhancement/Expansion

Enhance Muni streetcar operation along the MMX corridor through construction of additional terminal tracks and loop in the vicinity of 6th & Berry Streets needed for the proposed E-Line HLRV service. The proposed terminal improvements will smooth out service during peak operations and provide service to the waterfront area with any streetcar in the fleet. Currently, only double-ended streetcars can be used on the MMX tracks. Earthjustice Settlement Project M.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$5,732
Surplus (Shortfall)				($5,732)

Motive Power Maintenance Telephone System Replacement

State of Good Repair

The project replaces all 21 hand set phones in substations and console equipment at Motive Power Control Center. The present system is over 25 years old. No replacement parts are available and hand set phones are obsolete and cannot be purchased. The present system works only marginally; the alternative of hand held radio communications as a workaround is unreliable and inefficient.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$9	$9
Project Funds	$0	$0	$9	$9
Project Cost				$9
Surplus (Shortfall)				$0

Operator Restrooms

State of Good Repair

Continue the construction of Muni-only restroom facilities at transit terminals to provide Muni operators with restroom facilities available 24-hours a day. An initial study identified 20 key sites based on the number of terminal stops in a 24-hour period and the presence of adequate restrooms at opposite terminals. Additional locations will be identified in the future.

Fund Source	Allocated	›grammed	Planned	Total
Local	$2,405	$0	$0	$2,405
Project Funds	$2,405	$0	$0	$2,405
Project Cost				$4,137
Surplus (Shortfall)				($1,732)

Overhead Rehabilitation Program 1998-2009

State of Good Repair

Phased design and replacement of the overhead wires and related poles and traction power systems serving the light rail and trolley coach lines. The projects included in this program are designed to reduce operational problems, reduce maintenance and increase system reliability. A detailed project listing is included in the Infrastructure Program chapter of the Short Range Transit Plan.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$49,922	$0	$46,500	$96,422
State	$0	$0	$0	$0
Local	$10,383	$10,485	$3,000	$23,868
Project Funds	$60,304	$10,485	$49,500	$120,289
Project Cost				$97,191
Surplus (Shortfall)				$23,098

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Overhead Rehabilitation Program 2010-2019

State of Good Repair

Phased design and replacement of the overhead wires and related traction power systems serving the light rail and trolley coach lines. The projects included in this program are designed to reduce operational problems, reduce maintenance and increase system reliability.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$80,000	$80,000
Local	$0	$20,000	$0	$20,000
Project Funds	$0	$20,000	$80,000	$100,000
Project Cost				$100,000
Surplus (Shortfall)				$0

Overhead Rehabilitation Program 2020-2029

State of Good Repair

Phased design and replacement of the overhead wires and related traction power systems serving the light rail and trolley coach lines. The projects included in this program are designed to reduce operational problems, reduce maintenance and increase system reliability.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$40,000	$40,000
Local	$0	$10,000	$0	$10,000
Project Funds	$0	$10,000	$40,000	$50,000
Project Cost				$75,000
Surplus (Shortfall)				($25,000)

Radio Communication System & Computer Aided Dispatch Replacement

State of Good Repair

Replace the Radio Voice/Data Communications and Computer Aided Dispatch (CAD) systems. The existing radio system has limited message capacity, inability to add new features or support data communications, and no longer meets Muni's needs. The system is also obsolete: the FCC requires that Muni migrate to a newer narrower-band radio system before 2013. The CAD system at Central Control manages radio communications traffic, and includes silent alarm tracking, logging of dispatch and event transactions and report generation.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$5,314	$744	$61,600	$67,658
Local	$151	$72,322	($57,107)	$15,366
Project Funds	$5,466	$73,066	$4,493	$83,024
Project Cost				$83,787
Surplus (Shortfall)				($763)

Rail Replacement Program FY1998-2009

State of Good Repair

Phased design and replacement of the trackway and related systems serving the light rail and cable car lines as part of a regular replacement program and to mitigate excessive noise and/or vibration. The program seeks to enhance system reliability, while reducing the need for excess maintenance. Also includes a small number of subway rehabilitation projects. A detailed project listing is included in the Infrastructure Program chapter of the Short Range Transit Plan.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$70,242	$0	$41,875	$112,117
State	$7,500	$0	$0	$7,500
Local	$17,146	$8,556	$3,000	$28,702
Project Funds	$94,889	$8,556	$44,875	$148,319
Project Cost				$120,179
Surplus (Shortfall)				$28,140

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Rail Replacement Program FY2010-2019

State of Good Repair

Phased design and replacement of the trackway and related systems serving the light rail and cable car lines as part of a regular maintenance program. The program seeks to enhance system reliability, while reducing the need for excess maintenance.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$80,000	$80,000
Local	$0	$20,000	$0	$20,000
Project Funds	$0	$20,000	$80,000	$100,000
Project Cost				$100,000
Surplus (Shortfall)				$0

Rail Replacement Program FY2020-2029

State of Good Repair

Phased design and replacement of the trackway and related systems serving the light rail and cable car lines as part of a regular maintenance program. The program seeks to enhance system reliability, while reducing the need for excess maintenance.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$40,000	$40,000
Local	$0	$10,000	$0	$10,000
Project Funds	$0	$10,000	$40,000	$50,000
Project Cost				$75,000
Surplus (Shortfall)				($25,000)

Route Electrification Program

Enhancement/Expansion

Phased program of trolley coach extensions and motor coach conversions to trolley coach operation. Includes provisions for a new trolley coach facility if the size of the trolley coach fleet expands beyond its current number of vehicles. Also includes the procurement of vehicles for potential conversion projects.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$121,222	$121,222
Local	$0	$4,500	$7,800	$12,300
Project Funds	$0	$4,500	$129,022	$133,522
Project Cost				$958,142
Surplus (Shortfall)				($824,620)

Subway Blue-Light (Emergency) Phone System Replacement

State of Good Repair

Replace the existing Muni Subway Emergency Telephone system with a new state-of-the-art emergency telephone system. The project would include replacement of all emergency telephone units at trackside and in control panels located in each relay room. The subway emergency telephone system is the safety communication system for Muni. The existing system is out-dated and spare parts are no longer available.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$3,274	$3,274
Local	$0	$0	$818	$818
Project Funds	$0	$0	$4,092	$4,092
Project Cost				$1,819
Surplus (Shortfall)				$2,273

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Subway Public Address System Replacement

State of Good Repair

Replace the 25 year old subway Public Address system, which interfaces to the Train Control System to make train arrival announcements. The scope of the installation covers Central Control, 9 subway stations, both mezzanine and platform levels and 15 station agent booths. All station agent booths would be equipped to make local announcements. System would be expandable to Central Subway. Includes uninterruptible power supply. Spare parts for the existing PA system are nearly impossible to obtain and technology improvements cannot be incorporated into the existing system.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$7,787	$7,787
Local	$0	$0	$1,947	$1,947
Project Funds	$0	$0	$9,733	$9,733
Project Cost				$5,300
Surplus (Shortfall)				$4,433

Subway Restroom Rehabilitation

State of Good Repair

Improve physical access for ADA compliance and to provide health and safety improvements for restrooms at the following Muni-only Metro stations: Van Ness, Church St., Castro St., Forest Hill and West Portal. Due to current security concerns, restrooms are currently closed to the public. ADA improvements would be required before restrooms could reopen.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$1,066
Surplus (Shortfall)				($1,066)

Subway Seismic Retrofit Study

State of Good Repair

Fund a study of the Market Street Subway, Twin Peaks Tunnel, MMT and Sunset Tunnel to determine what seismic work is required. The Twin Peaks Tunnel opened for service in 1918 and the Sunset Tunnel in 1928. Specific retrofit projects identified by the study will be added at a later date. Based on a current CIP Cost Estimate (8/21/2002) the construction phase could be $15 million.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$585
Surplus (Shortfall)				($585)

Subway Station Talking Signs

Enhancement/Expansion

Install "Talking Sign" infrared transmitters in Muni/BART shared stations and Muni-only stations. Some Talking Signs transmitters were installed at Powell Street as part of a pilot project in 1995. The project will provide a more complete Talking Signs system that will greatly improve Muni's accessibility to the blind and visually impaired.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$655	$655
Project Funds	$0	$0	$655	$655
Project Cost				$3,375
Surplus (Shortfall)				($2,720)

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Third Street Light Rail Transit Project Phase 1 - Initial Operating Segment (Track/Vehicles/MME)

State of Good Repair

The first phase of the project, the Initial Operating Segment (IOS), will include the construction of trackway, related facilities, and Metro East light rail maintenance facility, and the purchase of 15 LRVs, and 10 additional LRVs for expanded Mission Bay service. The line will extend from the end of the MMX at Fourth & King Streets, across the Fourth Street bridge, along Third Street to a terminus in the vicinity of the Bayshore Caltrain Station.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$94,935	$0	$25,070	$120,005
State	$126,000	$0	$0	$126,000
Local	$286,517	$22,545	$44,977	$354,039
Project Funds	$507,452	$22,545	$70,047	$600,044
Project Cost				$600,044
Surplus (Shortfall)				$0

Third Street Light Rail Transit Project Phase 1 - Mission Bay Loop

State of Good Repair

Construct a Third Street short line terminal loop in Mission Bay, near Third Street and 18th Street. The loop will allow for short line operation to serve anticipated heavy demand in the Mission Bay area.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$2,054	$0	$2,054
Project Funds	$0	$2,054	$0	$2,054
Project Cost				$1,755
Surplus (Shortfall)				$298

Third Street Light Rail Transit Project Phase 1 - Ticket Vending Machines

State of Good Repair

Procure ticket vending machines to allow faster boarding at high volume stops by providing the option of paying before boarding on the Third Street IOS. The TVMs will also process TransLink cards. The procurement will be combined with procurement for the rest of the Muni Metro system, including TVMs for the 19th Avenue platforms on the M-line.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$3,060	$0	$3,060
Project Funds	$0	$3,060	$0	$3,060
Project Cost				$3,060
Surplus (Shortfall)				$0

Third Street Light Rail Transit Project Phase 2 - Central Subway

State of Good Repair

Construct Phase 2 of the Third Street Corridor Project: New Central Subway to Chinatown. Extend the Third Street Light Rail line into a new subway generally in a north-south alignment under Third Street to Market, then under Geary to Stockton, and under Stockton to Clay Street. Includes procurement of four LRVs.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$10,333	$9,920	$834,121	$854,374
State	$5,000	$9,000	$0	$14,000
Local	$11,861	$114,139	$418,113	$544,113
Project Funds	$27,194	$133,059	$1,252,235	$1,412,488
Project Cost				$1,412,488
Surplus (Shortfall)				$0

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Transit Preferential Streets - Bus Stop Improvements Phases 1-3

Enhancement/Expansion

Install bus stop improvements, such as bus bulbs and lengthened bus stops. Project will also design and construct passenger boarding islands, where feasible, throughout the Metro system at stops where passengers must now board and alight in the street. These projects are designed to reduce delays associated with entering and leaving vehicles at bus and Metro stops.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$1,045	$0	$0	$1,045
State	$0	$0	$0	$0
Local	$482	$0	$0	$482
Project Funds	$1,527	$0	$0	$1,527
Project Cost				$1,527
Surplus (Shortfall)				$0

Transit Preferential Streets - Priority Signal Systems - Mission & Geary

Enhancement/Expansion

Procure and install on-board and wayside priority signals on the 14-Mission and 38-Geary lines. Goals include increasing average operating speeds and reducing overall running time by reducing the amount of time spent waiting for traffic signals and the associated deceleration and acceleration. The project seeks to employ a single technology which can be used on all Muni modes. Future projects are included in the corridor related TPS programs.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$1,476	$0	$0	$1,476
State	$191	$0	$0	$191
Local	$965	$0	$52	$1,017
Project Funds	$2,632	$0	$52	$2,684
Project Cost				$2,684
Surplus (Shortfall)				$0

Transit Preferential Streets Program

Enhancement/Expansion

Design and implement a variety of low- to medium-cost treatments to speed transit vehicle flow. Elements include exclusive or semi-exclusive transit lanes, colored or textured surface treatments, signal timing or priority, bus bulbs, boarding islands, stop respacing and relocation, and replacing stop signs with signals. Corridors identified in the 2005-09 program are Market, 19th Avenue, Potrero, Outer Mission, Stockton, and Geneva; others may be added as necessary or as opportunities arise. The TPS Program also includes various spot improvements, POP demonstration, and the development of a TPS Master Plan.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$14,190	$14,190
Local	$0	$0	$766	$766
Project Funds	$0	$0	$14,956	$14,956
Project Cost				$118,651
Surplus (Shortfall)				($103,695)

TransLink Demonstration Project

Enhancement/Expansion

TransLink is a Bay Area regional fare payment system using smart card technology that will provide passengers with a single card that can be used on all Bay Area transit systems. It involves adding fare collection equipment in the Metro stations and stops and on all Muni vehicles. A demonstration project was conducted in 2002. The next steps include establishing the program's governing structure and defining participation by each transit agency.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$4,008	$0	$0	$4,008
State	$521	$0	$0	$521
Local	$212	$0	$0	$212
Project Funds	$4,741	$0	$0	$4,741
Project Cost				$4,741
Surplus (Shortfall)				$0

Infrastructure Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Wayside Fare Collection

State of Good Repair

The Metro Subway fare collection system will be composed of five elements: 1) bi-modal faregates, 2) ticket vending machines (TVMs), 3) agent's booth control panel and display, 4) new TVMs on M-line platforms, and 5) new TVMs on Third Street platforms. The system will accept TransLink smartcards now being implemented. A separate phase will procure a Fare Revenue Integration and Reporting system to consolidate fare collection data from the new faregates, TransLink revenues, vehicle cash boxes, and other miscellaneous fare revenue sources (e.g: token sales).

Fund Source	Allocated	›grammed	Planned	Total
Federal	$9,821	$0	$3,882	$13,703
Local	$48	$573	$2,805	$3,426
Project Funds	$9,869	$573	$6,687	$17,129
Project Cost				$17,129
Surplus (Shortfall)				$0

Wayside/Central Train Control Systems

State of Good Repair

This project includes the regular rehabilitation of subway data transmission systems, subway signal cutover, Van Ness power supply for the wayside/central train control systems, a secondary system for Yard Departure Test Device, signalizing and electrifying Green Yard switches, and replacing train control and switching at St. Francis Circle.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$8,612	$8,612
Local	$0	$1,423	$0	$1,423
Project Funds	$0	$1,423	$8,612	$10,035
Project Cost				$10,765
Surplus (Shortfall)				($730)

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

ATCS Test & Repair Shop at Green

Enhancement/Expansion

The Green Center Electronics Shop is overcrowded to a point that will be unacceptable in 2 to 3 years. The ATCS project increased technicians, test equipment and spare parts at the Electronics Shop. Options include moving this function to a trailer or the mezzanine storage area. Would allow for more efficient use of the remaining shop space and the ability to build test stations and leave them assembled, saving considerable labor.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$109
Surplus (Shortfall)				($109)

Burke Avenue Facility

State of Good Repair

Acquire a 103,000 square-foot warehouse at 1570 Burke Avenue for use as Muni's new Central Warehouse and Overhead Lines Facility. Warehouse functions will be moved from Pier 72 which Muni currently leases. The current Overhead Lines Facility at 1401 Bryant is required to be seismically strengthened by the City's unreinforced masonry building code. The Burke Avenue warehouse is twice the size of the Bryant Street Facility that was determined to be cost prohibitive to seismically retrofit.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$9,200	$0	$0	$9,200
Local	$1,525	$3,506	$0	$5,031
Project Funds	$10,725	$3,506	$0	$14,231
Project Cost				$14,231
Surplus (Shortfall)				$0

Cable Car Barn CCTV Improvement

Enhancement/Expansion

Purchase and install digital color cameras and security housing to replace older malfunctioning units and expand existing video coverage throughout the Cable Car Barn. Install 15 new cameras and replace the 4 existing cameras and VCR to increase overall security at this facility and protect Muni's assets, revenues and staff. Most of the existing CCTV cameras in this facility were installed over 15 years ago.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$102
Surplus (Shortfall)				($102)

Cable Car Barn Facility Improvements

Enhancement/Expansion

This project would construct needed office space on the first floor mezzanine level for maintenance management and support staff, as well as construct an emergency fire escape hatch from the welding shop.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$925
Surplus (Shortfall)				($925)

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Cable Car Museum Renovation

Enhancement/Expansion

Provide improvements to the Cable Car Museum, located at the Cable Car Barn at 1201 Mason Street. Improvements could encourage more visitors to the museum, increasing revenues Muni receives from the museum.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$11,249
Surplus (Shortfall)				($11,249)

Central Control - Facility Replacement

Enhancement/Expansion

Design and construction of a new central control facility. The current facility is undersized for its existing use, contributing to inefficiencies and limiting the function which can be accommodated. Expansion or relocation of the facility is needed to provide adequate space for existing function, and to accommodate expanded service for the Central Subway, BRT lines, and Historic Streetcars. Rigorous post-9/11 security requirements will have to be addressed. Current options include: 1) expansion of the existing site, 2) construction of a new facility at the existing site, or 3) relocation to the new Muni Headquarters.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$990	$0	$0	$990
Local	$250	$173	$0	$423
Project Funds	$1,240	$173	$0	$1,413
Project Cost				$18,513
Surplus (Shortfall)				($17,100)

Facilities - Miscellaneous Projects

State of Good Repair

This is a collection of small projects (under $500K) funded solely with Facility Preservation and Improvement Program (FPIP) Proposition B funds. Projects with more the $500K in FPIP funds or which use funding from other sources are included in the CIP as stand alone projects.

Fund Source	Allocated	›grammed	Planned	Total
Local	$2,321	$0	$0	$2,321
Project Funds	$2,321	$0	$0	$2,321
Project Cost				$2,338
Surplus (Shortfall)				($17)

Facility Lifecycle Plan

Enhancement/Expansion

Provide a method for Muni to manage its facility rehabilitation and replacement requirements. Will be used as a tool for planning for alternate fuel facilities. The goal is to update the information developed in the Facility Preservation and Improvement Program (FPIP) and provide Muni with better information on long-term facility rehabilitation needs.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$300	$0	$300
Project Funds	$0	$300	$0	$300
Project Cost				$0
Surplus (Shortfall)				$300

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Facility Preservation/Improvement Program

State of Good Repair

Includes a variety of improvements for Muni's existing operating, storage, maintenance and administration facilities. This program is intended to rectify problems of system deterioration and/or deferred rehabilitation. Includes protecting facilities from deterioration and correcting safety hazards. Future phases will address the regular rehabilitation of Muni facilities.

Fund Source	Allocated	›grammed	Planned	Total
Local	$486	$0	$0	$486
Project Funds	$486	$0	$0	$486
Project Cost				$18,477
Surplus (Shortfall)				($17,991)

Facility Safety Improvements

State of Good Repair

A series of facility safety improvement projects including: Eye Wash Station Improvements, Pigeon Abatement, Pit Drain Sump Systems, Pit Safety Net Improvements, Motive Power Emergency Lights, Potrero Storeroom Isolative Wall, Presidio Power Shutoff Switches, and Woods Vehicle Lift Replacement.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$1,000	$1,000
Local	$0	$1,049	$0	$1,049
Project Funds	$0	$1,049	$1,000	$2,049
Project Cost				$2,049
Surplus (Shortfall)				$0

Fixed Facility Rehabilitation

State of Good Repair

This program includes a number of projects to make specific modifications to facilities to accommodate new vehicles or functions. Facility rehabilitation and maintenance projects have been placed in the Facility Preservation/Improvement Program.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$21,121	$0	$0	$21,121
State	$425	$0	$0	$425
Local	$9,774	$0	$0	$9,774
Project Funds	$31,321	$0	$0	$31,321
Project Cost				$34,390
Surplus (Shortfall)				($3,070)

Flynn Facility Lift Modification

State of Good Repair

The Neoplan articulated motor coaches require certain modifications to the Flynn maintenance facility including the installation of five new lifts, moving the overhead fluid and air hose reels to accommodate rear-engine vehicles, modification to the local exhaust scavenging system in each maintenance bay, and safe access to the bus roof for servicing of the heating system.

Fund Source	Allocated	›grammed	Planned	Total
Local	$4,449	$0	($199)	$4,250
Project Funds	$4,449	$0	($199)	$4,250
Project Cost				$4,250
Surplus (Shortfall)				$0

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Flynn Facility Ventilation System & Roof

State of Good Repair

Replace the ventilation system at Flynn Maintenance Facility. The ventilation is under constant load to evacuate the exhaust fumes caused by the diesel vehicles. If the system fails the exhaust fumes could collect and cause health and safety problems for maintenance workers and operators at the facility. The roof portion of this project has been completed.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$2,782	$2,782
Local	$3,696	$5,357	($1,000)	$8,053
Project Funds	$3,696	$5,357	$1,782	$10,835
Project Cost				$8,778
Surplus (Shortfall)				$2,056

Geneva Historic Car Enclosure

State of Good Repair

Build a canopy over 4 to 8 tracks in the Geneva Yard to provide weather protection for the most vulnerable cars in Muni's historic rail fleet and minimize deterioration of the HLRV cars. For example, the Milan cars have canvas roofs which are easily damaged by exposure to rain and fog. Other historic vehicles are constructed of wood, which is also vulnerable to deterioration.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$2,500	$0	$0	$2,500
Local	$1,650	$0	$0	$1,650
Project Funds	$4,150	$0	$0	$4,150
Project Cost				$4,150
Surplus (Shortfall)				$0

Green - LRV Washer Replacement

State of Good Repair

Replace the Light Rail Vehicle (LRV) washer at the Green Maintenance Facility. The current car washer was designed for the Boeing LRVs and the configuration of the brushes, wands and control arms do not fit the new Breda cars. As a result the Breda cars are not cleaned efficiently. The entire unit is over 25 years old and is no longer repairable nor can it be efficiently modified.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$1,825
Surplus (Shortfall)				($1,825)

Green Electronics Shop Spray Cabinet and Oven

State of Good Repair

Purchase and install a spray cabinet and drying oven in the Green Electronics Shop to wash and rinse electronics assemblies. The Electronics Shop receives a variety of electronic assemblies from all revenue vehicles. Many assemblies are large and cumbersome and they contain many delicate and intricate electronic assemblies that fail due to contamination. Cleaning is an important function of the test and repair operation.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$304	$0	$304
Project Funds	$0	$304	$0	$304
Project Cost				$304
Surplus (Shortfall)				$0

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Green Facility Door Replacement

Enhancement/Expansion

Replace existing roll-up doors with doors that can accommodate the Breda fleet. Existing doors have been modified to provide a temporary fix. This project seeks to develop a more permanent solution.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$7,050
Surplus (Shortfall)				($7,050)

Green Roof/HVAC Rehabilitation

State of Good Repair

Rehabilitation or replacement of the roof and HVAC system at the Green Maintenance and Annex buildings. The roofs on these buildings are about 20 and 25 years old, respectively, and past the ends of their useful lives. The HVAC systems have never functioned correctly, and in recent years have further deteriorated as failures of the roof mounted equipment have occurred. This equipment is as old as the roofs, and needs either replacement or complete rehabilitation.

Fund Source	Allocated	›grammed	Planned	Total
Local	$253	$970	$0	$1,222
Project Funds	$253	$970	$0	$1,222
Project Cost				$1,685
Surplus (Shortfall)				($463)

Islais Creek Motor Coach Maintenance Facility

State of Good Repair

Develop a new maintenance division to replace the Kirkland motor coach maintenance facility when it is vacated for redevelopment. The new facility will accommodate 165 standard motor coaches. The facility could also be modified to accommodate up to 200 standard coaches, if the need arises.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$23,653	$5,016	$8,000	$36,669
Local	$24,397	$17,722	$0	$42,119
Project Funds	$48,050	$22,738	$8,000	$78,788
Project Cost				$73,751
Surplus (Shortfall)				$5,037

One South Van Ness

Enhancement/Expansion

In June of 2005, MTA offices began moving from rental space in various locations throughout the City into a large office building at One South Van Ness Avenue. Moves are continuing in 2006, with the goal of consolidating all MTA administrative offices by the end of 2007 in one location. This project funds the tenant improvements necessary to adapt the space at One South Van Ness for MTA's specific needs.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$783	$0	$0	$783
Local	$145	$0	$0	$145
Project Funds	$928	$0	$0	$928
Project Cost				$837
Surplus (Shortfall)				$91

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Parts Storage Improvements

Enhancement/Expansion

Includes two projects to improve parts storage space at Muni facilities. Green LRV Maintenance - Increase storage capacity by installing additional pallet racks and shelving and extending the existing mezzanine with metal grating and shelving. Pier 72 Improvements - Construct a modular office, add pallet racks, and install telecommunication and computer lines.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$450
Surplus (Shortfall)				($450)

Potrero Trolley Coach Division Rehabilitation

State of Good Repair

The current phase of this project provides improvements to the paint & body facility, including relocating the tire shop. Prior phases included the rehabilitation of the deteriorated roof and parking deck structure to eliminate leaking conditions over interior work areas.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$3,008	$0	$0	$3,008
Local	$1,830	$0	$0	$1,830
Project Funds	$4,839	$0	$0	$4,839
Project Cost				$9,233
Surplus (Shortfall)				($4,394)

Potrero/Presidio - Trolley Coach Lifts

State of Good Repair

Install lifts at the Potrero and Presidio Maintenance Facilities. The lifts will allow the ETI Trolley Coaches to be raised so that maintenance activities from under the vehicle, side compartment access and wheel free operations can be conducted in an efficient and ergonomically superior way. $200,000 has been booked for CER, with the construction estimated at $15M. An initial phase could be completed for $2.5M if funding becomes an issue.

Fund Source	Allocated	›grammed	Planned	Total
Local	$200	$0	$0	$200
Project Funds	$200	$0	$0	$200
Project Cost				$200
Surplus (Shortfall)				$0

Presidio CCTV Improvement

Enhancement/Expansion

Purchase and install digital color cameras and security housing to replace 6 older malfunctioning units and expand existing video coverage with 19 new cameras throughout the Presidio facility. Also included in this project will be the equipment to store, digitally record and for live viewing of activity in the Security Office. This project will increase overall security at this facility to protect Muni's assets, revenue, staff and patrons. Project is being deferred pending redevelopment decision.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$110
Surplus (Shortfall)				($110)

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Presidio Fire Detection System

State of Good Repair

Design and install a fire alarm and detection system at the Presidio Division. The fire alarm system at Presidio consists of two pull boxes which ring directly to the Fire Department. The fire detection systems consist of smoke detectors in tracks 16 and 17 and a halon system in room 203. The entire facility lacks an adequate and modern fire alarm and detection system. Project is being deferred pending redevelopment decision.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$2,854
Surplus (Shortfall)				($2,854)

Presidio Maintenance Area Facility Modification

Enhancement/Expansion

Improve the Presidio Maintenance Facility so that coach movement is not blocked and proper maintenance can be performed. The ceiling clearance is just high enough to allow the new ETI Trolley Coaches to pass. However, coaches may have problems passing the "I" Beam Section in the ceiling. Pit areas must be trenched out. The facility needs step down trenches so that maintainers have access to side compartments without lying on the concrete.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$1,170
Surplus (Shortfall)				($1,170)

Presidio Shop Door Electric Motors

Enhancement/Expansion

The existing shop roll-up doors were installed in 1990. Electric motors were not provided. Adding electric motors will provide for ease in opening and closing the roll-up doors.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$127
Surplus (Shortfall)				($127)

Presidio Trolley Coach Division Rehabilitation

State of Good Repair

Short term rehabilitation needs include yard repaving and re-roofing. Long term, this facility may undergo reconstruction to increase capacity and to address structural and design problems. Joint development strategies may be used as part of the future funding package if a reconstruction project is pursued.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$64	$0	$0	$64
Local	$296	$0	$0	$296
Project Funds	$360	$0	$0	$360
Project Cost				$1,500
Surplus (Shortfall)				($1,139)

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Revenue Center Replacement

State of Good Repair

Construct a replacement facility for the Revenue Center, including new equipment. Proposals include: 1) building a new revenue center on property acquired near one of Muni's existing operating divisions, or 2) including a new revenue center in the expansion of the Metro East facility.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$338	$0	$0	$338
Local	$84	$0	$0	$84
Project Funds	$423	$0	$0	$423
Project Cost				$7,172
Surplus (Shortfall)				($6,749)

Scott Center Parking Lot Land Purchase and Improvements

Enhancement/Expansion

Purchase a small parking lot next to the Scott Non-Revenue Center at Harrison and Alameda Streets. Will provide a secure overnight parking area for large service trucks where there currently is none. Muni personnel could drop off vehicles for service or repairs during off hours. A fenced lot will give the towing vendor a place to park towed vehicles after hours. The lot will provide a place to both store and maintain vehicles with CNG fuel systems.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$1,073	$1,073
Project Funds	$0	$0	$1,073	$1,073
Project Cost				$1,212
Surplus (Shortfall)				($139)

Subway Fire Alarm & Detection Systems Replacement

State of Good Repair

Replace the existing fire alarm and detection systems in the Muni-only subway stations (West Portal, Forest Hill, Castro, Church and Van Ness). The existing fire alarm and detection systems were designed and installed in 1972. Given the age of the systems it is often difficult to procure replacement components.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$3,158	$3,158
Local	$0	$0	$790	$790
Project Funds	$0	$0	$3,948	$3,948
Project Cost				$1,825
Surplus (Shortfall)				$2,123

Subway Relay Room Electronic Security/Access

Enhancement/Expansion

Procure and install electronic door security/access system for subway relay rooms. Current security/access of critical equipment rooms in subway is inadequate. Electronically controlled and monitored access will provide security and control of access to critical, safety-sensitive equipment.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$324
Surplus (Shortfall)				($324)

Facilities Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Subway Station Improvements

Enhancement/Expansion

Rehabilitation and improvement projects in Metro Subway stations. Current proposals include station cleaning and painting, and platform edge detection tile replacement.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$5,164	$5,164
Local	$0	$0	$671	$671
Project Funds	$0	$0	$5,836	$5,836
Project Cost				$5,836
Surplus (Shortfall)				$0

Training Center - Muni Wide

Enhancement/Expansion

Develop a combined operations and maintenance training facility. Although all operators are first trained on motor coaches, the current training facility is several miles from any of Muni's motor coach divisions. Proposals include: 1) building a new training center on property acquired near one of Muni's existing motor coach divisions, or 2) including a new training center in the expansion of the Metro East facility.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$7,000	$7,000
Local	$0	$0	$0	$0
Project Funds	$0	$0	$7,000	$7,000
Project Cost				$39,478
Surplus (Shortfall)				($32,478)

Woods Motor Coach Division Renovation - Fuel, Wash & Lifts

State of Good Repair

Replace underground fuel tanks and repave the bus parking yard. Includes replacement of piping and electrical systems, and rehabilitation of the fueling islands and bus wash. Additional phases include vehicle lift replacement and procurement and installation of a Transmission Dynamometer to diagnose motor coach transmission power and performance capability.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$17,321	$0	$2,000	$19,321
Local	$5,944	$1,592	$0	$7,537
Project Funds	$23,265	$1,592	$2,000	$26,858
Project Cost				$26,658
Surplus (Shortfall)				$200

Equipment Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Data Processing & Office Equipment Program

Enhancement/Expansion

Replacement and purchase of data processing and office equipment necessary to support the management, administrative, planning, and engineering functions of Muni. A specific list of projects is included in the Miscellaneous Equipment Plan (2000).

Fund Source	Allocated	›grammed	Planned	Total
Federal	$2,914	$0	$0	$2,914
Local	$888	$0	$0	$888
Project Funds	$3,802	$0	$0	$3,802
Project Cost				$4,798
Surplus (Shortfall)				($995)

Data Processing & Office Equipment Program - Future Phases

Enhancement/Expansion

Replacement and purchase of data processing and office equipment necessary to support the management, administrative, planning, and engineering functions of Muni. A specific list of projects is included in the Miscellaneous Equipment Plan (2000).

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$61,749
Surplus (Shortfall)				($61,749)

Driver Training Simulators 2-360 Degree Computer Based Graphic Training Stations

Enhancement/Expansion

The simulators resolve two problems: 1) Eliminate the use of needed revenue buses for training purposes and 2) Recreate many difficult operating situations that cannot be reproduced during road training. Simulators provide control over weather, equipment malfunctions, traffic behavior and other real-world hazards. Trainees practice judgment and reaction time safely. Conditions can be programmed to reproduce an avoidable accident for more effective retraining.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$934
Surplus (Shortfall)				($934)

Electronic Document Management

Enhancement/Expansion

Enable better storage, retrieval, and search capabilities for Muni's shared electronic documents. Provides for version and security controls. Utilizes document capture through scanning, indexing and storing document images to a back-end document management system from which they can be retrieved. Cost includes software, hardware, training, project management, plus some document scanning.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$379
Surplus (Shortfall)				($379)

Equipment Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Enterprise Application Interface

Enhancement/Expansion

To better utilize data captured by several new enterprise applications, a central applications interface is needed to coordinate information exchange among the individual applications. These applications include: Scheduling and Dispatch (Trapeze), Vehicle and Materials Management (SHOPS), Automated Vehicle Location (AVL by NextBus), TransitSafe, and Incident Log. The project would purchase hardware, software and contracting services.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$887
Surplus (Shortfall)				($887)

Geographical Information System Enhancement

Enhancement/Expansion

Provide a centralized and comprehensive Geographic Information System that could give employees and customers easy access to accurate maps of Muni's facilities and service areas and city demographics. Costs include additional data storage space, handheld devices, ruggedized laptops for field data collection, GIS software, software training, and consultant fees for scanning, georeferencing and geodatabase build.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$379
Surplus (Shortfall)				($379)

MIS: Human Resources Management System

Enhancement/Expansion

Facilitate greater autonomy to add, modify and analyze Muni's Human Resource (HR) data residing in the PeopleSoft database. It will also permit faster managerial reporting and decision-making that pertains to HR issues. This system replaces the PUC's obsolete BMIS system and integrates workers' compensation, benefits administration, employee information and adds a position control function.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$2,368	$2,368
Project Funds	$0	$0	$2,368	$2,368
Project Cost				$2,960
Surplus (Shortfall)				($592)

MIS: Project Management Information System (PMIS) Replacement

Enhancement/Expansion

Acquire a client-server or web-based project management software system to replace the current Access-based PMIS system. The new system provides better mathematical analysis tools, dynamic reporting functions, and graphing capabilities. The new PMIS system will also be integrated with the new Human Resource Management System and TESS payroll system to allow dynamic analysis and reporting.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$500	$500
Project Funds	$0	$0	$500	$500
Project Cost				$790
Surplus (Shortfall)				($290)

Equipment Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

MIS: Revenue Reconciliation Database System

Enhancement/Expansion

Replace the Revenue Reconciliation system with networked hardware and software compatible with Muni's enterprise environment. The existing system was developed in-house, and is vulnerable to breakdowns and security breaches. A new system will include security controls necessary to comply with standard accounting practices, an electronic interface to FAMIS, and a streamlined web portal interface for up-to-date reporting.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$1,747	$1,747
Project Funds	$0	$0	$1,747	$1,747
Project Cost				$1,974
Surplus (Shortfall)				($227)

MIS: Scheduling/Auto-Dispatch Systems Replacement

Enhancement/Expansion

Acquire an integrated, client-server based scheduling and dispatch system that will replace the current scheduling system. The acquired system will have the ability to do schedule making, run cutting, rostering, sign-up, dispatch, and timekeeping functions. The current RUCUS scheduling software was developed and installed in the late 1970's and is no longer supported by a vendor. The system will also have traffic/ride check data collection capabilities.

Fund Source	Allocated	›grammed	Planned	Total
Local	$4,200	$0	$0	$4,200
Project Funds	$4,200	$0	$0	$4,200
Project Cost				$4,200
Surplus (Shortfall)				$0

Miscellaneous Equipment Program

State of Good Repair

Ongoing acquisition and replacement of the equipment needed to support all aspects of Muni's operations, maintenance and administrative functions. A significant backlog of equipment needs exists due to the unavailability of capital resources for equipment replacement. A specific list of projects was included in the Miscellaneous Equipment Plan (2000). Also includes proposals from the recent Call for Capital Projects (FY2000 and FY2002).

Fund Source	Allocated	›grammed	Planned	Total
Federal	$0	$0	$16,000	$16,000
Project Funds	$0	$0	$16,000	$16,000
Project Cost				$41,777
Surplus (Shortfall)				($25,777)

Miscellaneous Equipment Program - Phase 2

State of Good Repair

Ongoing acquisition and replacement of the equipment needed to support all aspects of Muni's operations, maintenance and administrative functions. A specific list of projects is included in the Miscellaneous Equipment Plan (2000). Also includes projects from the FY2000 and FY2002 Call for Capital Projects.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$1,017	$0	$0	$1,017
Local	$316	$0	$0	$316
Project Funds	$1,334	$0	$0	$1,334
Project Cost				$1,334
Surplus (Shortfall)				$0

Equipment Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Motive Power SCADA System

State of Good Repair

Replace the seven year old Transit Power Substation monitoring and control equipment located at the Power Control Center. Includes three HP workstations and a front end processor that interfaces with 29 remote terminal units. Will also provide a computer and communications link at Central Control to allow the display of the motive power system at this location.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$108
Surplus (Shortfall)				($108)

PBX Telephone System & Equipment Upgrades

State of Good Repair

Purchase and install Private Business Exchange (PBX) telephone systems and fiber-optic communications links at Muni facilities to replace old Centrex equipment maintained by SBC, some of which is obsolete and no longer supported by the manufacturer. Repairs and changes on the Centrex systems could be done remotely by Muni/DTIS staff at a much lower cost by eliminating expensive service visits and reducing response time to problem reports.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$551
Surplus (Shortfall)				($551)

Proof of Payment Wireless Inspection System

Enhancement/Expansion

Purchase and install a wireless solution for the Transit Security Department to enforce the Proof of Payment (POP) program while in the field. Purchase 25 hand-held units and IT infrastructure. Ongoing operating expenses include lease of wireless services (GPRS or other radio-based services).

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$379
Surplus (Shortfall)				($379)

Signal Vital Relay Test System

State of Good Repair

Procure a computer-based tester for subway and surface signaling system relays. Current critical relay test method uses outdated and inadequate manual method and equipment. Vital relays are safety-critical devices, and are required to be tested at specific intervals. This test system provides for consistent, accurate and documented test and certification of safety-critical relays.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$13
Surplus (Shortfall)				($13)

Equipment Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Training Fleet Hand Held Radios

Enhancement/Expansion

Procure hand-held radios, spare batteries and chargers for 10 Diesel Training Coaches, and 2 spare sets. These hand held radios will be used for communications with Central Control.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$19
Surplus (Shortfall)				($19)

Transit Signage Program

Enhancement/Expansion

Provides basic informational signage for passengers at an additional 1000 stops, plus some inventory. The project will standardize signage throughout the Muni system. First phase would procure additional "Landor" style bus stop signs.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$351
Surplus (Shortfall)				($351)

Travel Modeling and Micro-Simulation Tools

Enhancement/Expansion

Purchase and develop the tools and start acquiring the skills necessary for Muni to perform a limited number of travel demand modeling and traffic micro-simulation tasks in-house. This capability would help Muni respond to public concerns in a more efficient and rapid manner. By acquiring the appropriate software and developing the necessary skills, Muni will have the means to take the initial steps to perform many of these tasks in-house.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$87
Surplus (Shortfall)				($87)

Voice Data Recorder/Playback Replacement System for Central Control

State of Good Repair

Install and provide ongoing support services for a new Digital Voice Data Recorder/Playback system for Muni's Central Control Radio Dispatch Center to record and archive all phone calls to the Central dispatcher. Archived data is required for incident investigations. The new system would provide a more reliable and efficient way to store and research recorded tapes using new state-of-the-art technology.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$574
Surplus (Shortfall)				($574)

Equipment Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Voice Data Recorder/Playback Replacement System for Motive Power Control Center

State of Good Repair

Purchase and install a digital communication recorder/monitor for the Power Control Center. The new unit will record and monitor all voice communication into or out of the Operational Desks of Power Control Center. This unit is needed to secure information regarding any operational procedures or incidents/events. CPUC and other regulatory agencies require that such records be maintained and available for review.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$47
Surplus (Shortfall)				($47)

Worker's Comp Wireless Field Inspection System

Enhancement/Expansion

Purchase and install a wireless solution for the field inspector to enforce timely data entry. This includes 30 hand-held pocket PCs, or equivalent, plus software and professional implementation services, and training. Would require a wireless data link provided by a third party telecom vendor. Improves efficiencies in keeping authoritative data, control of data and tracking with MTA, rather than an outside party.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$0	$0	$0
Project Funds	$0	$0	$0	$0
Project Cost				$324
Surplus (Shortfall)				($324)

Other Projects Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Balboa Park Station Area

Enhancement/Expansion

Conduct a conceptual engineering study of station area development projects identified in the Balboa Park Station Area Plan, prepared by the SF Planning Department. Products will include a feasibility analysis, cost estimates and phasing plan for the entire body of station area improvements. Two supporting studies will be needed: 1) Muni service planning study of bus and rail routes serving the station, and 2) operational and functional analysis of Muni maintenance and storage activities related to a decision on the future use of the Green Upper Yard site.

Fund Source	Allocated	›grammed	Planned	Total
Local	$0	$1,140	$0	$1,140
Project Funds	$0	$1,140	$0	$1,140
Project Cost				$0
Surplus (Shortfall)				$1,140

Bayview Connections Station Area

Enhancement/Expansion

Improve vital pedestrian connections between transit and neighborhood retail, educational and cultural facilities in the center of Bayview Hunters Point. A 1998 Transportation for Livable Communities (TLC) planning grant was used to conduct a study and produce a conceptual design. A subsequent TLC grant of $1.8 million is being used to complete the design and begin the construction of the first phase.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$3,546	$0	$0	$3,546
Local	$262	$0	$426	$688
Project Funds	$3,808	$0	$426	$4,234
Project Cost				$2,510
Surplus (Shortfall)				$1,724

Graffiti Prevention and Security Program

State of Good Repair

This program is currently in the planning phase to determine the specific scope, schedule and budget for its implementation. The program includes security cameras and security fencing at various facilities and wayside locations. Includes projects from the 2000 Call for Capital Projects. Program cost is based on the 2001 draft Security Plan.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$2,561	$0	$0	$2,561
Local	$428	$0	$0	$428
Project Funds	$2,988	$0	$0	$2,988
Project Cost				$4,427
Surplus (Shortfall)				($1,439)

Preventive Maintenance

State of Good Repair

FTA Section 5307 funds used for preventive maintenance (PM) activities. In FY2003, $10M will be used and in exchange Muni agreed to fund a like amount from local sources that are restricted to capital use only. Due to the state of the economy, PM in the amounts of $10M in FY2004, $10M in FY2005, and $8.2M in FY2006, may also be used. These actions will help mitigate projected shortfalls in the operating budget.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$39,016	$0	$16,991	$56,007
Local	$0	$0	$0	$0
Project Funds	$39,016	$0	$16,991	$56,007
Project Cost				$43,641
Surplus (Shortfall)				$12,366

Other Projects Program

All Amounts in Escalated $000s
Project total includes funds/cost prior to FY2006

Short Range Transit Plan

State of Good Repair

Preparation of biennial updates to the Short Range Transit Plan, including the Capital Improvement Program. The SRTP is Muni's primary planning document, bringing together a number of plans and studies prepared to guide Muni's future direction. The CIP identifies and provides details of Muni's future capital investments.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$191	$0	$783	$974
Local	$37	$0	$101	$138
Project Funds	$228	$0	$884	$1,112
Project Cost				$1,159
Surplus (Shortfall)				($47)

Transbay Terminal Replacement

Enhancement/Expansion

In March 2003 the Transbay Joint Powers Authority chose the West Ramp Alternative for the terminal, the Second to Main Alternative for the Caltrain Extension, and the Full Build Alternative for the Redevelopment Plan as the LPA for the FEIR. Muni operates several lines to and from the terminal and has an interest in the outcome of the study. Current City policy directs that a replacement facility be built on the current site.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$8,795	$0	$0	$8,795
Local	$22,390	$0	$0	$22,390
Project Funds	$31,185	$0	$0	$31,185
Project Cost				$26,606
Surplus (Shortfall)				$4,579

Treasure Island Ferry Terminal

Enhancement/Expansion

Provides funds to the Treasure Island Development Authority for projects to provide ferry service to Treasure Island.

Fund Source	Allocated	›grammed	Planned	Total
Federal	$879	$0	$1,245	$2,124
Project Funds	$879	$0	$1,245	$2,124
Project Cost				$2,124
Surplus (Shortfall)				$0

APPENDICES

- Text of Proposition E
- Acronyms
- System Map
- Acknowledgments

Appendix A: Text of Proposition E

ARTICLE VIIIA of the City Charter
THE MUNICIPAL TRANSPORTATION AGENCY

SEC. 8A.100. PREAMBLE.

(a) The Municipal Railway and the Department of Parking and Traffic are vital to the economic and social fabric of San Francisco. San Francisco's transit system should be comparable to the best urban transit systems in the world's major cities. Specifically, San Francisco residents require:

1. Reliable, safe, timely, frequent, and convenient service to all neighborhoods;

2. A reduction in breakdowns, delays, over-crowding, preventable accidents;

3. Clean and comfortable vehicles and stations, operated by competent, courteous, and well trained employees;

4. Support and accommodation of the special transportation needs of the elderly and the disabled;

5. Protection from crime and inappropriate passenger behavior on the Municipal Railway; and

6. Responsive, efficient, and accountable management.

Through this measure, the voters seek to provide the transportation system with the resources, independence and focus necessary to achieve these goals.

The voters find that one of the impediments to achieving these goals in the past has been that responsibility for transportation has been diffused throughout City government. Accordingly, this Article places within the Municipal Transportation Agency the powers and duties relating to transit now vested in other departments, boards, and commissions of the City and County. This Article further requires that, to the extent other City and County agencies provide services to the Municipal Transportation Agency, those departments must give the highest priority to the delivery of such services.

At the same time, this Article is intended to ensure sufficient oversight of the Municipal Transportation Agency by, among other things, preserving the role of the City's Controller as to financial matters, the City Attorney as to legal matters, and the Civil Service Commission, as to merit system issues. In addition, this Article requires that outside audits be performed to ensure that required service levels are obtained with a minimum of waste.

This Article also requires that the Municipal Transportation Agency develop clear, measured performance goals, and publicize both its goals and its performance under those goals. As the workers of the Municipal Transportation Agency are vital to the improvements the voters seek, this Article authorizes incentives for excellence, and requires accountability—for both managers and employees—when performance falls short.

Finally, this Article is intended to strengthen the Municipal Transportation Agency's authority to: 1) manage its employees; 2) establish efficient and economical work rules and work practices that maximize the Agency's responsiveness to public, needs; and 3) protect the Railway's right to select, train, promote, demote, discipline, layoff and terminate employees, managers, and supervisors based upon the highest standards of customer service, efficiency and competency.

(b) The Department of Parking and Traffic performs functions vital to the operation of the Municipal Railway. Congestion on city streets causes delays in transit operations. Therefore, the Municipal Transportation Agency must ensure that transit vehicles move through City streets safely and efficiently.

In addition, the residents of San Francisco require that the Department of Parking and Traffic: 1) value and protect pedestrians and bicyclists; 2) reduce congestion and air pollution through efficient use of the streets; and 3) protect the City's economic health by giving priority to commercial deliveries and access to local businesses.

(c) This Article shall be interpreted and applied in conformance with the above goals. (Added November 1999)

SEC. 8A.101. MUNICIPAL TRANSPORTATION AGENCY.

(a) There shall be a Municipal Transportation Agency. The Agency shall include a Board of Directors and a Director of Transportation. The Agency shall include the Municipal Railway and the Department of Parking and Traffic, as well as any other departments, bureaus or operating divisions hereafter created or placed under the Agency. There shall also be a Citizens Advisory Committee to assist the Agency.

(b) Effective March 1, 2000, the Agency shall succeed to and assume all powers and responsibilities of the Public Transportation Commission.

(c) Effective July 1, 2000, the Municipal Railway shall become a department of the Agency and the full provisions of this Article shall be applicable.

(d) The Department of Parking and Traffic, upon its incorporation into the Agency pursuant to Section 8A.112, shall become a separate department of the Agency.

(e) The Board of Supervisors shall have the power, by ordinance, to abolish the Taxi Commission created in Section 4.133, and to transfer the powers and duties of that commission to the Agency's Board of Directors.

(f) Any transfer of functions occurring as a result of the above provisions shall not adversely affect the status, position, compensation, or pension or retirement rights and privileges of any civil service employees who engaged in the performance of a function or duty transferred to another office, agency, or department pursuant to this measure.

(g) Except as expressly provided in this Article, the Agency shall comply with all of the restrictions and requirements imposed by the ordinances of the City and County, including ordinances prohibiting discrimination of any kind in employment and contracting, such as Administrative Code Chapters 12B et seq., as amended from time to time. The Agency shall be solely responsible for the administration and enforcement of such requirements.

(h) The Agency may contract with existing City and County departments to carry out any of its powers and duties. Any such contract shall establish performance standards for the department providing the services to the Agency, including measurable standards for the quality, timeliness, and cost of the services provided. All City and County departments must give the highest priority to the delivery of such services to the Agency.

(i) The Agency may not exercise any powers and duties of the Controller or the City Attorney and shall contract with the Controller and the City Attorney for the exercise of such powers and duties. (Added November 1999)

SEC. 8A.102. GOVERNANCE AND DUTIES.

(a) The Agency shall be governed by a board of seven directors appointed by the Mayor and confirmed after public hearing by the Board of Supervisors. All initial appointments must be made by the Mayor and submitted to the Board of Supervisors for confirmation no later than February 1, 2000. The Board of Supervisors shall act on those initial appointments no later than March, 1, 2000 or those appointments shall be deemed confirmed.

At least four of the directors must be regular riders of the Municipal Railway, and must continue to be regular riders during their terms. The directors must possess significant knowledge of, or professional experience in, one or more of the fields of government, finance, or labor relations. At least two of the directors must possess significant knowledge of, or professional experience in, the field of public transportation. During their terms, all directors shall be required to ride the Municipal Railway on the average once a week.

Directors shall serve four-year terms, provided, however, that two of the initial appointees shall serve for terms ending March 1, 2004, two for terms ending March 1, 2003, two for terms ending March 1, 2002, and one for a term ending March 1, 2001. Initial terms shall be designated by the Mayor. No person may serve more than three terms as a director. A director may be removed only for cause pursuant to Article XV. The directors shall annually elect a chair. The chair shall serve as chair at the pleasure of the directors. Directors shall receive reasonable compensation for attending meetings of the Agency which shall not exceed the average of the two highest compensations paid to the members of any board or commission with authority over a transit system in the nine Bay Area counties.

(b) The Agency shall:

1. Have exclusive charge of the construction, management, supervision, maintenance, extension, operation, use, and control of all property, as well as the real, personal, and financial assets of the Municipal Railway; and have exclusive authority over contracting, leasing, and purchasing by the Municipal Railway, provided that any Agency contract for outside services shall be subject to Charter Sections 10.104(12) and 10.104(15). Ownership of any of the real property of the City and County shall not be transferred to any private entity pursuant to any such contract;

2. Have the sole power and authority to enter into such arrangements and agreements for the joint, coordinated, or common use with any other public entity owning or having jurisdiction over rights-of-way, tracks, structures, subways, tunnels, stations, terminals, depots, maintenance facilities, and transit electrical power facilities;

3. Have the sole power and authority to make such arrangements as it deems proper to provide for the exchange of transfer privileges, and through-ticketing arrangements, and such arrangements shall not constitute a fare change subject to the requirements of Sections 8A.106 and 8A.108;

4. Have the authority to arrange with other transit agencies for bulk fare purchases, provided that if passenger fares increase as a result of such purchases, the increase shall be subject to review by the Board of Supervisors pursuant to Sections 8A.106 and 8A.108;

5. Notwithstanding Section 2.109, and except, as provided in Sections 8A.106 and 8A.108, have exclusive authority to fix the fares charged by the Municipal Railway and all other rates, fees, and charges for services provided by the Agency;

6. Have the authority to conduct investigations into any matter within its jurisdiction through the power of inquiry, including the power to hold public hearings and take testimony, and to take such action as may be necessary to act upon its findings; and

7. Exercise such other powers and duties as shall be prescribed by ordinance of the Board of Supervisors.

(c) The Agency's board of directors shall:

1. Appoint a director of transportation, who shall serve at the pleasure of the board. The director shall be employed pursuant to an individual contract. His or her compensation shall be comparable to the compensation of the chief executive officers of the public transportation systems in the United States which the directors, after an independent survey, determine most closely resemble the Agency in size, mission, and complexity. In addition, the Agency shall provide an incentive compensation bonus plan for the director of transportation based upon the Agency's achievement of the milestones adopted pursuant to Section 8A.103.

2. Appoint an executive secretary who shall be responsible for administering the affairs of the directors and who shall serve at the pleasure of the board.

(d) The director of transportation shall appoint all subordinate personnel of the Agency, including a deputy director for the Municipal Railway, and, upon its incorporation into the Agency, a deputy director for Parking and Traffic. The deputy directors shall serve at the pleasure of the director of transportation. The director of transportation may serve as the deputy director for the Municipal Railway, but shall not be entitled to any greater compensation or benefits on that basis.

(e) Upon recommendation of the city attorney and the approval of the board of directors, the city attorney may compromise, settle, or dismiss any litigation, legal proceedings, claims, demands or grievances which may be pending for or on behalf of, or against the Agency relative to any matter or property solely under the Agency's jurisdiction. Unlitigated claims or demands against the Agency shall be handled as set forth in Charter Section 6.102. Any payment pursuant to the

compromise, settlement, or dismissal of such litigation, legal proceedings, claims, demands, or grievances, unless otherwise specified by the Board of Supervisors, shall be made from the Municipal Transportation Fund.

(f) The Agency's board of directors, and its individual members, shall deal with administrative matters solely through the director of transportation or his or her designees. Any dictation, suggestion, or interference by a director in the administrative affairs of the Agency, other than through the director of transportation or his or her designees, shall constitute official misconduct; provided, however, that nothing herein contained shall restrict the directors' powers of hearing and inquiry as provided in this Section.

(g) Except to the extent otherwise provided in this Article, the Agency shall be subject to the provisions of this Charter applicable to boards, commissions, and departments of the City and County, including Sections 2.114, 3.105, 4.101, 4.103, 4.104, 4.113, 9.118, 16.100, and A8.346. Sections 4.102, 4.126, and 4.132 shall not be applicable to the Agency. (Added November 1999)

SEC. 8A.103. SERVICE STANDARDS AND ACCOUNTABILITY.

(a) The Municipal Railway shall be restored as soon as practicable to a level of service measured in service hours which is not less than that provided under the schedule of service published in the April 1996 timetable, although not necessarily in that configuration.

(b) No later than July 1, 2000, and by July 1 of each year thereafter, the Agency shall adopt milestones for the achievement of the goals specified in subsections (c) and (d). Milestones shall be adopted for each mode of transportation of the Municipal Railway, and for the Municipal Railway as a whole, with the goal of full achievement of the standards set in subsection (c) no later than July 1, 2004.

(c) The standards for the Agency with respect to the services provided by the Municipal Railway shall include the following minimum standards for on-time performance and service delivery:

1. On-time performance: at least 85 percent of vehicles must run on-time, where a vehicle is considered on-time if it is no more than one minute early or four minutes late as measured against a published schedule that includes time points; and
2. Service delivery: 98.5 percent of scheduled service hours must be delivered, and at least 98.5 percent of scheduled vehicles must begin service at the scheduled time.

(d) The standards for both managers and employees of the Agency with respect to the services, provided by the Municipal Railway shall also include other measurable standards for system reliability, system performance, staffing performance, and customer service, including:

1. Passenger, public, and employee safety and security;
2. Coverage of neighborhoods and equitable distribution of service;
3. Level of crowding;
4. Frequency and mitigation of accidents and breakdowns;
5. Improvements in travel time, taking into account adequate recovery and lay-over times for operators;
6. Vehicle cleanliness, including absence of graffiti;
7. Quality and responsiveness of customer service;
8. Employee satisfaction;
9. Effectiveness of the preventive maintenance program; and
10. Frequency and accuracy of communications to the public.

(e) The performance measures adopted in Section 4 of this measure shall be published as rules of the Agency and utilized to determine the achievement of the performance standards and milestones adopted by the Agency for the Municipal Railway. The performance measures shall be subject to amendment after public hearing by a vote of the Agency board. The Agency shall regularly publish reports on its attainment of those standards and milestones. Nothing herein shall prohibit the Agency from using additional performance measures. (Added November 1999)

SEC. 8A.104. PERSONNEL AND MERIT SYSTEM.

(a) The Agency shall establish its own personnel/labor relations office. The director of transportation shall appoint a personnel/labor relations manager, who shall serve at the pleasure of the director of transportation.

(b) Except as otherwise provided in this Section, the Agency shall be governed by the rules of the civil service system administered by the City and appeals provided in civil service rules shall be heard by the City's Civil Service Commission. Unless otherwise agreed by the Agency and affected employee organizations, appeals to the Civil Service Commission shall include only those matters within the jurisdiction of the Civil Service Commission which establish, implement, and regulate the civil service merit system as listed in Section A8.409-3.

(c) Effective July 1, 2000, except for the administration of health services, the Agency shall assume all powers and duties vested in the Department of Human Resources and the Director of Human Resources under Articles X and XI of this Charter in connection with job classifications within the Municipal Railway performing "service-critical" functions. Except for the matters set forth in subsection (f), the Department of Human Resources and the Director of Human Resources shall maintain all powers and duties under Articles X and XI as to all other Agency employees.

(d) On or before April 15, 2000, the Agency shall designate "service-critical" classifications and functions for all existing classifications used by the Municipal Railway; provided, however, that employees in classifications designated as "service-critical" shall continue to be covered by any Citywide collective bargaining agreement covering their classifications until the expiration of that agreement.

(e) For purposes of this Article, "service-critical" functions are:

1. Operating a transit vehicle, whether or not in revenue service;
2. Controlling dispatch of, or movement of, or access to, a transit vehicle;
3. Maintaining a transit vehicle or equipment used in transit service, including both preventive maintenance and overhaul of equipment and systems, including system-related infrastructure;
4. Regularly providing information services to the public or handling complaints; and
5. Supervising or managing employees performing functions enumerated above.

The Agency shall consult with affected employee organizations before designating particular job classifications as performing "service-critical" functions. If an employee organization disagrees with the Agency's designation of a particular job classification as "service-critical" pursuant to the above standards, the organization may, within seven days of the Agency's decision, request immediate arbitration. The arbitrator shall be chosen pursuant to the procedures for the selection of arbitrators contained in the memorandum of understanding of the affected employee organization. The arbitrator shall determine only whether the Agency's designation is reasonable based on the above standards. The arbitrator's decision shall be final and binding.

The Agency may designate functions other than those listed above, and the job classifications performing those additional functions, as "service-critical," subject to the consultation and arbitration provisions of this Section. In deciding a dispute over such a designation, the arbitrator shall decide whether the job functions of the designated classes relate directly to achievement of the goals and milestones adopted pursuant to Section 8A.103 and are comparable to the above categories in the extent to which they are critical to service.

(f) In addition, the Agency shall, with respect to all Agency employees, succeed to the powers and duties of the Director of Human Resources under Article X to review and resolve allegations of discrimination, as defined in Article XVII, against employees or job applicants, or allegations of nepotism or other prohibited forms of favoritism; provided, however, that the Agency's resolution of allegations of discrimination must be approved by the City's Director of Human Resources. To the extent resolution of discrimination complaint or request for accommodation involves matters or employees beyond the Agency's jurisdiction, the Agency shall coordinate with and be subject to applicable determinations of the Director of Human Resources.

(g) The Agency shall be responsible for creating and, as appropriate, modifying Municipal Railway bargaining units for classifications designated by the Agency as "service-critical" and shall establish policies and procedures pursuant to Government Code section 3507 and .3507.1 for creation and modification of such bargaining units. When the Agency creates or modifies a bargaining unit, employees in existing classifications placed in such bargaining unit shall continue to be represented by their current employee organizations.

(h) The Agency may create new classifications of employees doing specialized work for the Agency. Such classifications shall be subject to the civil service provisions of the Charter unless exempted pursuant to Section 10.104 or subsection (i).

(i) The Agency may create new classifications and positions in those classifications exempt from the civil service system for managerial employees in addition to those exempt positions provided in Section 10.104; provided, however, that the total number of such exempt new positions shall not exceed 1.5 percent of the Agency's total workforce, exclusive of the

exempt positions provided in Section 10.104. This provision shall not be utilized to eliminate personnel holding existing permanent civil service managerial positions on November 2, 1999.

Persons serving in exempt managerial positions shall serve at the pleasure of the director of transportation. Such exempt management employees, to the extent they request placement in a bargaining unit, shall not be placed in the same bargaining units as non-exempt employees of the Agency.

(j) The Civil Service Commission shall annually review both exempt and non-exempt classifications of the Agency to ensure compliance with the provisions of subsections (h) and (i).

(k) Upon the expiration of current labor contracts, and except for retirement benefits, the wages, hours, working conditions, and benefits of the employees in classifications within the Municipal Railway designated by the Agency as "service-critical" shall be fixed by the Agency after meeting and conferring as required by the laws of the State of California and this Charter, including Sections A8.346, A8.404 and A8.409. These agreements shall utilize, and shall not alter or interfere with, the health plans established by the City's Health Service Board; provided, however, that the Agency may contribute toward defraying the cost of employees' health premiums. For any job classification that exists both as a "service-critical" classification in the Municipal Railway and elsewhere in City service, the base wage rate negotiated by the Agency for that classification shall not be less than the wage rate set in the Citywide memorandum of understanding for that classification.

(l) Notwithstanding subsection (k), the Agency may, in its sole discretion, utilize the City's collective bargaining agreements with any employee organization representing less than 10 percent of the Municipal Railway's workforce.

(m) Notwithstanding any limitations on compensation contained in Section A8.404, and in addition to the base pay established in collective bargaining agreements, all agreements negotiated by the Agency relating to compensation for Municipal Railway managers and employees in classifications designated by the Agency as "service-critical" shall provide incentive bonuses based upon the achievement of the service standards in Section 8A.103(c) and other standards and milestones adopted pursuant to Section 8A.103. Such agreements may provide for additional incentives based on other standards established by the Agency, including incentives to improve attendance. The Agency shall also establish a program that provides incentive bonuses for all managers, including all managers exempt from the civil service system, based on the achievement of these standards and milestones.

(n) For employees whose wages, hours and terms and conditions of employment are set by the Agency pursuant to Sections A8.404 or A8.409 et seq., the Agency shall exercise all powers of the City and County, the Board of Supervisors, the Mayor, and the Director of Human Resources under those sections. For employees covered by Section A8.409 et seq., the mediation/arbitration board set forth in Section A8.409-4 shall consider the following additional factors when making a determination in any impasse proceeding involving the Agency: the interests and welfare of transit riders, residents, and other members of the public; and the Agency's ability to meet the costs of the decision of the arbitration board without materially reducing service. The Agency shall perform the functions of the Civil Service Commission with respect to certification of the average of the two highest wage schedules for transit operators in comparable jurisdictions pursuant to Section A8.404(a), and conduct any actuarial study necessary to implement Section A8.404(f).

(o) The voters find that unscheduled employee absences adversely affect customer service. Accordingly, not later than January 1, 2001, the agency shall create a comprehensive plan for the reduction of unscheduled absences. In addition, the Agency shall take all legally permitted steps to eliminate unexcused absences. The Agency shall have no authority to approve any memorandum of understanding or other binding agreement which restricts the authority of the Agency to administer appropriate discipline for unexcused absences.

(p) Before adopting any tentative agreement reached as a result of negotiations, mediation or arbitration, the Agency shall, at a duly noticed public meeting, disclose in writing the contents of such tentative agreement, a detailed analysis of the proposed agreement, a comparison of the differences between the agreement reached and the prior agreement, and an analysis of all costs for each year of the term of such agreement. Such tentative agreement between the Agency and employee organization shall not be approved by the Agency until 30 days after the above disclosures have been made. (Added November 1999)

SEC. 8A.105. MUNICIPAL TRANSPORTATION FUND.

(a) There is hereby established a fund to provide a predictable, stable, and adequate level of funding for the Agency, which shall be called the Municipal Transportation Fund. The fund shall be maintained separate and apart from all other City and County funds. Monies therein shall be appropriated, expended, or used by the Agency solely and exclusively for the operation including, without limitation, capital improvements, management, supervision, maintenance, extension, and day-to-day operation of 1) the Agency; 2) the Municipal Railway; 3) upon its incorporation into the Agency, the Department of Parking and Traffic; and 4) any other division of the Agency subsequently created and performing

transportation-related functions. Monies in the Fund may not be used for any other purposes than those identified in this Section.

(b) Beginning with the fiscal year 2000-2001 and in each fiscal year thereafter, there is hereby set, aside to the Municipal Transportation Fund the following:

1. An amount (the "Base Amount") which shall be no less than the amount of all appropriations from the General Fund, including all supplemental appropriations, for the fiscal year 1998-1999 or the fiscal year 1999-2000, whichever is higher (the "Base Year"), adjusted as provided in subsection (c), below, for (1) the Municipal Railway; and (2) all other City and County commissions, departments and agencies providing services to the Municipal Railway, including the Department of Human Resources and the Purchasing Department, for the provision of those services. The Base Amount for the Department of Parking and Traffic and the Parking Authority shall be established in the same fashion but using fiscal years 2000-2001 and 2001-2002 for the services being incorporated into the Agency.

2. Subject to the limitations and exclusions in Sections 4.113 and 16.110, the revenues of the Municipal Railway, and, upon their incorporation into the Agency, the revenues of the Department of Parking and Traffic, and the Parking Authority; and

3. All other funds received by the City and County from any source, including state and federal sources, for the support of the Municipal Railway.

(c) The Base Amount shall initially be determined by the Controller. Adjustments to the Base Amount shall be made as follows:

1. The Base Amount shall be adjusted for each year after fiscal year 2000-2001 by the Controller based on calculations consistent from year to year, by the percentage increase or decrease in aggregate City and County discretionary revenues. In determining aggregate City and County discretionary revenues, the Controller shall only include revenues received by the City which are unrestricted and may be used at the option of the Mayor and the Board of Supervisors for any lawful City purpose. Errors in the Controller's estimate of discretionary revenues for a fiscal year shall be corrected by adjustment in the next year's estimate.

2. An adjustment shall also be made for any increases in General Fund appropriations to the Agency in subsequent years to provide continuing services not provided in the Base Year, but excluding additional appropriations for one-time expenditures such as capital expenditures or litigation judgments and settlements.

3. Further, when new parking revenues increase due to policy changes in fines, taxes or newly-created positions, the Base Amount shall be reduced by 50 percent of such increase to reduce the Agency's reliance on the General Fund.

(d) The Treasurer shall set aside and maintain the amounts required to be set aside by this Section, together with any interest earned thereon, in the Municipal Transportation Fund, and any amounts unspent or uncommitted at the end of any fiscal year shall be carried forward, together with interest thereon, to the next fiscal year for the purposes specified in this Article. (Added November 1999)

SEC. 8A.106. BUDGET.

The Agency shall be subject to the provisions of Article IX of this Charter except:

(a) No later than March 1 of each year, after professional review, public hearing and after receiving the recommendations of the Citizens' Advisory Council, the Agency shall submit its proposed budget for the next fiscal year to the Mayor and the Board of Supervisors for their review and consideration. The Agency shall propose a base budget that is balanced without the need for additional funds over the Base Amount, but may include fare increases and decreases, and reductions or abandonment of service. The Mayor shall submit the base budget to the Board of Supervisors, without change. Should the Agency request additional support over the Base Amount, it shall submit an augmentation request for those funds in the standard budget process and subject to normal budgetary review and amendment.

(b) At the time the budget is adopted, the Agency shall certify that the budget is adequate in all respects to make substantial progress towards meeting the goals, objectives, and performance standards established pursuant to Section 8A.103 for the fiscal y ear covered by the budget.

(c) No later than August 1, the Board of Supervisors may allow the Agency's base budget to take effect without any action on its part or it may reject but not modify the Agency's base budget by a two-thirds' vote. Any fare or service change proposed in the base budget shall be considered accepted unless rejected by a two-thirds' vote on the entire base budget. Should the Board reject the base budget, it shall make additional interim appropriations to the Agency from the Municipal Transportation Fund sufficient to permit the Agency to maintain all operations through the extended interim

period until a base budget is adopted. Any request for augmentation funding shall be approved, modified, or rejected under the general provisions of Article IX. (Added November 1999)

SEC. 8A.107. MUNICIPAL TRANSPORTATION QUALITY REVIEW.

(a) The Agency shall biennially contract with a nationally recognized management or transportation consulting firm with offices in the City and County for an independent review of the quality of its operations. The contract shall be competitively bid and approved by the Controller and Board of Supervisors. The review shall contain:

1. A detailed analysis of the extent to which the Agency has met the goals, objectives, and performance standards it is required to adopt under Section 8A.103, and the extent to which the Agency is expected to meet those goals, objectives, and performance standards in the two fiscal years for which the review is submitted, and independent verification of the Agency's reported performance under the performance measures adopted pursuant to Section 4 of this measure; and

2. Such recommendations for improvement in the operation of the Agency as the firm conducting the review deems appropriate.

(b) The results of the review shall be presented promptly to the Citizens' Advisory Council, the Agency, the Board of Supervisors, and the Mayor by the reviewing firm; and the Citizens' Advisory Council, the Agency, and the Board of Supervisors shall each promptly hold at least one public hearing thereon. (Added November 1999)

SEC. 8A.108. FARE CHANGES AND ROUTE ABANDONMENTS.

(a) Any proposed change in fares shall be submitted to the Board of Supervisors as part of the Agency's budget under Section 8A.106, and may be rejected at that time by a two-thirds' vote of the Board.

The Agency shall base any proposed change in Municipal Railway fares on the following criteria:

1. The Municipal Railway's need for additional funds for operations and capital improvements.

2. The extent to which the increase is necessary to meet the goals, objectives, and performance standards previously established by the Agency pursuant to Section 8A.103.

3. The extent to which the Agency has diligently sought other sources of funding for the operations and capital improvements of the Municipal Railway.

4. The need to keep Municipal Railway fares low to encourage maximum patronage.

5. The need to increase fares gradually over time to keep pace with inflation and avoid large fare increases after extended periods without a fare increase.

(c) For purposes of this Article, a "route abandonment" shall mean the permanent termination of service along a particular line or service corridor. If the Agency proposes to abandon a route at any time other than as part of the budget process as provided in Section 8A.106(a), it shall first submit the proposal to the Board of Supervisors. The Board of Supervisors may, after a noticed public hearing, reject the proposed route abandonment by a two-thirds' vote of its members taken within 30 days after the proposal is submitted by the Agency. (Added November 1999)

SEC. 8A.109. ADDITIONAL SOURCES OF REVENUE.

The Mayor, the Board of Supervisors, and the Agency diligently shall seek to develop new sources of funding for the Agency's operations, including sources of funding dedicated to the support of such operations, which can he used to supplement or replace that portion of the Municipal Transportation Fund consisting of appropriations from the General Fund of the City and County. To the extent permitted by State law, the Agency may submit any proposal for increased or reallocated funding to support all or a portion of the operations of the Agency, including, without limitation, a tax or special assessment, directly to the electorate for approval without the further approval of the Mayor or the Board of Supervisors. The Agency shall be authorized to conduct any necessary studies in connection with considering, developing, or proposing such revenue sources. (Added November 1999)

SEC. 8A.110. PLANNING AND ZONING.

The planning and zoning provisions of this Charter and the Planning Code as they may be amended from time to time shall apply to all real property owned or leased by the Agency. (Added November 1999)

SEC. 8A.111. CITIZENS' ADVISORY COUNCIL.

The Agency shall establish a Citizens' Advisory Council of fifteen members which shall consist of one person appointed by each member of the Board of Supervisors and four members appointed by the Mayor. Each member must be a resident of the City and County. No fewer than ten members of the Council must be regular riders of the Municipal Rail-way. At least two members must use the Municipal Railway's paratransit system, and at least three of the members must be senior citizens over the age of 60. The membership of the Council shall be reflective of the diversity and neighborhoods of the City and County. The Council may provide recommendations to the Agency with respect to any matter within the jurisdiction of the Agency and shall be allowed to present reports to the Agency's board of directors. The members of the Council shall be appointed to four-year terms and shall serve at the pleasure of their appointing power. Staggered terms for the initial appointees to the Council shall be determined by lot. (Added November 1999)

SEC. 8A.112. PARKING AND TRAFFIC; INCORPORATION INTO AGENCY.

(a) By July 1, 2001, the Agency and the Department of Parking and Traffic shall prepare and submit to the Mayor and the Board of Supervisors a joint plan for incorporating the Department into the Agency.

(b) Effective July 1, 2002, the Department of Parking and Traffic shall become a separate department of the Municipal Transportation Agency and Charter Section 4.116, establishing the Parking and Traffic Commission, shall be repealed. Effective that date, the Agency shall have all the same powers and duties with respect to the Department of Parking and Traffic that it has with respect to the Municipal Railway, and shall succeed to all powers and duties of the Parking and Traffic Commission.

Effective July 1, 2002, the Agency's board of directors shall also exercise all remaining powers of the Parking and Traffic Commission for all purposes, including the power of members of the Parking and Traffic Commission to serve ex officio as members of the Parking Authority under Section 32657 of the Streets and Highways Code. The chair of the Agency's board of directors shall designate annually the directors to serve as members of the Parking Authority. Any person may serve concurrently as a member of the Agency's board of directors and as a member of the Parking Authority. It is the policy of the City and County that the Agency exercise all powers vested by State law in the Parking Authority.

(c) Except as provided in subsection (a), no provision of this Article shall apply to the Department of Parking and Traffic prior to July 1, 2002. (Added November 1999)

SEC. 8A.113. PARKING AND TRAFFIC; GOVERNANCE.

(a) The Agency shall manage the functions of the Department of Parking and Traffic so that the department:

1. Provides priority to transit services in the utilization of streets, particularly during commute hours;
2. Facilitates the design and operation of City streets to enhance alternative forms of transit, such as pedestrian, bicycle, and pooled or group transit (including taxis);
3. Proposes and implements street and traffic changes that gives the highest priority to impacts on public transit, pedestrians, commercial delivery vehicles, and bicycles;
4. Integrates modern information and traffic-calming techniques to promote safer streets and promote usage of public transit; and
5. Develops a safe, interconnected bicycle circulation network.

(b) The Agency shall manage the Parking Authority so that it does not construct new or expanded parking facilities unless the Agency finds that the costs resulting from such construction and the operation of such facilities will not reduce the level of funding to the Municipal Railway from parking and garage revenues under Section 16.110 to an amount less than that provided for fiscal year 1999-2000. (Added November 1999)

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix B: Acronyms

Acronym	Explanation
ADA	Americans with Disabilities Act
AFPP	Alternative Fuels Pilot Program
APC	Automatic Passenger Counter
APTA	American Public Transportation Association
ARS	Accident Reporting System
AVL	Automatic Vehicle Location
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BRT	Bus Rapid Transit
CAC	Citizens' Advisory Council
CARB	California Air Resources Board
CBD	Central Business District
CBO	Community Based Organization
CCSF	City College of San Francisco
CDLC	Career Development Learning Center
CER	Conceptual Engineering Report
CERT	Community Employment Recruitment & Training
CIP	Capital Improvement Program
CM/GC	Construction Manager/General Contractor
CNG	Compressed Natural Gas
CPI	Consumer Price Index
CPUC	California Public Utilities Commission
CTP	Countywide Transportation Plan
CMAQ	Congestion Mitigation for Air Quality (fund program)
DEIR	Draft Environmental Impact Report (California)
DEIS	Draft Environmental Impact Statement (Federal)
DHR	Department of Human Resources
DOF	Department of Finance
DPT	Department of Parking and Traffic
DPW	Department of Public Works
DSC	Division Safety Committee
DVAS	Digital Voice Annunciation System
EEO	Equal Employment Opportunity
EJAG	Environmental Justice Advisory Group

Acronym	Explanation
FEIR	Final Environmental Impact Report (California)
FEIS	Final Environmental Impact Statement (Federal)
FTA	Federal Transit Administration
GIS	Geographic Information System
GPS	Global Positioning System
HLRV	Historic Light Rail Vehicle
HSR	High Speed Rail
HVAC	Heating, Ventilation, and Air Conditioning system
IOS	Third Street Light Rail Transit Initial Operating Segment
ITS	Intelligent Transportation Systems
JPA	Joint Powers Authority (Transbay Terminal)
JPB	Joint Powers Board (Peninsula Corridor)
LIFT	Low Income Flexible Transportation (fund program)
LNG	Liquid Natural Gas
LPA	Locally Preferred Alternative
LRT	Light Rail Transit
LRV	Light Rail Vehicle
MAAC	Muni Accessibility Advisory Committee
MIS	Major Investment Study
MMT	Muni Metro Turnback
MMX	Muni Metro Extension
MOES	Mayor's Office of Emergency Services
MRT	Muni Response Team
MTA	Municipal Transportation Agency
MTAP	Muni Transit Assistance Program
MTC	Metropolitan Transportation Commission
MTF	Municipal Transportation Fund
CS	Central Subway
NTD	National Transit Database
NRV	Non-Revenue Vehicle
PAC	Project Area Committee
POP	Proof of Payment
RM2	Regional Measure 2
TFWG	Transit Finance Working Group

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix C: System Map

THIS PAGE INTENTIONALLY LEFT BLANK

Acknowledgments

Mayor Gavin Newsom

San Francisco Board of Supervisors

Municipal Transportation Agency Board of Directors

Cleopatra Vaughns, Chair

Shirley Breyer Black

Wil Din

Michael Kasolas

Rev. Dr. James McCray, Jr.

Peter Mezey

Acting Executive Director

Stuart Sunshine

Prepared by the Capital Planning section of the MTA's Planning Division.

Development of this Short Range Transit Plan has involved a large number of individuals associated with the Municipal Transportation Agency and the Municipal Railway. We would like to thank everyone who was involved for contributing their time and effort to develop this Plan.