2011 SFMTA 20-Year Capital Plan

Image: Aerial photo to San Francisco during daytime, photo credit: San Francisco Redevelopment Agency.

SFMTA | Municipal Transportation Agency

Image: SFMTA logo.

SFMTA 20-year Capital Plan

Table of Contents

Figures

Tables

Acknowledgements

The San Francisco Municipal Transportation Agency (SFMTA) 2011 Capital Plan is a list of agency capital needs and priorities for the coming 20 years. It was developed by the Sustainable Streets Division with input from staff in all SFMTA divisions. The effort was led by Darton Ito and Peter Brown under the direction of Timothy Papandreou, Deputy Director of Strategic Planning and Policy. The Finance and Information Technology staff partnership, led by Jonathan Rewers was integral to determining cost estimates and the Transportation Capital Committee coordinated the refinement of the nearly 200 capital projects and programs. In addition, there were a number of consultants and individuals that provided technical guidance and information that was used to create the Capital Plan.

Image: San Francisco cityscape with clouds;
Photo credit: Darrel Godliman: http://www.flickr.com/photos/darrellg/3075480262/

Foreword

The San Francisco Municipal Transportation Agency (SFMTA) enables mobility by providing and managing numerous modes of transport. Our city's Transit First Policy directs people to more sustainable modes of transportation, such as transit, bicycling, walking, and ridesharing. We have achieved success is this regard such as having the 7th busiest transit system in the country and a rapidly growing bicycling ridership. However, that success is straining our aging transportation infrastructure. We will make capital investments in the coming decades to maintain the existing systems, build new capacity, and improve the traveling experience across all modes. The Transit Effectiveness Project (TEP) and State of Good Repair program represent strategic service and capital investments that will improve and enhance our transit systems.

We have a critical need to expand bicycling, pedestrian, and transit infrastructure to accommodate projected growth and provide safe and timely options to single-occupancy automobile travel. New transit-oriented development projects along the eastern waterfront and Treasure Island now come with integrated land use and transportation planning that provide multi-modal transportation infrastructure. To support burgeoning bicycle ridership, we will be undertaking significant bike facility innovation and construction. And since all people begin and end their trips on foot, initiatives such as WalkFirst and the Better Streets Plan provide tools to strategically improve pedestrian safety while integrating pedestrian trips with all other modes.

These investment strategies will improve access to destinations throughout our world-class city while creating more jobs, livable neighborhoods and successful business districts. The SFMTA Capital Plan identifies the twenty-year agency needs at a time when the economy stands to benefit from capital expenditures and sound long-term investments. Nevertheless, our fiscal reality is that meeting all of our transportation needs will be impossible. The question then becomes: How do we prioritize capital investments, maintain our assets, and expand our system with limited sources of funds?

Local, state, and national transportation funding is constrained at a time when our needs are significant. All levels of government will be exploring a variety of funding mechanisms, including those more directly linked to impacts and benefits. At the same time, we are using a more analytical and strategic approach to evaluate and prioritize repair or replacement of our assets. This will enable us to allocate our dollars as efficiently as possible. Carefully planned decisions made today will move San Francisco into a future with the walkability of Hong Kong, the bicycling frequency of Copenhagen, the transit ridership of New York and the quality of life that can only be found here in the Bay Area.

For now, however, the focus remains on a cutting-edge set of efficiency measures such as the Transit Effectiveness Project and directing our limited resources towards the most critical capital investments that will keep our assets in a state of good repair and enable strategic expansions where they are needed. The Capital Plan that follows does just that. It supports the agency's Strategic Plan and Climate Action Strategy and will be updated regularly. It will be published

every two years and provides the foundation for developing the agency's five-year Capital Improvement Program. The SFMTA seeks your support, feedback and partnership in implementing these critical projects.

Sincerely,

Edward D. Reiskin

Director of Transportation

Image: Edward D. Reiskin

Introduction to the SFMTA

The San Francisco Municipal Transportation Agency (SFMTA) is responsible for planning, implementing, maintaining and operating multimodal transportation services in the City and County of San Francisco. The city's transportation system includes transit, paratransit, streets, bicycle, pedestrian, parking, traffic, taxi and commercial vehicle systems in San Francisco.

Image: Bicyclist in green bike lane in Market Street.

The largest component of the SFMTA's operations is providing public transportation. San Francisco is a 47 square mile area with a resident population of 805,000. The city's average density of over 17,000 people per square mile creates a vibrant transit environment. Based on ridership, the SFMTA is the Bay Area's largest transit operator, transporting close to 43 percent of all transit passengers in the nine-county region; and is the country's seventh largest transit operator, carrying more than 700,000 trips every weekday (about 220 million trips per year). By comparison BART (Bay Area Rapid Transit) carries 350,000 daily passengers and is the region's second largest operator. The agency's transit fleet is a critical component of the regional transportation system and among the most diverse in the world, featuring: 40 cable cars, 24 historic streetcars, 151 light rail vehicles, 459 biodiesel and hybrid buses and 313 electric trolley buses on more than 80 routes. Future plans include the introduction of Bus Rapid Transit (BRT) along Van Ness Avenue and Geary Boulevard.

Image: Muni bus with Bike to Work Day advertisement.

Along with improving bicycle and pedestrian infrastructure, the agency engages communities around San Francisco to coordinate development efforts, station area plans and transportation improvements. While transit requires the bulk of the resources, the SFMTA invests in progressive demand-based parking programs (SFpark), improved vehicular traffic through innovative signal timing programs (SFgo), and builds pedestrian and cycling safety features ranging from pedestrian activated signals and flashing crosswalks to cycle tracks and bicycle boulevards.

The SFMTA also regulates the taxi industry, providing long-term planning and improved coordination with other modes. More than 7000 taxi drivers operate approximately 1,500 taxis in the city, including 100 wheelchair accessible vehicles. Taxi vehicles average 95,000 miles per year, up to ten times as much a private vehicles, thus pushing the need to green this highly used fleet. Approximately 77 percent of the vehicles in the taxicab fleet are hybrid or compressed natural gas (CNG) vehicles. Some drivers holding taxi medallions are independent operators, while others work for the 31 taxi companies that own medallions.

Image: Photo of a Toyota Prius Green Cab.

Policies Driving Capital Plan Development

Local, state and federal transportation funding sources continue to diminish. The fuel taxes which support the Highway Trust Fund (HTF) are eroding in value and allocations from the HTF to the Federal Transit Administration (FTA) are also falling. For several years now the US Congress has yet to reauthorize the transportation bill. Current funding constraints exacerbate the inability of transportation providers to meet growing needs for transportation investments for an increasingly mobile and expanding population.

Here in San Francisco, trends toward integrated land-use and transportation planning are resulting in strong connections between new development and transportation enhancements. The city's Transit First policy ensures that enhancing the quality of life and economic health are the primary objectives of the transportation system. Within San Francisco, travel by public transit, by bicycle and on foot must be an attractive alternative to travel by private automobile.

The SFMTA's strategic goals and objectives also focus on the traveling customer, enhancing the performance of the transportation system and maintaining the financial sustainability of the

agency. These overarching goals and policies were analyzed to determine which projects address these needs of the traveling public. SFMTA's customers need safe and reliable options to access destinations throughout the city and region.

Image: View of San Francisco from Dolores Park.

Quantifying Agency Assets

In 2010, the SFMTA completed an inventory for all capital assets that the agency operates and maintains. This inventory identified the agency's state of good repair needs and measured the impact of different investment levels on improving the overall state of the SFMTA's assets. The inventory provides the starting point for determining which capital investments are most needed, how much they will cost and when they can be completed. The following key assets are among the over $10 billion in replacement and rehabilitation investments needed by 2030:

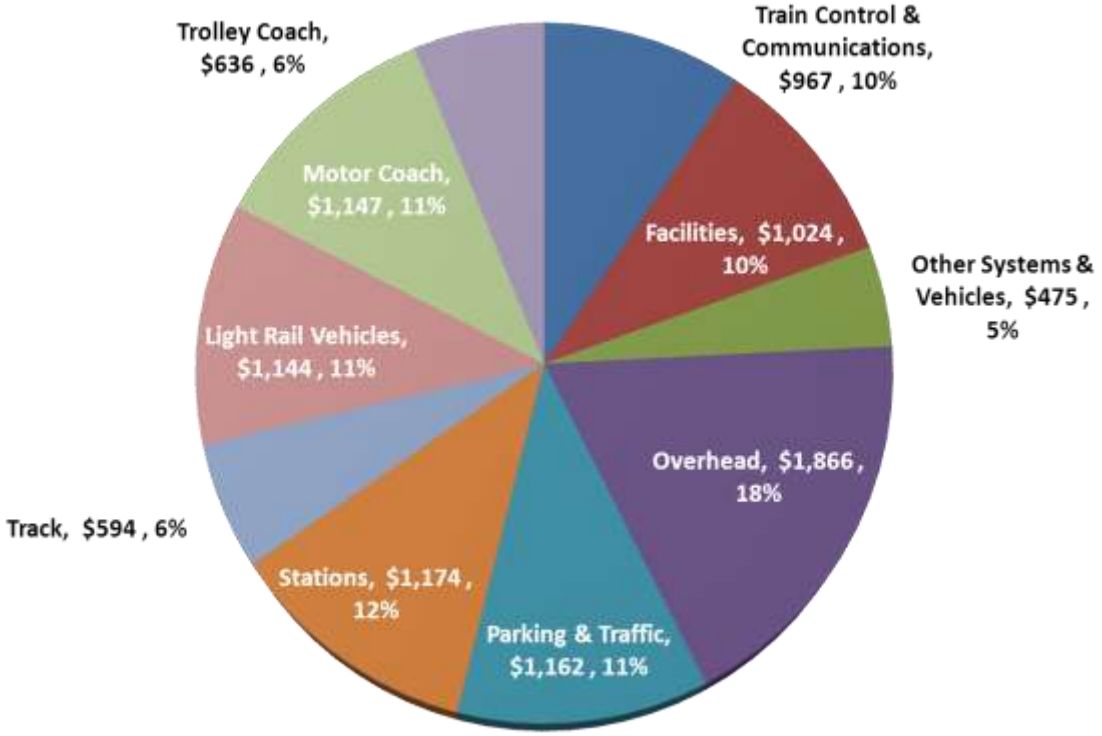
9 subway and 24 surface light rail stations;
6.6 miles of subways and tunnels;
71.5 revenue track miles for rail operations;
8.8 miles of track miles for cable car operations;
219.9 miles of overhead wires and 25 power substations;
Nearly 1,000 transit vehicles, plus paratransit vans and support vehicles;
19 operations, maintenance and administrative facilities;
40 off-street parking garages and lots;
1,184 signalized intersections and approximately 224,000 signs;
28,862 on-street metered parking spaces;
208 miles of bicycle facilities (Classes I, II and III); and
Numerous transportation information and communications networks.

Image: Caltrain station at 4th and King Streets; photo credit: San Francisco Redevelopment Agency

The asset inventory totals approximately 3,600 individual asset records, and represents a total asset replacement value of approximately $13.4 billion in 2010 dollars. The $830 million replacement value for track assets is comprised of $537 million for the light rail and $293 million for the cable car networks, respectively. Of the total $13.4 billion in agency assets, approximately 75% ($10.2B) will need replacement during the next 20 years. Several asset classes (overhead catenary wires, stations, vehicle replacements, facilities, etc.) each exceed one billion dollars in need. It should be noted that this estimate is based on the ideal replacement schedule based solely on the standard estimated useful life of that type of asset. At this time it does not account for use, condition or other factors that would increase or decrease the actual useful life of individual assets. This will be the focus of the development of the Agency's enterprise asset management system.

Figure 1 summarizes the expected $10.2 billion of needs over the coming 20-year period by major asset class in order to rehabilitate and maintain the SFMTA assets in an ideal state of good repair.

Figure 1: $10.2 billion investment needs by major asset class



Major Asset Class	Investment Needs, in millions of dollars	Percent of total investment need
Facilities	$1,024	10%
Light Rail Vehicles	$1,144	11%
Motor Coaches	$1,1,47	11%
Other Systems and Vehicles	$475	5%
Overhead	$1,866	18%
Parking and Traffic	$1,162	11%
Track	$594	6%
Train Control and Communications	$967	10%
Trolley Coaches	$636	11%
Stations	$1,174	12%

Purpose of the Capital Plan

The Capital Plan is the catalogue of the SFMTA's anticipated capital project needs for the upcoming 20 years. It is a financially unconstrained plan. The purpose of the plan is to identify which capital programs are the highest priorities for the agency and the traveling public. All of the agency's investment decisions, grant applications, and project prioritization rely upon the programs described in this plan. Included are capital projects to replace, rehabilitate, enhance and expand transit, bicycle, and pedestrian amenities. The plan describes the capital projects needed to enhance and expand the transportation system along with the facilities and technologies that support them.

The plan also strengthens the SFMTA's ability to achieve many of its strategic goals, including: safeguarding and improving public transportation infrastructure, extending the life of assets, improving safety conditions, and providing more reliable transportation services to San Francisco's residents and visitors. It was last adopted by the SFMTA Board in June 2008. The 20-year Capital Plan serves as the basis for developing a financially-constrained Five-year Capital Improvement Program (CIP) and the agency's Two-year Capital Budget, concurrent with the biennial budget approval process.

Who uses it?

The primary purpose of the Capital Plan is to ensure that all staff within the SFMTA are clear about the Agency's capital priorities. This is critical to ensuring that capital projects are coordinated to deliver multi-modal transportation improvements in the most cost and time efficient manner possible. It also serves to provide the SFMTA's funding partners (SFCTA, MTC, FTA, FHWA, etc.) the Agency's capital priorities. Including a capital project in the Capital Plan is typically a precursor to submitting funding requests. Finally, it provides the SFMTA's stakeholders and the public with a clear description of the Agency's capital needs, as well as the process used to determine the order and timing of the SFMTA's capital investments.

How was it developed?

The capital projects included in this Capital Plan were identified through a number of sources. As previously discussed, the foundation of the Capital Plan is to maintain the Agency's existing capital assets as identified in the state of good repair program. In addition, there are a large number of projects that were identified as part of a formal planning process. These include the Bicycle Plan, Transit Effectiveness Project, and neighborhood planning studies. Finally, the SFMTA has established a process to add capital needs to the Capital Plan which is led by the Transportation Capital Committee.

Transportation Capital Committee

Over the past 12-months the SFMTA has re-engineered its capital planning process and formed the Transportation Capital Committee (TCC). The TCC amends and implements the Capital Plan. Any new capital projects or changes to existing ones must be approved by this diverse committee. The TCC also reviews and approves the five-year Capital Improvement Program and a detailed Two-year Capital Budget. The committee meets monthly and is comprised of representatives from each of the SFMTA's key 16 capital program areas and all of the agency's seven functional divisions:

Executive Office
Administrative & Accessible Services
Capital Programs and Construction
Finance, Information Technology, Taxis
Safety, Training, Security & Enforcement
Sustainable Streets (Parking, Transportation Planning, Engineering)
Transit Operations

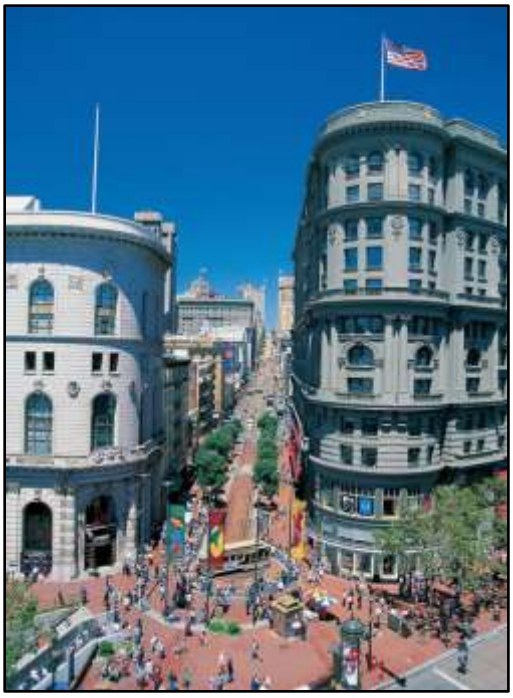


Image: Birds-eye view of the Powell Street Cable Car turn-around.

The policies that govern the TCC and capital program changes are meant to combine and streamline the processes inherited from the San Francisco Municipal Railway and the Department of Parking and Traffic. Proper management and development of the SFMTA's Capital Plan and Capital Improvement Program ensures that agency staff, the Board and the agency's stakeholders have a clear understanding of the transparent decision-making process used to determine the agency's capital priorities. The TCC allows for better project integration within the SFMTA by creating a clearinghouse to review, revise and recommend project scopes

with the goal of timely project delivery and developing more multi-modal projects. This results is a more efficient use of staffing and financial resources.

Project managers throughout the agency were surveyed and existing capital projects were updated to reflect current needs. About 20 new projects/programs have been added, while several projects well along in development have been completed.

Text box: "Carefully planned decisions made today will move San Francisco into a future with the walkability of Hong Kong, the bicycling frequency of Copenhagen, the transit ridership of New York and the quality of life that can only be found here in the Bay Area." – Ed Reiskin

The flow chart in Figure 2 graphically summarizes the SFMTA's capital project process for the 20-year Capital Plan, Five-year Capital Improvement Program, and Two-year Capital Budget.

Figure 2: SFMTA's Capital Planning Process for the 20-year Capital Plan, Five-year Capital Program, and Two-year Capital Budget

Description: The Capital Projects Process consists of seven steps for the SFMTA Divisions to submit projects for inclusion in the two-year Capital Budget. They are:

Stakeholders and SFMTA identify capital needs and after a Director signs off on the project, Long Range and Capital Planning reviews it for completeness and consistency with SFMTA policy. If they recommend approval, the project is then sent to:

Review by the Transportation Capital Committee (TCC).

If the TCC approves of the project, it is included in the financially unconstrained 20-Year Capital Plan.

Funding requests from the needs identified in the Capital Plan are then submitted to Finance.

The Capital Fund Programming section of the Finance Division reviews the requests' scope, schedule and budget with regard to the SFMTA's financial capacity and project feasibility (resource load).

If there is not financial capacity and project feasibility, the project is returned to Step 4 for refinement in scope, schedule and budget if necessary.

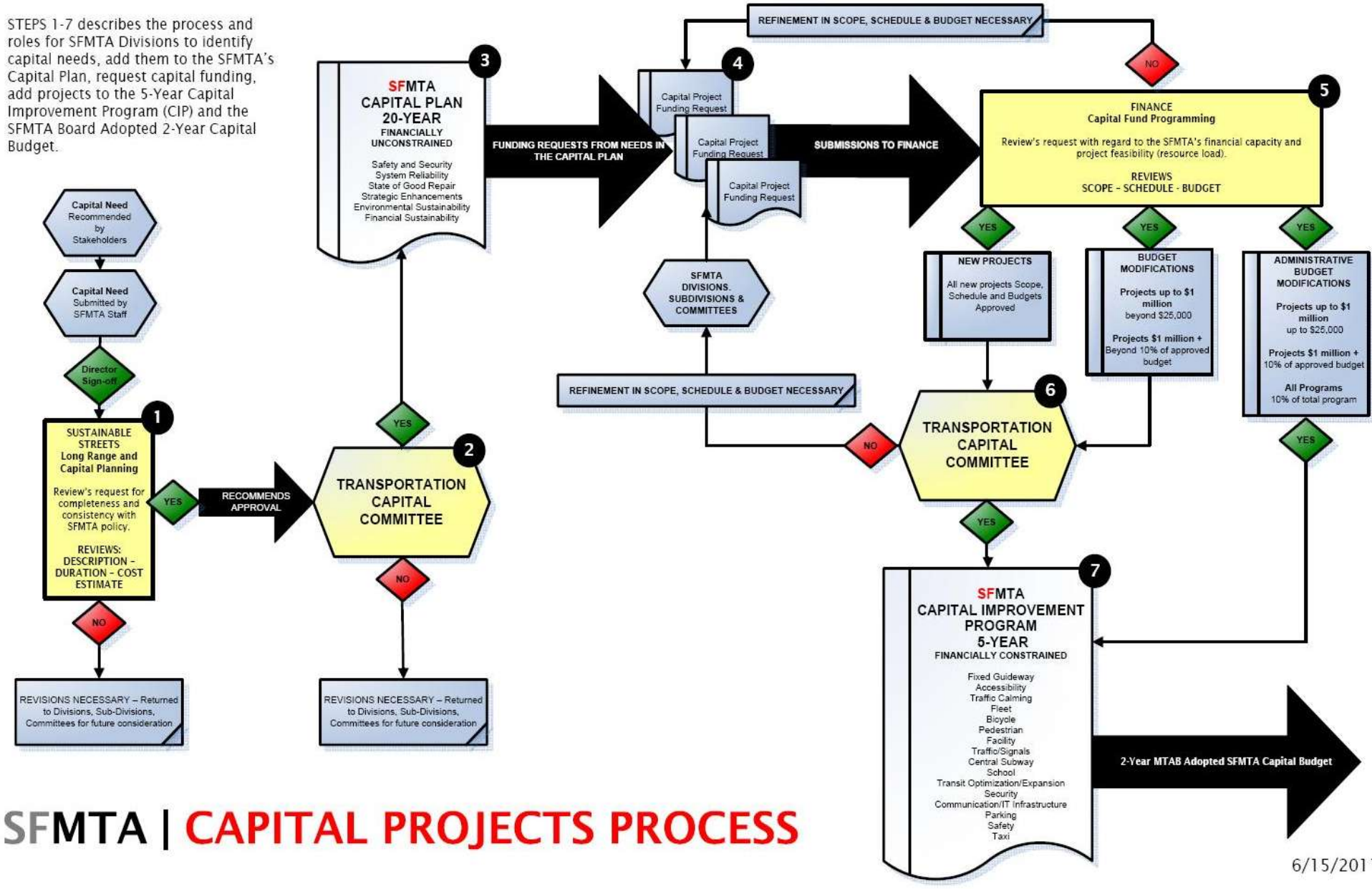
If the project's scope, schedule and budget are approved, the project is sent to the TCC again for approval.

A project can be approved if it needs some budget modifications (up to $1 million beyond $25,000 or projects or $1 million + beyond 10% of approved budget).

A project can also be approved with similar modifications to the Administrative Budget. These projects are sent directly to the financially constrained 5-Year SFMTA Capital Improvement Program.

Second review of project by the Transportation Capital Committee. If not approved, projects are sent back to Step 4 for refinement in scope, schedule and budget.

With TCC's approval, the project is included in the financially constrained 5-Year Capital Improvement Program which is used to develop of the 2-Year Capital Budget.


STEPS 1-7 describes the process and roles for SFMTA Divisions to identify capital needs, add them to the SFMTA's Capital Plan, request capital funding, add projects to the 5-Year Capital Improvement Program (CIP) and the SFMTA Board Adopted 2-Year Capital Budget.
Capital Need Recommended by Stakeholders
Capital Need Submitted by SFMTA Staff
Director Sign-off
1
SUSTAINABLE STREETS
Long Range and Capital Planning
Review's request for completeness and consistency with SFMTA policy.
REVIEWS: DESCRIPTION – DURATION – COST ESTIMATE
YES
NO
RECOMMENDS APPROVAL
REVISIONS NECESSARY – Returned to Divisions, Sub-Divisions, Committees for future consideration
2
TRANSPORTATION CAPITAL COMMITTEE
YES
NO
REVISIONS NECESSARY – Returned to Divisions, Sub-Divisions, Committees for future consideration
3
SFMTA CAPITAL PLAN 20-YEAR
FINANCIALLY UNCONSTRAINED
Safety and Security
System Reliability
State of Good Repair
Strategic Enhancements
Environmental Sustainability
Financial Sustainability
FUNDING REQUESTS FROM NEEDS IN THE CAPITAL PLAN
4
Capital Project Funding Request
Capital Project Funding Request
Capital Project Funding Request
SUBMISSIONS TO FINANCE
SFMTA DIVISIONS, SUBDIVISIONS & COMMITTEES
REFINEMENT IN SCOPE, SCHEDULE & BUDGET NECESSARY
REFINEMENT IN SCOPE, SCHEDULE & BUDGET NECESSARY
NO
5
FINANCE
Capital Fund Programming
Review's request with regard to the SFMTA's financial capacity and project feasibility (resource load).
REVIEWS
SCOPE – SCHEDULE - BUDGET
YES
NEW PROJECTS
All new projects Scope, Schedule and Budgets Approved
YES
BUDGET MODIFICATIONS
Projects up to $1 million
beyond $25,000
Projects $1 million +
Beyond 10% of approved budget
YES
ADMINISTRATIVE BUDGET MODIFICATIONS
Projects up to $1 million
up to $25,000
Projects $1 million +
10% of approved budget
All Programs
10% of total program
6
TRANSPORTATION CAPITAL COMMITTEE
YES
YES
7
SFMTA CAPITAL IMPROVEMENT PROGRAM 5-YEAR
FINANCIALLY CONSTRAINED
Fixed Guideway
Accessibility
Traffic Calming
Fleet
Bicycle
Pedestrian
Facility
Traffic/Signals
Central Subway
School
Transit Optimization/Expansion
Seourity
Communication/IT Infrastructure
Parking
Safety
Taxi
2-Year MTAB Adopted SFMTA Capital Budget
SFMTA | CAPITAL PROJECTS PROCESS
6/15/201

Capital Plan Prioritization Process – Project Ranking

Staff used a quantitative and qualitative decision making methodology to determine the relative level that projects achieve the SFMTA's goals and objectives. The methodology employed the "Decision Lens" software to quantify project scores and rank each investment option against the agency's capital prioritization criteria. The SFMTA, City of San Francisco, and regional level plans and documents informed the development of the project prioritization criteria. These were broadly derived from the SFMTA's goals and objectives in these areas:
Service Delivery
Public Safety
Environmental Protection
Transportation/Land Use Integration
Economy Development and Equity
Maintenance and Resource Protection
Financial Sustainability

Table B-1 in Appendix B provides a comparison of the policies and guidelines which influence the SFMTA's actions. Staff researched other agencies' multi-modal systems and discovered that the SFMTA is unique in its multi-modal responsibility and the breadth of capital needs.

Image: SFMTA employees in small group breakout sessions at a workshop.

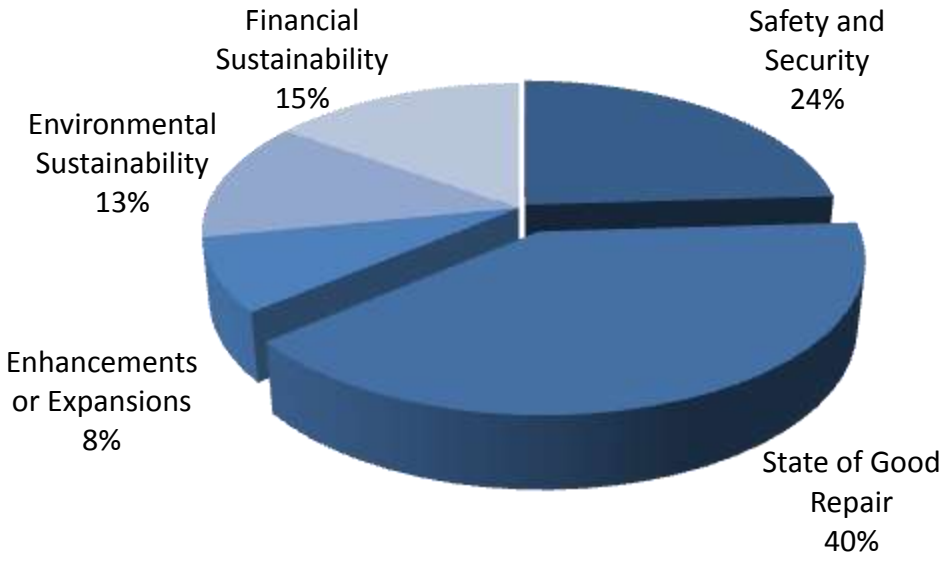
Decision Lens provided quantitative analysis of qualitative measures in a transparent and participatory process in which all scoring participants can interact and see results in real-time. Using Decision Lens involves identifying and prioritizing a set of criteria, quantifying rating scales, and rating transportation projects with weighted scores. The outcome of the decision process is a quantitative measure of the relative importance of each project. Given a set of long-term budget constraints, the Decision Lens process includes a funding tool to support long-term resource allocation decisions (e.g. scenarios, critical needs, project interdependencies, investment

minimums, and multi-year allocations). This tool will also be used to develop the Five-year CIP and Two-year Capital Budget.

Criteria Development and Weighting

Prioritizing and allocating resources to programs depends on the relative importance of proposed capital projects. The five main prioritization criteria are shown in Figure 3. The prioritization criteria were development by the Executive Team, made up of the Director of Transportation and the division directors.

Figure 3: Capital Project Prioritization Criteria



Capital Project Prioritization Criteria	Percentage
Enhancements or Expansions	8%
Environmental Sustainability	13%
Financial Sustainability	15%
Safety and Security	24%
State of Good Repair	40%

Because the agency has over $13 billion in existing assets that will need maintenance and replacement, investing in system state of repair is a top priority. The Executive Team established the criteria based on agency plans, goals and adopted policies. They also measured the relative importance of each criterion through the application of a pair-wise comparison technique. This enables decision-makers to express their judgments concerning the relative importance of each individual pair of criteria. This was accomplished in a workshop setting, where the directors used real-time information gathering to display preferences. Figure 3 illustrates the top-level evaluation criteria. Table C-1 (in Appendix C) provides detailed descriptions of the SFMTA

capital project evaluation criteria and the rating scales that the TCC employed to evaluate each capital project.

SFMTA staff presented the capital prioritization process to the SFMTA Board and the SFMTA Citizens Advisory Committee, as well as staff from the San Francisco County Transportation Authority (SFCTA), the Metropolitan Transportation Commission (MTC), and the Federal Transit Administration (FTA) to obtain stakeholder input, with the goal of implementing a process that would facilitate collaboration, transparency, and efficiency. The result of this Capital Plan process was the prioritized list of financially unconstrained projects included in Appendix A.

Capital Programs

The Capital Plan is organized by Capital Programs and the relative rank of each capital project within its capital program is shown in Appendix A. The Finance Division at SFMTA uses these categories to organize and allocate funding to programs. The division directors assigned a Capital Program Manager to oversee each capital program to ensure that projects are prioritized and moving forward based on stage of completion, funding availability, readiness and agency goals.

Table 1: SFMTA Capital Program Descriptions

Capital Program	Description
Accessibility	Addresses Americans with Disabilities Act compliance and improving access to the transportation system and city destinations
Bicycle	Includes completion of the Bicycle Plan, development of new bike strategies, bike parking, bike sharing, bike boulevards, cycletracks, etc.
Central Subway	Primarily funded with the federal New Starts Program, the Phase 2 extension of Third Street T-line and all complementary projects
Facility	This program addresses buildings, yards, transit stations, and other agency facilities
Fleet	Focuses on revenue and non-revenue vehicles that must be replaced and regularly maintained, as well as expansion needs
Information Technology/Communication	Systems that are critical to agency operational efficiency
Parking	Rehabilitation and improvement of the SFMTA owned parking garages as well as all of the metered spaces on the street
Pedestrian	Includes investments in pedestrian safety features, bulbouts, crosswalks and pedestrian activated signals

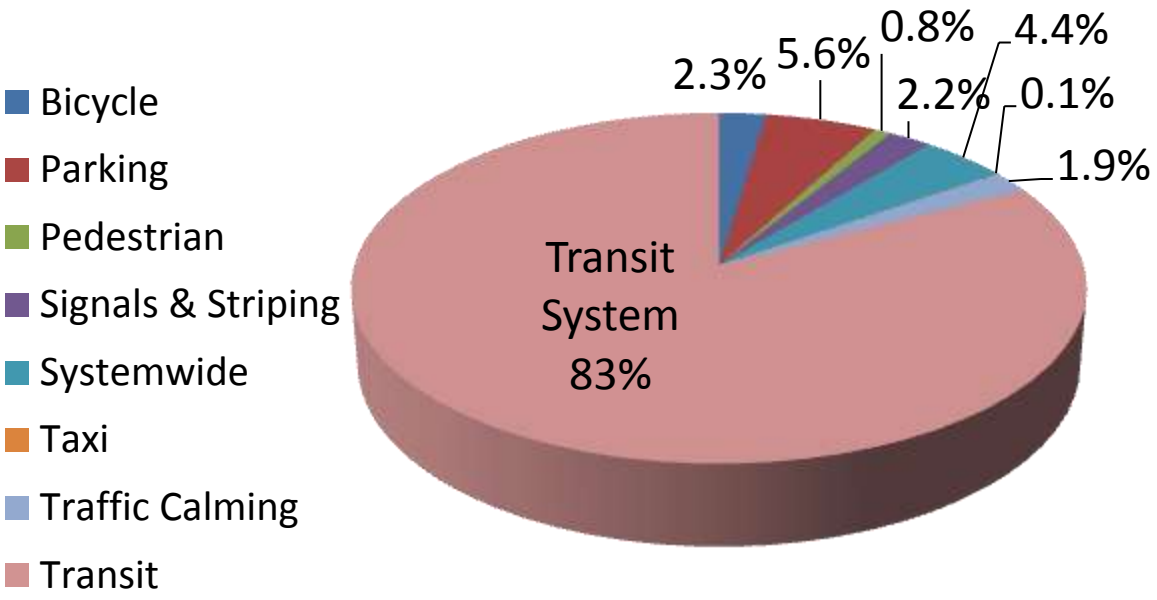
Capital Program	Description
Safety	This program addresses the need for safety measures with agency operations, personnel and public use of the transport system
School	The ways children can safely access their schools by walking, transit, and bicycling is addressed here
Security	The security of critical equipment, data, operations and public protection from potential dangers is addressed in this program
Taxi	The SFMTA regulates the city's taxi industry and provides programs for electric vehicles, improved signing and messaging and real time information for taxi patrons
Traffic Calming	The neighborhood and arterial traffic calming programs ensure that vehicle speed and street treatments are appropriate for specific urban settings throughout the city
Traffic/Signals	Vehicular operations, congestion management, multimodal signal timing and traffic safety measures are address here
Transit Fixed Guideway	Rail lines, overhead wires for electric trolley coaches, and all guideways needed for rail, cable car and trolley coach services fall within this program
Transit Optimization/Expansion	Includes the TEP program, transit operations and improvements and key enhancements such as the Bus Rapid Transit projects

Capital Needs by Mode

Capital projects can also be categorized by transportation modes – Bicycle, Pedestrian, Parking, Streets, Signals/Signs & Striping, System-wide needs, Traffic Calming, and Transit. Since the SFMTA provides multimodal travel options, the scope for a capital project in primarily one mode can be augmented in the same location to increase efficiency, decrease costs and limit disruption to the transportation system. In Figure 4, transit represents the largest portion of capital needs within the Capital Plan, $20 billion of the $24 billion total. It also happens to have the most funding allocated to the program from local, state and federal sources.

Project managers throughout the agency were surveyed and existing capital projects were updated to reflect current needs. About 20 new projects/programs have been added while several projects well along in development have been completed.

Figure 4: Capital Needs by Mode



Mode of Transportation	Percent of Capital Need
Bicycle	2.3%
Parking	5.6%
Pedestrian	0.8%
Signals and Striping	2.2%
Systemwide	4.4%
Taxi	0.1%
Traffic Calming	1.9%
Transit System	83%

Investment Types

The SFMTA investment types are another way to organize capital projects. Investment types apply to vehicles, facilities and infrastructure and include: replacement, rehabilitation, enhancement, and expansion. Replacement and rehabilitation of existing assets tend are generally higher priorities than system enhancements and expansion. Each project summarized in the plan is identified as one of these types of investments:

Replacement: Includes projects that replace existing assets that are beyond their useful life or normal replacement cycle. It also features related improvements that are needed as a result of a major replacement (e.g. new platforms for low-floor rail vehicles).

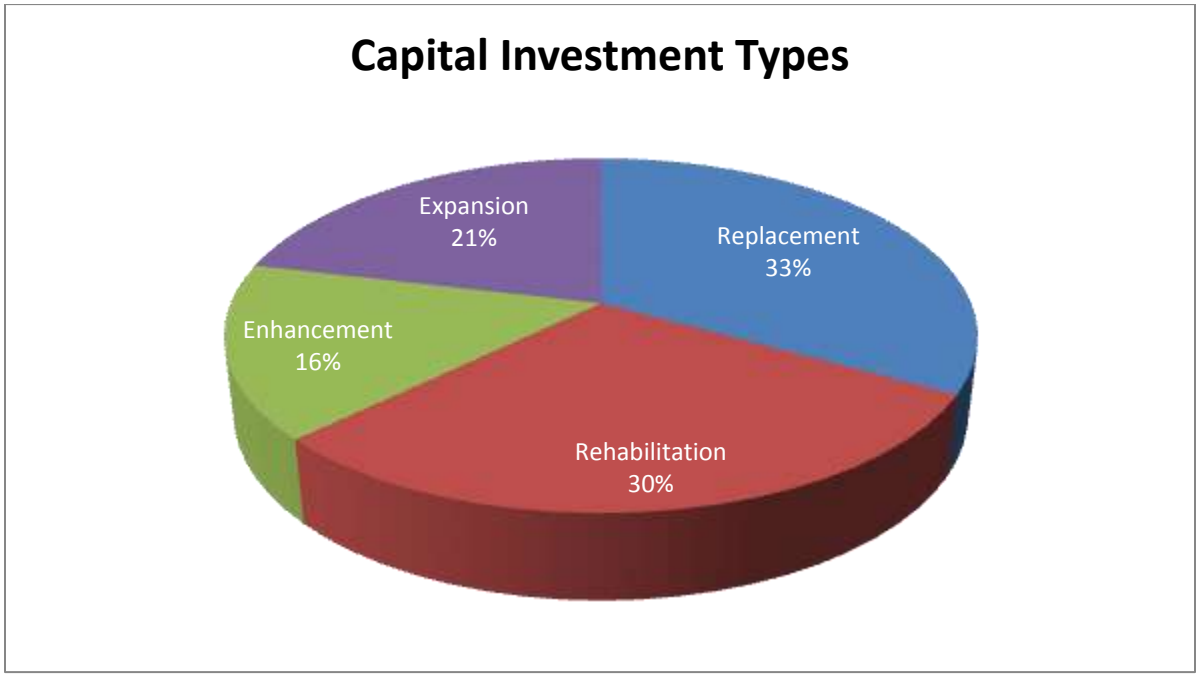
Rehabilitation: Includes projects that rehabilitate or renovate existing assets to continue the use of the asset, such as major improvements to an asset that extend the useful life. Bus mid-life overhauls are an example.

Enhancement: Includes enhancements to the quality of the existing transit or multi-modal system, thereby improving system reliability and service delivery. This would include projects that upgrade systems or enhance the features of an existing asset (e.g. transforming a Class II bike lane to a cycletrack).

Expansion: Includes projects that augment and increase capacity of the existing system. Results typically include growing ridership, system reliability and service delivery. Examples include extending transit service to a new area or building larger bicycle network mileage. Planning studies to expand existing transit services and systems also fall into this category.

Capital projects by investment types are depicted in Figure 5 (below). Nearly two-thirds of the identified capital needs are for replacement or rehabilitation projects which comprise the Agency's state of good repair program.

Figure 5: Capital Investment Types



Capital Investment Type	Percent of Capital Needs
Enhancement	16%

Capital Investment Type	Percent of Capital Needs
Expansion	21%
Rehabilitation	30%
Replacement	33%

Capital Plan Implementation

Any capital project that seeks agency or outside funding must be included in the Capital Plan. However, because the plan has not been fiscally constrained, but rather represents agency needs instead of existing resources, an additional step is needed. The Capital Plan provides the basis for creating a Five-year Capital Improvement Program which looks at anticipated capital resources. Further refinement comes in the development of the two year operating and capital budgets. These documents must be financially constrained and only projects and phases which are fully funded can move forward.

The Transportation Capital Committee (TCC) has the ultimate responsibility to recommend capital projects from the Capital Plan to advance through the process for funding, inclusion in the CIP and implementation, based on the following factors:

Project priority;
Project readiness (environmental clearance, public support, etc.);
Funding opportunities;
Coordination with other capital improvements;
Special conditions (regulatory requirements and project dependencies); and
Available funding

Image: Rail replacement project in progress.

Project Priority - Each capital project is prioritized using the Decision Lens process. The TCC must adopt the project for inclusion into the Five-year Capital Improvement Program and Two-year Capital Budget. The relative ranking of a project is one factor used to determine which projects are funded and prioritized to move forward.

Project Readiness - Readiness is a measure of all of the appropriate preliminary requirements for project implementation. Preliminary requirements include environmental clearance and public support. It also considers project interdependencies, that is if a project must proceed prior to or after another project. For example, the SFMTA cannot currently move forward a project to expand the bus fleet without first expanding facility capacity.

Funding Alignment and Opportunities - The TCC could approve these projects to advance through the capital budget process for inclusion into the Five-year CIP if coordination with other projects or funding proposals provides the opportunity for advancement. The multi-modal nature of the SFMTA allows for the combining of several projects into singular programs for several reasons:

proximity to other projects to avoid multiple construction disruptions in the same location:
enhancing multi-modal traffic and quality of life;
transit optimization or use of bus substitutions during construction;
cost savings through economies of scale; and
project management and oversight cost savings

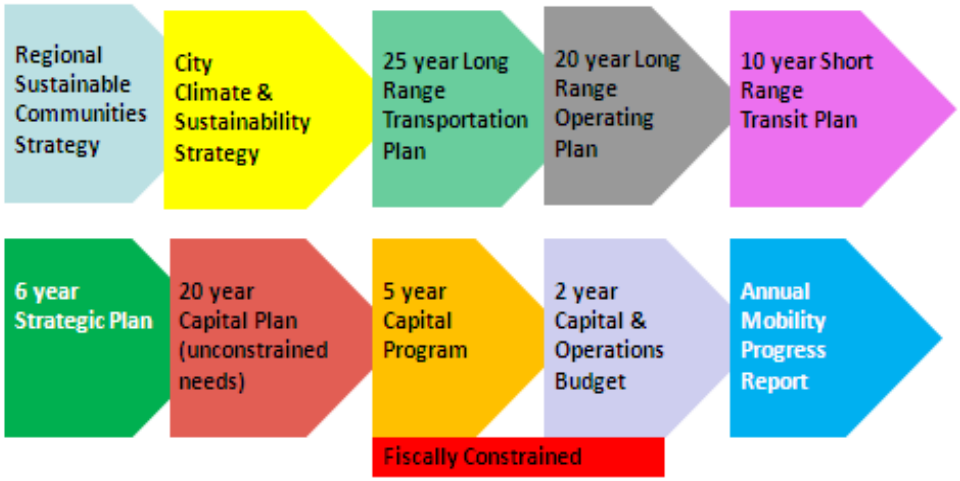
Special Conditions - Some projects satisfy legal requirements to provide facilities and equipment of a certain nature, such as the ADA requirements for the physically disadvantage population; or some grants that require project implementation and construction to occur within a given time frame (e.g., American Recovery and Reinvestment Act (ARRA) grants).

Relationship to other Capital Documents

The 20-year Capital Plan provides the foundation for developing the fiscally-constrained Five-year CIP and the Two-year Capital Budget. While the Capital Plan includes all projects identified to help the agency meet its long-term and strategic goals, the Five-year Capital Improvement Program and the Two-year Capital Budget are restricted by project funding and anticipated resources, as shown in Figure 6.

There are several other regional, city-wide and agency planning documents that also play a key mutual role in informing funding and priorities for SFMTA. At the same time, the development and refinement of the Capital Plan links upward to inform funding agencies such as the San Francisco County Transportation Authority (SFCTA) and the Metropolitan Transportation Commission (MTC).

Figure 6: Relationship of the Capital Plan to other planning documents

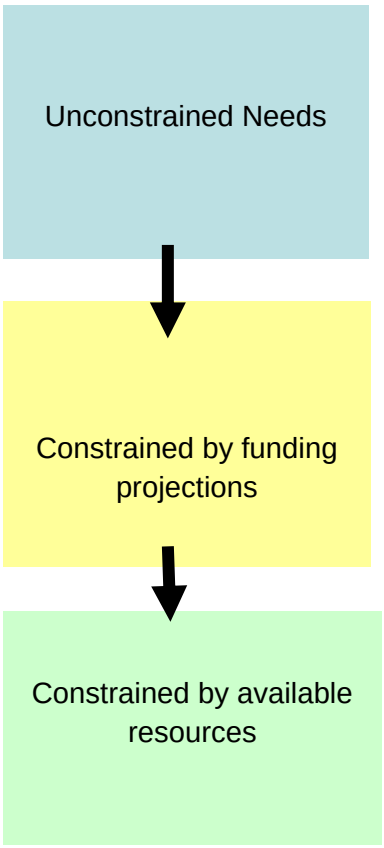


Description of graphic: a series of arrows showing how the 6-year Strategic Plan relates to the other planning documents for the SFMTA. The Regional Sustainable Communities Strategy leads to the City Climate & Sustainability Strategy which leads to the 25-year Long Range Transportation Plan which leads to the 20-year Long Range Operating Plan which leads to the 10-year Short Range Transit Plan which leads to the line below, where the 6-year Strategic Plan leads to the 5-year Capital Program which leads to the 2-year Capital and Operating Budget which leads to the Annual Performance Work Plans

10-year San Francisco Capital Plan. The City and County of San Francisco develops a ten-year Capital Plan on a biennial basis for all recommended investments to maintain, repair, and improve the city's capital infrastructure. The ten-year Capital Plan includes projects for City departments and self-supporting departments such as the SFMTA, San Francisco International Airport, the Port of San Francisco, and San Francisco Public Utilities Commission. Reviewed by a Capital Planning Committee that includes the capital departments, the Controller, the Mayor's Finance Director, and the President of the Board of Supervisors, the Capital Plan guides decisions on the capital budget and issuances of long-term debt.

SFMTA Five-year Capital Improvement Program (CIP). The Five-year CIP represents the subset of capital projects identified in the Capital Plan that can reasonably be assumed to be funded and active in the next five years. This programming document establishes the funding that the SFMTA expects to receive within the five-year timeframe. While not a guarantee of funding, the CIP conveys specific commitments from funding agencies to support the SFMTA's highest priority and most ready capital improvements.

SFMTA Two-year Capital Budget. The capital budget further refines the Five-year CIP to account for the timing of budget allocations, individual capital grants and the availability of capital project implementation staff. It is presented to the SFMTA Board on a two-year cycle, concurrent with the agency's operating budget.



Graphic: vertical flowchart illustrating how the unconstrained needs are later constrained by funding projections, which are in-turn constrained by available resources.

Capital Plan Summary and Next Steps

Summaries of the 173 projects included in the Capital Plan, categorized by capital program, and investment type are included in Appendix A. In addition, the appendices (B and C) include scoring comparisons and evaluation criteria.

The critical next steps are the development of the Five-year Capital Improvement Program (CIP) based upon constrained and anticipated revenues. The CIP completion will be followed by the development of the Two-year Capital Budget to coincide with the biennial adoption of the SFMTA's operating budget. The Capital Plan will be a living document and will be updated through the Transportation Capital Committee.

APPENDIX A

SFMTA Capital Plan: Project Summaries Ranked by Capital Program

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
ESCALATOR & ELEVATOR REHABILITATION	1	Accessibility	Rehabilitation or replacement of existing escalators and elevators in transit stations to conform with current building codes and incorporate modern safety features. Project includes a total of 23 more escalators (five outdoor escalators have already been rehabilitated). This project will improve station safety and enhance system reliability.	Transit - Light Rail	Rehabilitation	85,840
ACCESSIBLE LIFT REPLACEMENT	2	Accessibility	Replaces the four wayside lifts on Market St. and one wayside lift at San Jose and Geneva. New wayside platforms will provide safe boarding/alighting for passengers using mobility aids (e.g., canes, walkers, wheelchairs). Generally, these new platform lifts will improve rider access to vehicles. As a result, the project may reduce boarding time and improve system reliability.	Transit - Accessibility	Replacement	3,335
MUNI METRO STATIONS PLATFORM ELEVATORS	3	Accessibility	Install new platform elevators at Montgomery and Powell Stations. The elevators would serve the concourse and the Muni and BART boarding platforms. The elevator landings would be near the passenger boarding areas.	Transit - Accessibility	Enhancement	10,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SUBWAY STATION WAYFINDING	4	Accessibility	Improve wayfinding for blind and low vision customers in complicated shared BART/Muni Metro stations. Strategies could include the development and distribution of individual tactile station maps to assist in trip planning and navigation, or the installation of color contrasting, foot and cane detectable directional tile to indicate a safe path of travel through shared stations.	Transit - Accessibility	Rehabilitation	3,514
METRO ACCESSIBILITY - BEYOND KEY STOPS	5	Accessibility	Includes accessibility improvements beyond Americans with Disabilities Act (ADA) required key stops. The project will evaluate "2nd Tier" key stop list and other possible locations for additional key stops, and develop a priority list for construction of 5-10 additional key stops. It will plan, design and construct one key stop per year. This project will improve passenger access to light rail transit, particularly for the physically-challenged.	Transit - Accessibility	Enhancement	10,583
Total Cost Through FY 2029 for Program						113,272

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BICYCLE NETWORK EXPANSION	1	Bicycle	Encompasses planning, design, and construction of an expanded bicycle network. These facilities would extend beyond the 2008 Bicycle Plan to benefit the entire system and provide additional on road or grade seperated space for bicyclists.	Bicycle	Expansion	77,300
SHORT TERM BICYCLE PARKING PROGRAM	2	Bicycle	Includes the installation of 600 bicycle racks per year (e.g., sidewalk racks, on-street racks); wheel stops; bollards; and other measures to facilitate bicycle parking at various locations throughout San Francisco. These facility improvements serve the entire system by providing for the needs of cyclists, making bicycle transportation a safer, more viable, attractive mode in San Francisco.	Bicycle	Expansion	6,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BICYCLE PLAN NETWORK PROJECTS	3	Bicycle	Projects include the remaining 33 (out of over 60) short term projects from the Bicycle Plan, which collectively provide for construction of bicycle facilities. They feature bicycle lanes, sharrows, signal improvements and travel lane conversions from automobile use for enhanced bicycle network improvements and traffic calming efforts. These facility improvements serve the entire modal system by providing for the needs of cyclists. By making bicycle transportation a safer, more viable mode in San Francisco. By making the bicycle a more convenient mode to use for short trips, this program could decrease automobile congestion and overcrowding on transit vehicles.	Bicycle	Expansion	25,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BICYCLE SHARING	4	Bicycle	Makes bicycles available for public use via radio-frequency identification (RFID) smartcards available at self-service pay stations in central San Francisco (primarily in the northeast quadrant). The Project includes a one-year pilot and development of a detailed feasibility analysis and business plan. The bicycle sharing facilities encourage cycling as a transportation option, reducing automobile trips and transit crowding. Service provision could reduce noise and air quality impacts through a reduction in the volume of auto trips.	Bicycle	Expansion	42,000
BICYCLE PLAN LONG TERM IMPROVEMENTS	5	Bicycle	Encompasses planning, design, and construction of innovative bicycle facilities, including cycle tracks (on-street separated bikeways), colored bicycle lanes, bicycle boxes, and bicycle boulevards. The program enhances short-term bicycle projects and implements long-term projects. It extends beyond the 2008 Bicycle Plan to benefit the entire system and provide additional space for bicyclists. These innovations could indirectly decrease auto congestion and overcrowding on transit vehicles.	Bicycle	Enhancement	400,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SECURE BICYCLE PARKING	6	Bicycle	Includes the installation of 2-3 bicycle parking stations over the timeframe of this CIP, which are self-service or attended facilities that has controlled access for secure storage of a bicycle; and the installation of 20-30 bicycle lockers per year. Secure bicycle lockers provide flexible, shared use, on-demand bicycle parking options. Both of these facilities serve the entire system by providing for the needs of cyclists, making bicycle transportation a safer, more viable, attractive mode in San Francisco.	Bicycle	Expansion	4,500
Total Cost Through FY 2029 for Program						554,800
CABLE CAR MUSEUM RENOVATION	1	Facility	Renovates and improves the Cable Car Museum, located at the Cable Car Barn at 1201 Mason St. While this project will not provide operational benefits, it will help maintain a key tourist attraction, as well as an important source of agency revenue.	Transit - Cable Car	Rehabilitation	12,787

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
CENTRAL CONTROL - UPGRADES TO EXISTING FACILITY (C3)	2	Facility	Rehabilitates and seismically upgrades the existing facility. The project includes minor improvements, replacement and installation of small equipment items, including a 1) Automatic Train Control System (ATCS) Final Cutover and 2) Heating Ventilating Air Conditioning (HVAC), electrical, and lights. This facility enhancement would provide documentation for incidents where accurate identification is important.	Transit - Systemwide	Rehabilitation	4,880
SAFETY, SECURITY & TRAINING FACILITY IMPROVEMENTS	3	Facility	Includes the installation of a facility gate and rollup doors; repair and installation of a fence at 501-10th Street; replacement of a bay door and main door at 2650 Geary; replacement of classroom dividers at 2640 Geary; and rehabilitation of the security entrance and reception area at 2640 Geary. This project includes a number of improvements that will collectively provide greater security and preserve assets at these locations.	Transit - Systemwide	Rehabilitation	3,028
CABLE CAR VENTILATION SYSTEM	4	Facility	Installs and replaces the fresh air and exhaust ventilation systems for the cable car machinery area. This project will replace worn-out ventilation equipment and will install new equipment. It will also help maintain a healthy working environment for employees.	Transit - Cable Car	Replacement	3,803

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
AUTOMATIC TRAIN CONTROL SYSTEM (ATCS) SYSTEM MANAGEMENT CENTER (C3)	5	Facility	Replaces and upgrades the existing automatic train control system (ATCS) software platform to current technology, in order to replace the obsolete system. Conversion to a supported software operating environment is crucial to keeping the ATCS in a good state of repair, to minimize risks of obsolescence, and to expedite changes to system functionality over the next 20-year life of the ATCS. This upgrade is a necessary prerequisite for an integrated front-end to the ATCS at Central Control for the expansion of operational capability to the Central Subway. The project will increase security in the transportation system by providing a reliable means of contacting Central Control; and will reduce incidents and injuries by allowing secure and reliable transmission of messages between trains in the subway and Central Control.	Transit - Light Rail	Replacement	12,590

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SHOP EQUIPMENT PROGRAM	6	Facility	Provides for ongoing acquisition and replacement of the equipment needed to support all aspects of SFMTA operations, maintenance and administrative functions. Timely replacement and enhancement of the shop equipment increases SFMTA's ability to provide reliable service and reduce incidents stemming from not being able to complete a function due to faulty equipment. This project is critical to maintaining a state-of-good-repair of the systemwide shop equipment assets that support operations, maintenance, and administration.	Transit - Systemwide	Replacement	361,028
ISLAIS CREEK	7	Facility	Entails the development of a maintenance facility to accommodate 165 standard motor coaches. Construction of a facility to house motor coaches currently parked on the street will effectively improve security, allowing for more on-site maintenance than at the Kirkland Facility. In addition, this project will assist in meeting core operational reliability goals by providing improved maintenance.	Transit - Motor Bus	Replacement	188,848

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
CENTRAL CONTROL NEW FACILITY (C3)	8	Facility	Designs and constructs a new central control facility to replace the existing facility, which is undersized for its current use, contributing to inefficiencies. This project will improve system efficiencies and as vehicles travel more quickly, should yield significant travel time reductions for transit passengers.	Transit - Systemwide	Replacement	264,247
FACILITY PRESERVATION/ IMPROVEMENT PROGRAM	9	Facility	Includes the minor rehabilitation, preservation, and improvement of existing operating, storage, maintenance, and administrative facilities to rectify problems of system deterioration and/or deferred maintenance, and safety. This program would focus on the rehabilitation, preservation, and improvement of building exteriors and interior finishes, protecting key agency assets.	Transit - Systemwide	Rehabilitation	333,087
FLYNN VENTILATION SYSTEM & ROOF	10	Facility	Replaces the ventilation system at the Flynn Facility, which is no longer efficient. The new system will remove exhaust fumes generated by the diesel vehicles. This project will improve the health and safety of employees, providing for a healthier work environment.	Transit - Motor Bus	Replacement	14,420

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FIXED FACILITY REHABILITATION - MAINTENANCE BUILDINGS	11	Facility	Includes the major rehabilitation, preservation, and improvement of existing maintenance facilities to enhance maintenance infrastructure and improve maintenance management. Through these improvements, old systems will be replaced with newer, more energy-efficient systems.	Systemwide	Rehabilitation	299,184
POTRERO/PRESIDIO TROLLEY COACH LIFTS	12	Facility	Provides for the purchase and installation of lifts at the Potrero and Presidio Maintenance Facilities to replace the existing lifts. These lifts are used to raise the ETI Trolley Coaches to allow maintenance activities from underneath the vehicle and the side compartment. This project will provide for more efficient maintenance of trolley coaches at these facilities, allowing for more prompt servicing of these vehicles. In addition, the quality of service will improve once the transfer environment and convenience is improved.	Transit - Trolley Coach	Replacement	10,580

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
WOODS LIFTS HEAVY MAINTENANCE SHOP	13	Facility	Provides for systematic rehabilitation of the lift equipment at the Woods Heavy Maintenance Shop. The lift equipment allows maintenance staff to perform tasks underneath and on the sides of the vehicle. Lift equipment needs rehabilitation to ensure that maintenance operations can continue at the Woods facility.	Transit - Motor Bus	Rehabilitation	11,134
MUNI METRO EAST PHASE II	14	Facility	Comprises part of the follow-up work to restore previously-deferred project scope elements at Metro East: procure/install a new wheel truing machine, blow down pit equipment, rail car mover and other miscellaneous shop equipment. Improved maintenance may increase light rail vehicle (LRV) cleanliness and comfort, and support more reliable service.	Transit - Light Rail	Replacement	55,517

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
CENTRAL CONTROL INTERIM FACILITY (C3)	15	Facility	Designs and constructs an interim facility, moving the current central control operations from Lenox to an temporary site until the new Operations Central Control (OCC) is constructed. The project includes communications networking, hardware and software. This project will provide an interim step for improving the ability to respond to emergencies through better coordination of service and supervisor responses, as well as interagency communications.	Transit - Systemwide	Replacement	29,525

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BRYANT STREET FACILITY SEISMIC	16	Facility	Rehabilitates and seismically retrofits the 1401 Bryant St. facility, the main operations headquarters for the Overhead Lines group and the motive power center. If this building were damaged in a any seismic event, it would severely hamper the SFMTA's ability to restore and maintain service for the overhead power distribution system. The building is a historic structure constructed of unreinforced masonry and prone to damage in a seismic event. The restoration and reinforcement of this building would greatly enhance the overall operation of the Overhead Lines group, providing a safe working environment and a secure location to store equipment and materials needed daily to keep SFMTA's overhead system in a state-of-good-repair.	Transit - Systemwide	Rehabilitation	27,829
WEST PORTAL FACILITY REHABILITATION	17	Facility	Provides for major renovations and improvements to correct facility deficiencies resulting from long-term deferred maintenance. Facility assets are well past their useful life due to the continual deferment of maintenance. If improvements are not made, the facility will physically deteriorate, increasing the risk of on-site incidents and injuries.	Transit - Light Rail	Rehabilitation	86,434

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
REPLACEMENT OF SIGN, METER, PAINT, & SIGNAL SHOPS	18	Facility	Provides for a lease and option to purchase the properties at 1508 Bancroft Ave and 1528 Yosemite Ave for the purpose of making tenant improvements to four shops (sign, meter, paint, signal) and the Enforcement Street Sweeping Unit. This project provides for better accommodation of the four shops in one location, leaving open the possibility of SFMTA eventually purchasing the facility.	Signals, Signs & Striping	Replacement	31,608
GREEN FACILITY REHABILITATION	19	Facility	Includes rehabilitation or replacement of the roof and Heating, Ventilating, and Air Conditioning (HVAC) system at the Green Maintenance and Annex buildings, including heating systems and minor improvements. It features major renovations and improvements to correct facility deficiencies resulting from long-term deferred maintenance, as well as modernization of major maintenance and the overhaul of equipment. This project will lead to better performance, greater reliability and system safety. In addition, this improvement to facilities should improve maintenance functions, and potentially help maintain or improve light rail vehicle (LRV) availability.	Transit - Light Rail	Rehabilitation	70,162

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FIXED FACILITY REHABILITATION - ADMINISTRATION BLDGS	20	Facility	Includes the major rehabilitation, preservation, and improvements of existing administrative facilities to enhance administrative building infrastructures. This program will provide for improved employee safety and asset management.	Systemwide	Rehabilitation	98,103
FIXED FACILITY REHABILITATION - RESTROOMS	21	Facility	Includes major rehabilitation, preservation, and improvement of 110 existing restroom facilities at various locations, including Operations Central Control (OCC), subway stations, etc. This project will improve employee facilities, potentially leading to healthier working environments.	Systemwide	Rehabilitation	2,070
SUBWAY STATION REHABILITATION PROGRAM	22	Facility	Provides for ongoing rehabilitation and improvement projects in the Metro subway stations. It includes rehabilitation of substructure, superstructure, Heating, Ventilating, and Air Conditioning (HVAC) systems, electrical systems, plumbing systems, as well as painting and platform edge detection tile replacement. Well-maintained subway station facilities will reduce the risk of safety hazards due to deteriorating systems. Timely replacement of assets allows for consistent and efficient station operations, i.e., replaces old systems with energy-efficient ones.	Transit - Light Rail	Rehabilitation	644,737

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
ELECTRONIC L.E.D. SIGNAGE SYSTEM - EXPANSION TO NEXTMUNI	23	Facility	Includes purchase and installation of public information signage at the entrances of all subway stations to alert and inform Muni passengers of the status of Muni services, i.e., a modernization and expansion of the NextBus system. This project will improve safety and reliability, and allow passengers to make informed transit access decisions.	Signals, Signs & Striping	Enhancement	2,016
CABLE CAR SHOP EQUIPMENT	24	Facility	Includes purchase of specialized equipment, including a Lathe, (Monarch EE 10" x 20"); Hurco Mill, VMX 42 Propane Forklift to lift heavy objects; Suc-o-Matic Hydraulic Lift to lift cable cars to desired working height; and shop fans. This project will provide resources that will help improve the maintenance of cable cars, making it easier to service vehicles in an expedient manner. Faster turn-around will result in increased productivity and system efficiency.	Transit - Cable Car	Enhancement	4,969

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRANSIT RESTROOM FACILITY PROGRAM (OPERATOR RESTROOMS)	25	Facility	Continues the construction of Muni-only restroom facilities at transit terminals to provide Muni operators with access to restroom facilities 24-hours a day. It also includes the improvements to Muni Metro Subway stations (e.g., Americans with Disabilities Act (ADA) and Health Department compliance). This project will contribute to a healthier working environment for agency staff at these locations, potentially improving worker productivity and service reliability.	Transit - Systemwide	Enhancement	60,534
FACILITY IMPROVEMENTS - SOLAR PANELS	26	Facility	Installation of solar panels at the Woods, Potrero, Presidio and Flynn Transit Facilities. Each facility has an abundance of open, clear roof space where solar panels could be installed. The resulting electrical generation could be used to power each facility and excess energy could be returned to the power grid. This project will improve energy efficiency and would result in cost savings. It would also support the agency's sustainability goals by reducing SFMTA's use of non-renewable resources.	Systemwide	Enhancement	20,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
MOTOR COACH MAINTENANCE AND GREEN ENHANCEMENTS	27	Facility	Consists of purchasing and installing "green" exhaust particulate traps and cleaners for the Motor Coach fleet, which will cost $7.65 million, with another $400,000 used to purchase and install three Stage Two unit cleaning machines so that the exhaust systems can be cleaned in-house at a savings of about $700 per unit. This project also includes replacing an air compressor; rehabilitating Bus Wash at the Flynn Division; upgrading bus lifts with 14 hoist post upgrades; and purchasing and installing a hose reel dispensing system. When installed, this system will reduce the volume of exhaust stack emissions, benefiting 425 motor coaches. It will enhance Motor Coach maintenance and improve safety and reliability, but also air quality at the maintenance facilities.	Transit - Motor Bus	Enhancement	8,250

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
WOODS FACILITY IMPROVEMENTS	28	Facility	In an effort to plan for anticipated fleet expansion over the next 20 years, Woods Division yard could be double-decked and an on-ramp and an off ramp could be built for upper yard traffic to enter and exit the street. There are advantages to building a second deck at Woods, including expanded coach storage (enabling Woods to provide more service), the ability to park more coaches on the same footprint, and a smooth transition and ramp inclination. This project will provide greater facility security and improve the environment in which employees work by providing more effective and modernized equipment. In addition, a secure environment will improve employee productivity. The ability to house more vehicles may improve on-time performance.	Transit - Motor Bus	Enhancement	47,138
RUBBER TIRE DIVISIONS WASH RACK REPLACEMENT	29	Facility	Provides new wash racks for all five Rubber Tire Transit Divisions, leading to more efficient units (e.g., use of less water). This project will result in cleaner buses, with the potential of improving customer satisfaction. It will also improve the working environment by providing more effective and modernized equipment.	Transit - Systemwide	Enhancement	12,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
MAINTENANCE FACILITY EQUIPMENT UPGRADES	30	Facility	Contains a number of capital projects aimed at improving shop equipment at several maintenance facility locations. These upgrades include the following efforts: Air Compressor Replacement at Flynn (replacement of two air compressors supplying the shop and facility); New Hose Reel Dispensing System at Flynn (a new hose reel dispensing system to meet the needs of the computerized dispensing and monitoring); and Upgrade Bus Lifts (7 hoist post upgrades at Flynn and 7 hoist post upgrades at Woods). This project will encompass the modernization of maintenance facilities, providing greater facility safety and improving overall system reliability. It will also lead to reduced facility maintenance costs and indirectly, to greater reliability.	Transit - Systemwide	Enhancement	17,866
BUS WASH REHABILITATION - FLYNN DIVISION	31	Facility	Includes rehabilitation of the bus wash facilities at Flynn Division. Improvements to the bus wash facility will provide for more efficient maintenance of motor coaches, resulting in cleaner, more attractive vehicles and services.	Transit - Motor Bus	Rehabilitation	50

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FLYNN FACILITY REHABILITATION - NEW HOISTS	32	Facility	Provides employees with new, safe lifts, increased lifting capacity and more lateral stability. In addition, the units are more energy efficient -- the electric motors and hydraulics are state of the art units that require less energy. The Flynn facility, which needs hoists, will benefit from seven new drop-in units -- these newer units are self contained and make repairs much easier. In addition, external pumps, lines, electrical and fluids are eliminated, the need to break concrete is eliminated, and both support and maintenance costs are reduced. This project aims to improve the working environment of employees by providing modern and effective equipment. As a result, this project may improve employee productivity and increase revenue by reducing support and maintenance costs.	Transit - Motor Bus	Rehabilitation	2,000
FALL PROTECTION SYSTEMS	33	Facility	Purchase of safety equipment to prevent employees from falling while working on top of trolley coaches at the Potrero and Presidio Trolley Coach Facilities. This project will improve employee safety, providing for a healthier working environment.	Transit - Systemwide	Enhancement	874

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
AUTOMATIC TRAIN CONTROL SYSTEM (ATCS) TEST & REPAIR SHOP- GREEN	34	Facility	Increases space at the Green Center Electronics shop for technicians testing equipment and spare parts. Currently, the facility is overcrowded. This project would allow for more efficient use of shop space and provide the ability to build test stations and leave them assembled, i.e., saving considerable labor. In addition, the expansion would increase the quality of work done at the facility by providing the space needed to do necessary testing.	Transit - Light Rail	Enhancement	110
60-FOOT MOTOR COACH FACILITY	35	Facility	Provides for property acquisition (long term lease or purchase), design, and construction of a new bus operations facility for 100-150 60-foot (articulated) motor coaches. This site would host the following transit activities: maintenance, storage, daily service, fuel, wash, operator and other staff facilities, etc. This project is needed to adequately store and maintain the larger articulated vehicles, which are more efficient to operate. Accordingly, the 2010 Transit Fleet Management Plan calls for a major increase in the number of articulated vehicles, which would be supported by this project.	Transit - Motor Bus	Enhancement	80,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
CABLE CAR BARN FACILITY IMPROVEMENTS	36	Facility	Constructs office space on the first floor mezzanine level of the building for maintenance management and staff. Includes the construction of an emergency fire escape hatch from the welding shop. Improvements will enhance maintenance efficiency and safety for the cable car system. It will indirectly result in safer, more reliable service and increases in cable car use.	Transit - Cable Car	Enhancement	3,110
GREEN SPRAY CABINET AND OVEN	37	Facility	Purchase and installation of a spray cabinet and drying oven in the Green Electronics Shop to wash and rinse electronic assemblies. This project could improve operational efficiencies and ultimately, system reliability.	Transit - Light Rail	Enhancement	308
Total Cost Through FY 2029 for Program						2,824,826
RAIL REPLACEMENT PROGRAM	1	Fixed Guideway	Consists of a series of projects providing for the phased design and replacement of the trackway and related systems serving the light rail and cable car lines. The project will reduce the possibility of derailments or other incidents, facilitate maintenance, and improve system reliability, i.e., systematic rail replacement will maintain long-term safety on the rail system.	Transit - Light Rail	Replacement	658,772

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
OVERHEAD REHABILTATION AND TRACTION POWER SYSTEM	2	Fixed Guideway	Consists of a series of projects that rehabilitate, replace and improve all components of the existing Muni overhead and traction power infrastructure to support electrically-powered trolley coaches, light rail vehicles, and historic streetcars. This includes overhead wires, support poles, switches, substations, feeders, and related hardware. The primary focus of this program is to maintain the overhead system in a state of good repair by replacing components that have reached the end of their useful life.	Transit - Trolley Coach	Rehabilitation	2,731,714

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
AUTOMATIC TRAIN CONTROL SYSTEM (ATCS) INDUCTIVE LOOP CABLE IN THE MUNI METRO SUBWAY (TIER 1)	3	Fixed Guideway	Installs an insulated copper cable replacement loop the entire length of the subway as part of the automatic train control system inductive loop. The existing inductive loop has been broken in hundreds of locations, and the number of splices far exceeds the vendor's recommendation. This project provides a transmission medium for messages between trains in the subway, via under-car antennas, and the controlling computers at Central Control. These are safety-critical communications that are vital to the safe operation of trains in the subway. Replacement of the Inductive Loop will increase security in the transportation system by providing a reliable means of contacting Central Control should an incident arise. Reliable communication between subway trains and central control will also improve reliability.	Transit - Light Rail	Replacement	1,125

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SUBWAY SEISMIC RETROFIT STUDY	4	Fixed Guideway	Includes a study of the Market Street Subway, Twin Peaks Tunnel, Muni Metro Turnback and Sunset Tunnel to assess the seismic condition of these structures. The Study will identify specific capital improvements needed to ensure seismic integrity of the agency's subway tunnels. This project could eventually lead to improvements in system safety and security.	Transit - Light Rail	Rehabilitation	769
WAYSIDE - CENTRAL TRAIN CONTROL	5	Fixed Guideway	Provides for replacement or improvement of the subway data transmission system, subway signal cutover, Van Ness power supply for the wayside/central train control system, a secondary yard departure test device, and signalizing and electrifying Green Yard switches. This program is also covering some elements of Central Control New Facilities (C3) renovations at 131 Lenox, including Uninterrupted Power Systems (UPS) and Computer Heating Ventilating and Air Conditioning (HVAC) replacements. Replacement and/or improvement of the subway data transmission systems and subway signal cutover will improve on-time performance, reduce travel time variability, and improve trip predictability. It will also improve transit security and safety.	Transit - Light Rail	Replacement	488,226

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FIXED FACILITY REHABILITATION - SUBSTATIONS	6	Fixed Guideway	Includes major rehabilitation, preservation, and improvement of existing substation buildings to rectify problems of system deterioration and/or deferred maintenance and safety hazards. This project will improve employee safety and protect agency facilities, leading to greater operational efficiencies.	Systemwide	Rehabilitation	67,585
CABLE CAR INFRASTRUCTURE PROGRAM	7	Fixed Guideway	Covers a wide variety of track work, cable machinery, traffic priority control, office, and maintenance equipment, totaling 19 projects through 2020 and 60 projects through 2029. Replacement of track work, machinery, and communications equipment improve overall safety and increase the likelihood of attaining operational performance standards by providing updated and modern equipment which cable cars utilize.	Transit - Cable Car	Rehabilitation	153,041
SIGNAL VITAL RELAY TEST SYSTEM	8	Fixed Guideway	Provides for the procurement of a computer-based tester for subway surface signaling system relays. The project modernizes the existing signal relay system, providing greater safety in the subway. It will maintain performance and may also decrease operating and maintenance costs.	Transit - Light Rail	Enhancement	14,540

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SUBWAY DIGITAL TRANSMISSION SYSTEM AND SCADA REPLACEMENT	9	Fixed Guideway	Replaces the existing subway Digital Transmission System (DTS) with a new Supervisory Control and Data Acquisition (SCADA) system as part of the Central Control New Facility (C3) Program scope of work. The existing SCADA is a 30-year old, custom built system that is obsolete and no longer has manufacturer support. This project will support the operation of subway fans, damper, sump pumps, intrusion detection, fire alarm notification, train occupancy indications, train and track switch signaling, electric power indication, etc. and will be integrated with Central Subway SCADA and the existing Muni Metro Turnaround/Muni Metro Extension (MMT/MMX) SCADA system. This project will provide important improvements to both transit infrastructure and transit operations. The subway DTS system is a part of the subway life safety system that is required by code for the operation of the subway system.	Transit - Light Rail	Enhancement	89,519
Total Cost Through FY 2029 for Program						4,205,291

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
CABLE CAR VEHICLE REHABILITATION PROGRAM	1	Fleet	Encompasses phased overhaul and reconstruction of the Cable Car fleet, with a total of 40 vehicles undergoing major or minor rehabilitation by FY 2029: a) a proposal for major rehabilitation, consisting of 17 Powell Cars and 11 California Cars; and b) a proposal for minor rehabilitation, consisting of 10 Powell Cars and 2 California Cars. This program will implement the projects necessary to maintain a high level of system reliability and productivity, providing quality of service to patrons.	Transit - Cable Car	Rehabilitation	36,781
HISTORIC VEHICLE REHABILITATION PROGRAM	2	Fleet	This program consists of the system rehabilitation of 17 historic streetcar vehicles (Car #1 and 16 PCCs), featuring an end-of-life rehabilitation (to new condition) and a one-time rehabilitation/overhaul. It includes Americans with Disabilities Act (ADA) rehabilitation, a brake interlock system, a backup master controller, a major overhaul, and fare box procurement. This program will maintain a high level of system reliability and productivity.	Transit - Historic Streetcar	Rehabilitation	170,062

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FAREBOXES-REPLACEMENT PROGRAM	3	Fleet	Includes the following activities: replaces 1,250 fare boxes; procures new probing equipment; refurbishes vault equipment; procures 72 additional fare boxes to serve as a float when a batch of fare boxes is being refurbished; and purchases a data collection system at the yard and a new central computer for reporting and data storage. The useful life of refurbished and modernized systems is anticipated to be 12 years. (This is the American Recovery and Reinvestment Act (ARRA)-funded project awarded in 2009.) Since this project consists of replacing the previously existing fare collection system, it will effectively improve system accountability as well as passenger boarding. In addition, it will lead to better system reliability, as well as key reductions in travel time.	Transit - Systemwide	Replacement	158,983

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
LIGHT RAIL VEHICLE - REPLACE 151 BREDA CARS	4	Fleet	Includes replacement of the entire fleet of Breda light rail vehicles when they reach the end of their useful life, with 151 new light rail vehicles (LRVs) that meet the operational and capacity needs of the Metro light rail system. This project will provide for the modernization of the existing light rail vehicle (LRV) fleet and will also allow for greater speed, reliability and comfort.	Transit - Light Rail	Replacement	1,157,709
LIGHT RAIL VEHICLE REHABILITATION PROGRAM	5	Fleet	Includes the systematic rehabilitation and overhaul of all light-rail vehicles every five years, including Heating Ventilating and Air Conditioning (HVAC), brakes, couplers, pantograph, propulsion, doors, car body, seats, and cab. This rehabilitation will ensure a higher state of system reliability throughout the life of the vehicles and will reduce maintenance costs.	Transit - Light Rail	Rehabilitation	208,020

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
MOTOR COACH - COMPONENT LIFE CYCLE REHABILITATION PROGRAM	6	Fleet	Provides for the systematic mid-life rebuild of all vehicles in the motor coach fleet, i.e., every 12 years, consistent with the mid-life cycle. The program includes rehabilitation and replacement of engines, transmissions, differentials, suspension systems, wheelchair lifts, passenger and driver seats, glass, and body repair and paint. Mid-life rehabilitation of the motor coach fleet ensures that the vehicles operate in a safe and secure manner, reducing safety hazards (resulting from deteriorating systems) and vandalism by presenting the public a clean and well-maintained vehicle. In addition, this rehabilitation program will allow each vehicle to reach its full useful life before needing to be replaced. Timely rehabilitation of the motor coach fleet reduces the number of breakdowns and improves service reliability.	Transit - Motor Bus	Rehabilitation	173,808

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
NON-REVENUE VEHICLE REPLACEMENT PROGRAM	7	Fleet	Consists of the purchase and replacement of non-revenue vehicles, such as specialized maintenance vehicles, as well as light and heavy duty trucks and sedans that are used throughout the agency. This project will replace existing non-revenue vehicles at the end of their useful life. On-time replacement of non-revenue vehicles ensures that employees can efficiently access locations where there are service incidents and perform corrective measures.	Transit - Systemwide	Replacement	185,403
BUS VIDEO SYSTEM REPLACEMENT	8	Fleet	Replaces the on-board video system. This project will be coordinated with Security. The on-board video system provides SFMTA with the ability to monitor any suspicious activity or potential threats on motor coaches and trolley coaches. In addition, timely replacement of the existing on-board video camera equipment will reduce operating costs to repair broken or deteriorated equipment and will help minimize revenue loss due to faulty or malfunctioning equipment.	Transit - Motor Bus	Replacement	16,117

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
LIGHT RAIL VEHICLE REPAIR (8 CARS)	9	Fleet	Features the following program components: 1) The design, construction, and return of four light rail vehicles (LRVs) to revenue service. This includes repairs and replacement of structural steel and body panels as needed to return cars to original equipment manufacturer (OEM) specifications, repainting and decaling, repair of affected subsystems, etc. The contract will include a two-year warranty on repairs and shipping to and from the contractor's facility. 2) Replacement of four couplers damaged in recent derailments. Costs will include the procurement of replacement couplers. Installation will be performed by in-house staff. This project will provide for the rehabilitation of a number of light rail vehicles, supporting the agency's Federal Transit Administration (FTA) commitment to operate for the full life of the vehicle.	Transit - Light Rail	Rehabilitation	33,426

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
MOTIVE POWER SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) SYSTEM UPGRADE	10	Fleet	Development of new Supervisory Control and Data Acquisition (SCADA) terminals and an upgraded system network as part of the larger, Central Control Facility program. This project will allow Muni Operation Central Control personnel to easily access the SCADA system located at the Power Control Center. Greater access will allow for more effective real-time monitoring and control of the traction power system, leading to greater system safety. A reliable traction power system will enable the SFMTA to provide reliable trolley and rail services, potentially increasing ridership.	Transit - Systemwide	Replacement	1,211

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
MOTOR COACH REPLACEMENT PROGRAM	11	Fleet	Entails the procurement of 812 standard and articulated hybrid buses (30-foot, 40-foot and 60-foot motor coaches) through 2029. This program seeks to replace the existing aging fleet to a state of good repair, replacing old, severely overtaxed equipment with the latest and most advanced hybrid technology available, i.e., vehicles will be replaced every 14 years, as shown in the Transit Fleet Plan. Many major components have reached their useful life and need to be overhauled, replaced and rebuilt. Due to the age of the components, there is a high cost associated with procuring the needed parts, i.e., many are very labor-intensive. The new coaches will offer greater reliability and safety with enhanced transmission-based brake retarders, composite materials, slip resistant flooring and better mirrors. As a result, this project will improve agency safety and security, as well as improved transit reliability, on-time efficiency and customer satisfaction.	Transit - Motor Bus	Replacement	1,391,088

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TROLLEY COACH REPLACEMENT PROGRAM	12	Fleet	Provides for the systematic replacement of vehicles in the trolley coach fleet. This project replaces the trolley coach vehicles at the end of their 15-year useful life, maintaining the trolley coach fleet in a state-of-good-repair. Timely replacement of trolley coach vehicles reduces the number of incidents and breakdowns from vehicle deterioration and age, contributing to a cleaner and more comfortable experience for the customer and employee. As a result, by reducing the likelihood of in-service breakdowns, this project could reduce travel-time variability.	Transit - Trolley Coach	Replacement	702,763
TROLLEY COACH REHABILITATION PROGRAM	13	Fleet	Implements systematic mid-life rebuild and overhaul of all vehicles in the trolley coach fleet, in order to maintain adequate vehicle availability throughout the 15-year useful life of the trolley coaches. This program includes the rehabilitation and replacement of frames, Kiepe retriever, inverter replacement, battery management, and minor overhaul of major components. This program of rebuilds and overhauls involve modernization of equipment to meet current standards (e.g., accessibility).	Transit - Trolley Coach	Rehabilitation	145,205

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
PARATRANSIT FLEET REPLACEMENT PROGRAM	14	Fleet	Provides for the purchase of approximately 40 large-sized vans, designed to carry one to two wheelchairs and 12 seated passengers, based on a replacement cycle of five years. This project will replace the current fleet, providing for newer, modern vehicles and better access for the physically-challenged.	Transit - Accessibility	Replacement	6,233
LIGHT RAIL VEHICLE - BREDA SAFETY MODIFICATIONS	15	Fleet	Consists of installations and improvements to the BREDA Light Rail Vehicles, such as auto drop pantograph, crew door control switch, emergency door release, interlock step cutout/door, lighting ballasts replacement, master controller modifications, onboard event recorder, and sensitive edge body seals. This project will provide for better passenger safety and reliability. It should also allow for greater passenger comfort.	Transit - Light Rail	Enhancement	5,065
LIGHT RAIL VEHICLE - JKLMN EXPANSION	16	Fleet	Provides for the purchase of additional light rail vehicles to increase the level of service on the existing J, K, L, M, and N lines. Delivery of the first 10 of 13 additional vehicles is planned for 2019. This project will provide for modernization of the existing light rail vehicle (LRV) fleet, once it has been expanded. It should allow for greater speed, reliability and comfort.	Transit - Light Rail	Expansion	136,615

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
HUNTERS POINT/CANDLESTICK POINT - BUSES AND LRVS FOR NEW SERVICE	17	Fleet	Expands the bus fleet to meet the increased transit demand generated by the development of new neighborhoods at Candlestick Point/Hunters Point Shipyard (CP-HPS): 49 40-ft motor coaches, 19 60-ft BRT-ready motor coaches, 12 40-foot trolley coaches and up to 20 light rail vehicles (LRVs). These vehicles are to be purchased in phases, anticipating 2030 build-out of the Central Subway and Candlestick Point/Hunters Point Shipyard Phase II Project. This project will provide an opportunity for the SFMTA to offer expanded service, in conjunction with new land uses in this area.	Transit - Motor Bus	Expansion	198,573
MOTOR COACH EXPANSION	18	Fleet	Expansion of the motor coach fleet, both in number of vehicles and vehicle capacity, to accommodate projected growth. Between 2010 and 2030, the motor coach fleet will expand from 460 to 581 buses (increase of 121 buses), as shown in the Transit Fleet Plan. This expansion of the motor coach fleet is needed to meet projected ridership demand. In addition, new fleet procurements will help meet operational needs for larger capacity vehicles and help meet zero emissions targets.	Transit - Motor Bus	Expansion	175,148

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TROLLEY COACH EXPANSION	19	Fleet	Brings needed expansion to the trolley coach fleet. Between 2010 and 2030, the 60-foot trolley coach sub-fleet will increase from 73 to 121 vehicles, while the 40-foot trolley coach sub-fleet will decrease from 240 to 188 vehicles. Expansion of the 60-foot sub-fleet is needed to meet increased ridership, avoid crowding, and efficiently accommodate projected demand. The 60-foot trolley coach procurements will help meet operational needs for larger vehicles and meet zero emissions targets.	Transit - Trolley Coach	Expansion	68,952
TRANSIT EFFECTIVENESS PROJECT (TEP) - COMMUNITY CONNECTOR VANS	20	Fleet	Provides for the procurement of a new fleet of vans to replace the 30-foot motor coaches on selected Community Connector routes. Anticipated fleet specifications include capacity for two wheelchairs, 20-25 total passengers, and low floors to ease boarding and alighting. Project benefits include reduced travel times and improved reliability through better maneuverability (e.g., reduced chance of collisions, ability to more easily operate on narrow streets). In addition, vans may be more fuel-efficient and reduce noise and visual impacts on hilly routes.	Transit - Motor Bus	Expansion	3,422

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
ON-BOARD VIDEO CAMERA EQUIPMENT UPGRADE	21	Fleet	Upgrades all non-functional camera and recording systems on the vehicles. The rubber tire fleet of 820 vehicles is in need of an upgrade. Video camera technology has improved with the introduction of infrared cameras, longer recording time and more data storage as well as self-monitoring diagnostics. This upgrade in video camera equipment will provide a higher level of on-board security.	Transit - Systemwide	Enhancement	9,318
FORWARD-FACING CAMERA / TRANSIT ONLY LANE ENFORCEMENT (TOLE)	22	Fleet	Equips SFMTA transit vehicles with forward facing parking detection devices to document vehicles parked in transit only lanes and issue parking citations based on that video evidence. This security enhancement would help deter double parking, illegal parking and provide documentation for incidents where accurate identification is important. This project will improve safety, allowing for better access in the event of an emergency. It will reduce congestion on major corridors, thereby improving service reliability and transit system efficiency.	Transit - Systemwide	Enhancement	3,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FARE COLLECTION ENHANCEMENTS	23	Fleet	Encompasses the remaining fare collection items of importance, including ticket vending machines (TVMs) outside the subway (e.g., Carl and Cole Sts., Cable Car turnarounds); and upgrades to bus fareboxes to allow for credit card tapping, automatic transfers, etc. This project would permit the SFMTA to continue upgrades to its fare collection system, helping to increase revenues and enhance customer convenience. The SFMTA is exploring contactless bank card fare collection in addition to Clipper and other fare payment mechanisms. Upgraded fare technologies would also enable the SFMTA to introduce variable transit pricing to provide incentives for customers to ride during off-peak hours when there is additional capacity.	Transit - Systemwide	Enhancement	7,647

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
AUTOMATIC PASSENGER COUNTING (APC) SYSTEM	24	Fleet	Procures and installs on-board automatic passenger counting equipment on Muni's light rail revenue fleet, exclusive of historic rail and cable cars. The APC system counts on- and off-passenger loading and logs the data to an on-board computer. The APC equipment will allow system controllers to provide additional vehicles on the system to minimize delay and overcrowding for passengers after determining overloaded vehicle conditions exists. In addition, the project will provide transit controllers with vehicle passenger information to make the decision to disperse additional vehicles on overloaded routes.	Transit - Systemwide	Enhancement	4,044
Total Cost Through FY 2029 for Program						4,998,593

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
RADIO REPLACEMENT PROGRAM	1	Information Technology	Replaces the existing, obsolete Radio Voice/Data Communications and Computer Aided Dispatch (CAD) systems with a new state-of-the art radio communication system. The Federal Communications Commission (FCC) requires SFMTA to migrate to a newer narrow-band radio system before 2013. This project includes the purchase and replacement of handheld mobile radios for the Safety and Security staff. The project replaces an obsolete technology, allowing safety and security staff to operate more efficiently.	Transit - Systemwide	Replacement	248,740

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SUBWAY PUBLIC ADDRESS AND PLATFORM DISPLAY SYSTEM REPLACEMENT	2	Information Technology	Replaces the existing 30 year old subway Public Address (PA) System & Platform Display systems (PDS), as a part of the Central Control New Facility (C3) Program scope of work. The new subway PA/PDS system would be expandable to the Central Subway as one integrated unified system. The installations include central control, nine subway stations, both mezzanine and platform levels and 17 station agent booths. Work scope also includes installation of new platform displays (visual) for passenger information for all nine stations and scalable to include Central Subway. The PDS system would display integrated train arrival predictions from NextMUNI and ATCS systems. This project will provide for enhanced communication, as well as real-time information for the passenger.	Transit - Light Rail	Replacement	18,938

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SFMTA INFORMATION PORTAL	3	Information Technology	Replaces the existing intranet and internet with a portal system which will deliver better and personalized content aggregation and integration, unified content and access, and service-oriented analysis and process integration capabilities. The portal can be used as a platform for all new application deployment and development throughout the SFMTA. It will also be available to external agencies, customers, and the general public for accessing all services provided by the SFMTA.	Systemwide	Replacement	3,207
DATA PROCESSING AND INFORMATION TECHNOLOGY PROGRAM	4	Information Technology	Procures and replaces data processing and office equipment to support management, administration, planning, operations, and engineering services of SFMTA. Includes a project to purchase and install a Private Business Exchange (PBX) telephone system and fiber-optic communications links at Muni Facilities to replace the obsolete Centrex equipment. Replace slow and outdated personal computer (PC) workstations at the bus yards.	Systemwide	Replacement	130,167

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRAINING FLEET HAND HELD RADIOS	5	Information Technology	Procure hand-held radios, spare batteries and chargers for 10 Diesel Training Coaches, and two spare sets. These hand held radios will be used for communications with Central Control. This project will enhance communication with Central Control and enhance the ability to report incidents or potential threats to the training coaches. As a result, it will improve system safety.	Transit - Systemwide	Enhancement	20
GEOGRAPHIC INFORMATION SYSTEM (GIS)	6	Information Technology	Purchase and installation of a centralized and comprehensive Geographic Information System (GIS), including data storage, handheld devices, ruggedized laptops for field data collections, software, training, scanning and geodatabase development. This project will modernize the SFMTA's existing GIS system. With a comprehensive GIS database, personnel will have the ability to graphically analyze issues.	Systemwide	Enhancement	391

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
GLOBAL POSITIONING SYSTEMS UPGRADES	7	Information Technology	Purchase and installation of equipment to integrate existing global positioning system (GPS) architecture to the digital video recorder (DVRs) on revenue vehicles. It provides the ability to superimpose the City map on recorded video (from DVRs) to accurately depict the location of a vehicle. The GPS equipment will provide transit supervisors with the ability to track transit vehicles to improve on-time performance and reduce travel time variability. This equipment will also provide security-related benefits when vehicles are headed toward a hazardous situation.	Systemwide	Enhancement	2,016
CAPITAL ASSET MANAGEMENT PROGRAM	8	Information Technology	Integrates asset management and inventory concepts with capital planning, investment, budgeting and project prioritization. The program focuses on refining the existing asset inventory and condition of capital assets. It is intended to maintain quality services by supporting the timely replacement/rehabilitation of assets. This program could also reduce maintenance costs by helping keep the system in a state of good repair.	Systemwide	Enhancement	47,865

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
COMMUNICATION CONNECTIVITY & PASSENGER INFO	9	Information Technology	Expands the utilization of unallocated capacity of the existing fiber-optic cables to establish high-speed connectivity within the Metro Subway. Includes two large (60") display monitors in the concourse areas. High speed connectivity would allow for security concerns and safety anomalies to quickly be communicated to Central Control. In addition, monitors would provide information to passengers so that they can make informed decisions concerning which train to take to their destination.	Transit - Systemwide	Enhancement	25,207
ELECTRONIC DOCUMENT MANAGEMENT	10	Information Technology	Includes purchase and installation of an agency-wide electronic document storage, retrieval, scanning, indexing and search software and hardware system. This project will enhance the agency's ability to capture and use safety and training documents, historical photographs, and as-built graphics of facilities.	Systemwide	Expansion	8,565

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
311 EXPANSION	11	Information Technology	Expands SFMTA usage of the 311 System to capture agency-wide customer complaints, including integrating customer complaints into Trapeze, parking control officer (PCO) complaints, etc. The project includes wireless, handheld devices, information technology infrastructure improvements (including hardware and software interfaces to communicate with legacy technology systems), automation of intake and distribution of customer service requests and/or complaints for all SFMTA divisions. Enhanced efficiency in the intake and resolution of customer service requests will improve system quality as communication and request resolution improve. Reported incidents will help inform the strategic deployment of agency resources.	Systemwide	Expansion	2,855

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
LEARNING MANAGEMENT SYSTEM	12	Information Technology	Purchase of a Learning Management System (LMS) and related information technology (IT) infrastructure, establishing a permanent repository for training, testing, and certification of employee records. Under this system, computer-based training, reference information, and training materials can be delivered to an individual's desktop, to a workstation (kiosk-type application), or as part of a classroom multimedia presentation. It features resource files for use within training presentations and programs (e.g., photos, video files, audio files, or reference documents) that are catalogued, retrieved, and distributed. This project will facilitate the development of professional programs, as well as the timely dissemination of computer-based training materials within the SFMTA.	Systemwide	Expansion	11,420
MAINTENANCE YARDS NETWORK UPGRADE	13	Information Technology	Installation of high-speed wireless networking access points at transit yards using 802-11.A standard. This network upgrade will allow remote data collection, diagnostics and communications from devices installed on vehicles or portable devices in the yards.	Transit - Systemwide	Enhancement	109

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SMART MOBILITY DEVICE SUPPORT	14	Information Technology	Provides for the design, purchase and implementation of web-based tools and smart phone applications to allow users access to multi-modal transit information in real time. The SFMTA web-based tools and smart phone applications would display up-to-the-minute information on trip length and duration, location, and fare information regarding all transportation modes available in San Francisco at one point of access. It would include information on NextMuni, SFpark, SFgo, bicycle sharing, bicycle routes, walking routes, car sharing, taxis, BART, Caltrain, ferries, etc. This project will improve customer access to information, enabling the customer to make the best informed decision on which transportation option to use.	Systemwide	Expansion	4,000
DATA SYSTEM ENHANCEMENTS	15	Information Technology	Improves the quality of a number of data systems, including automatic vehicle location (AVL) and travel modeling-related projects. Collectively, the components of this program will provide the SFMTA with a great deal of additional capacity in the area of information systems .	Systemwide	Enhancement	63,846

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
Total Cost Through FY 2029 for Program						567,346
PARKING CONTROL SIGN RENOVATION & REPLACEMENT PROGRAM	1	Parking	Includes the following ongoing projects: preventive maintenance of 10,000 signs per year; renovation of 5,000 signs per year with graffiti sheeting; and replacement of 10,000 street name signs. The program seeks to remove or limit sources of delay to transit and non-motorized modes by providing clear information on the costs, times and locations that vehicles are permitted to park on the street. It also offers protection against graffiti.	Parking	Replacement	114,188
PARKING FACILITY RETROFIT PROGRAM	2	Parking	SFMTA Garages and surface lots are not completely compliant with the Americans with Disabilities Act (ADA) and require compliancy related retrofit work. ADA retrofit work eliminates risks that may arise due to non-compliancy. It is very important that the ADA compliancy related projects are completed before March 2012 due to the fact that more stringent ADA requirements are expected.	Parking	Replacement	3,200

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
PARKING FACILITY ENERGY EFFICIENCY RETROFITS	3	Parking	Upgrade all SFMTA garage electrical systems. SFMTA's current practice of using less energy efficient lights and all day or non-sensored heating and ventilation systems puts extra load on SFMTA garages' electrical switches, transformers and breakers circuits. This extra load leads to excessive maintenance costs, emergency rather than planned repairs and operational inefficiencies. Metal Halide lights have a relatively short useful life, consume more energy and need replacement. By installing energy efficient lighting system (such as LED and/or Inductive) with motion and heat sensors, SFMTA can significantly reduce the garage energy consumption.	Parking	Enhancement	35,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
PARKING FACILITY MECHANICAL SYSTEM IMPROVEMENTS	4	Parking	SFMTA's garages have ineffective mechanical systems. The heating system, boilers, ventilation, air conditioning, chillers and elevators require updating. California Building Code requires any unmonitored HVAC system to constantly run whenever the garage is open for business. By installing the Carbon Mono-Oxide (CO) sensors and Variable Frequency Devices (VFD) for the HVAC system, agency can realize significant energy cost saving. Return on Investment (ROI) for the CO and VFD sensors is less than 5 years. SFMTA can reduce the garage energy consumption resulting in significant cost saving and a smaller carbon footprint for the agency and the city. Elevator modernization is also necessary to secure agency assets and ensure public safety.	Parking	Replacement	40,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
PARKING FACILITY STRUCTURAL UPGRADES	5	Parking	Most of SFMTA parking structure are at least 20 year old (oldest garage was built in 1941). Performing a structural analysis to assess the integrity of the SFMTA garages is the first and necessary step to ensure the viability of SFMTA parking assets. The second step is to remediate foundations, floors, walls, ceilings, stairs, doors, protectants (waterproofing, concrete inhibitors, fire proofing), painting (interior and exterior) and facility structural and seismic upgrade, where needed.	Parking	Replacement	79,000
PARKING FACILITY LIFE SAFETY EQUIPMENT	6	Parking	Life Safety systems include closed circuit television (CCTV), emergency/disaster response equipment, fire protection and communication devices. Currently SFMTA garages do not have sufficient life safety systems.	Parking	Enhancement	30,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
PARKING FACILITY ACCESS AND REVENUE CONTROL SYSTEM	7	Parking	Parking Access and Revenue Control Systems (PARCS) include software, hardware, ticket dispensers, gate arms, registers, ticket acceptors, ticket readers, and pay stations. The PARCS equipment in 20 SFMTA off-street garages are antiquated and require regular maintenance. Due to the different hardware and software versions, staff cannot get a coherent report from the parking garages. Parking equipment replacement parts in some of the garages are no longer available.	Parking	Enhancement	38,000
INSTALL NEW PARKING METERS CITYWIDE PROGRAM	8	Parking	Replaces and modernizes equipment for all 24,000 existing parking spaces and installs equipment for an additional 6,000 spaces, in coordination with SFpark pilot projects. Existing meters are outdated and subject to vandalism and mechanical problems. This ongoing project will increase payment options and improve reliability. New meters will facilitate the pricing of parking facilities and by accepting non-cash payment, will increase driver convenience.	Parking	Replacement	285,677

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FIXED FACILITY REHABILITATION - PARKING	9	Parking	Includes major rehabilitation, preservation, and improvement of existing parking facilities to enhance parking infrastructure and improve parking management. This program will better manage the limited supply of parking in San Francisco, providing for more efficient storage of vehicles and greater security.	Parking	Rehabilitation	667,306
INSTALL VEHICLE DETECTION SENSORS	10	Parking	Installs vehicle detection sensors and related equipment in all existing metered parking spaces and additional parking spaces, in coordination with SFpark pilot projects. This parking meter messaging system will help inform drivers of vacant parking, thereby reducing vehicle miles traveled (VMT), vehicle emissions, and noise.	Parking	Enhancement	13,653
SFPARK: PARKING MANAGEMENT	11	Parking	Provides for the implementation of pilot projects. SFpark is testing wireless sensors and new meters in a number of neighborhoods across the City, including Civic Center, Hayes Valley, the Financial District, South of Market (SoMa), the Mission, Fisherman's Wharf, the Fillmore and the Marina. This project will enhance the quantity and quality of parking information, decreasing vehicle miles traveled (VMT) and potentially reducing both congestion and air quality impacts.	Parking	Enhancement	18,811

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SFPARK - VARIABLE MESSAGE SIGNS	12	Parking	Provides for installation of approximately 10 electronic signs to provide customized information to drivers on parking availability, special events or road conditions. This project will provide reliable information to the public, reducing vehicle miles traveled (VMT) and potentially reducing congestion and emissions in specific areas.	Parking	Enhancement	6,321
Total Cost Through FY 2029 for Program						1,331,156
CURB EXTENSIONS & PEDESTRIAN REFUGE ISLANDS	1	Pedestrian	From the Better Streets Plan, this project designs and constructs (including upgrading existing locations) up to 40 curb extensions and up to 20 pedestrian refuge islands per year,. This project will improve pedestrian safety by shortening the crossing distance at crosswalks and providing for space at medians to ensure that pedestrians have a safe place to wait.	Pedestrian	Enhancement	74,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
CITY-WIDE PEDESTRIAN SAFETY AND CIRCULATION IMPROVEMENTS	2	Pedestrian	Covers citywide pedestrian safety and circulation improvements, including innovative devices and improvements listed in other pedestrian planning efforts (e.g. Better Streets Plan, ENTRIPS, Market/Octavia Plan, Mayor's Ped Directive, etc.). These improvements may include pedestrian detection and counting devices, sidewalk or plaza surface and aesthetic treatments, speed display signs, pedestrian friendly signal timing/phasing changes, and wayfinding signs.	Pedestrian	Enhancement	88,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
CONVERT STANDARD CROSSWALKS	3	Pedestrian	Improves crosswalks at signal controlled and uncontrolled locations. Per SFMTA's adopted Crosswalk Guidelines, 170 arterial locations have been identified to be upgraded from standard crosswalks to continental crosswalks. School and mid-block crosswalks have already been striped with the wider bars. Additionally, there are approximately 1,200 signalized locations within the city that are targeted for conversion. The project replaces worn-out crosswalk striping, install red zones to improve visibility and "daylight" the intersection, install advance yield lines and install signage. Continental crosswalks are more visible to motorists and strengthen the accessible path of travel, resulting in improved safety for all users. Projects may include the construction of new Americans with Disabilities Act (ADA) ramps.	Pedestrian	Enhancement	7,100

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FLASHING BEACONS AND IN-PAVEMENT CROSSWALKS	4	Pedestrian	From the Better Streets Plan, this project upgrades 7 crosswalk locations per year with flashing beacons, alerting drivers of crossing pedestrians. Consistent with the San Francisco Better Streets Plan, these treatments should be considered at high-conflict uncontrolled crossing locations with posted speeds under 35 mph and significant pedestrian volumes that require extra nighttime visibility or that have frequent high-fog visibility restrictions. This project will enhance the appearance and usefulness of these crosswalks and will improve pedestrian safety.	Pedestrian	Enhancement	1,160
RAISED CROSSWALKS AT ALLEYS	5	Pedestrian	From the Better Streets Plan, this project installs facilities at an estimated 50 locations, especially those with higher levels of pedestrian volumes and conflicts with driveway traffic or potential visibility conditions. Raised crosswalks can increase pedestrian comfort, slow vehicles and make pedestrians more visible to the motorist. The goal of this project is to improve pedestrian safety in multiple ways: pedestrian signal phasing changes may reduce pedestrian-vehicle conflicts; speed display signs may slow vehicles; and pedestrian detection devices may adjust signal timing to accommodate slower pedestrians.	Pedestrian	Enhancement	3,250

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
RE-OPENING CLOSED CROSSWALKS	6	Pedestrian	Reopens closed crosswalks that force some pedestrians to cross an intersection three times instead of once. It is estimated that 85 crosswalks will be reopened, based on pedestrian and vehicle volumes, with an estimated cost of $100,000 per location. This project will improve safety, providing better access and convenience to pedestrians.	Pedestrian	Enhancement	8,500
HAIGHT/MARKET ST. TRANSIT & PEDESTRIAN IMPROVEMENTS	7	Pedestrian	Includes conversion of Haight St. between Octavia Blvd. and Market St. to a two-way street with a new transit lane on Haight between Laguna and Market Sts., as well as the extension of the transit lane on Market St. from Franklin St. to Gough St. Dedicated lanes will be provided on portions of Haight and Market Sts. and transit signal priority at key intersections. This project improves transit performance, safety, and transit access. It adds safe hit posts to the bicycle lane on Market St. between Gough and Franklin Sts., plus pedestrian infrastructure improvements (e.g., enhanced curb bulbs, pedestrian refuge islands, improved crosswalks, pedestrian countdown signals, and tree planting).	Transit	Enhancement	5,300

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
Total Cost Through FY 2029 for Program						187,310
SUBWAY FIRE ALARM & DETECTION	1	Safety	Replaces the existing fire alarm and detection systems at nine existing subway stations, with a system that is compatible with the new Central Subway. This system will interface with the Central Control System and the San Francisco Fire Department (SFFD) system. This project will provide a number of benefits: a) it will ensure that the system is properly functioning and protects the transportation system from potential fire hazards; b) it will allow for quicker detection of minor incidents; and c) it will contribute to a universal design for the fire alarm and detection equipment.	Transit - Light Rail	Replacement	290,433

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SUBWAY BLUE LIGHT PHONE SYSTEM REPLACEMENT	2	Safety	Replacement of the existing Subway Emergency Telephone system with a new state-of-the-art emergency phone system, as part of the Central Control New Facility (C3) Program scope of work. This phone system is a code-required safety communication system. This project will increase the existing capacity of the emergency phone system, improving the quality of communication with Central Control. In addition, it will comply with existing safety codes.	Transit - Light Rail	Replacement	13,887
VOICE DATA RECORDER MOTIVE POWER	3	Safety	Furnishes and installs a multiple-channel telephone voice recorder (for the Motive Power Center) that systematically reviews incoming calls. This project will provide improved communication between agency staff, leading to greater efficiency.	Transit - Systemwide	Enhancement	46,869

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
RAIL TRAINING SIMULATOR	4	Safety	Calls for the purchase and installation of a full-scale rail training simulator and virtual learning environment. The project also includes the purchase of Audio Visual and multimedia setup for five classrooms. This project will modernize SFMTA's existing training system with state-of-the-art rail training simulators and a virtual learning environment. Personnel trained would use what they have learned to improve the comfort and safety of the passengers that they carry.	Transit - Light Rail	Enhancement	961
BUS OPERATOR TRAINING SIMULATORS	5	Safety	Includes purchase and installation of 360-degree, computer-based graphic training stations. These simulators will be used to train transit operators to provide control over difficult weather conditions, equipment malfunctions, traffic behaviors and other real-world situations. This project will provide for greater safety training, for the purposes of being better prepared in times of emergency and under inclement weather conditions.	Transit - Systemwide	Enhancement	945

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
RED LIGHT PHOTO ENFORCEMENT	6	Safety	Provides for purchase and installation of Red Light Photo systems at 10 new locations throughout the City. Improves intersection safety, reducing the number of vehicle crashes from red light running. Cameras can provide better system security and greater comfort to both bicyclists and pedestrians.	Signals, Signs & Striping	Enhancement	2,336
19TH & ROSSMOOR LRV GRADE CROSSING REDESIGN	7	Safety	Includes grade separation for the M-Ocean View Line as it crosses 19th Ave. This project will improve pedestrian safety by eliminating major traffic conflicts, and improving reliability of M service.	Transit - Light Rail	Enhancement	2,180
FACILITY SAFETY IMPROVEMENTS	8	Safety	Features a series of facility safety improvement projects including: Eye Wash Stations, Pigeon Abatement, Pit Drain Sump Systems, Pit Safety Nets, Motive Power Emergency Lights, Potrero Storeroom Isolative Wall, and Presidio Power Shutoff Switches. This project will improve facility features, providing for a better working environment.	Transit - systemwide	Enhancement	2,336
Total Cost Through FY 2029 for Program						359,947

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SCHOOL PEDESTRIAN SAFETY PROGRAM	1	School	Provides for installation of bulbouts and various pedestrian safety improvements in over 200 public and private school areas. Two schools will be identified per a year, with projects estimated at about $500,000 dollars per school. These projects will improve pedestrian safety, and promote walking for all school aged children in San Francisco.	Pedestrian	Enhancement	20,000
Total Cost Through FY 2029 for Program						20,000
HOMELAND SECURITY NEEDS - SYSTEMWIDE IMPROVEMENTS	1	Security	Purchase and installation of equipment, as well as improvements and renovations to address emergency, disaster, and Homeland Security needs of the SFMTA (e.g., Transit Security Rail projects). The project will improve system safety, as well as passenger and employee security.	Transit - Systemwide	Enhancement	957,372
SECURITY ENHANCEMENTS	2	Security	Encompasses a set of security enhancement programs, centered on surveillance, access control and security systems. Collectively, it seeks to enhance the agency's level of security in order to provide customers and employees with a safe and secure transportation system.	Systemwide	Enhancement	73,941

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
Total Cost Through FY 2029 for Program						1,031,313
TAXI AND ELECTRIC VEHICLE CHARGING STATIONS	1	Taxi	Purchase Materials for the construction of 30 DC fast charging stations for electric vehicles for Taxis and public vehicle usage. The purpose of this project is to develop an electric vehicle (EV) charging station infrastructure throughout the city to reduce the overall carbon footprint in the city. Initial locations are SFO, Taxi rest areas, major shopping areas, and city owned parking facilities. The cost per unit also includes field construction to feed electricity into the units.	Taxi	Expansion	3,000
TAXI TOPLIGHTS	2	Taxi	Purchase and install modern taxi toplights with safety features and real time passenger load information which allows higher security for drivers who are in dangerous conditions and increased taxi access for potential fares to be alerted of taxi availability. New toplights also provide for advertising space, branding and uniqueness of SF taxis.	Taxi	Replacement	5,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
ELECTRONIC TAXI HAILING	3	Taxi	Secure modern technology in computer and smart phone applications which allows customers to map and directly hail cabs via smartphones/computers/internet. People who do not use technology because businesses could hail a nearby taxi for their customers from a reception desk or lobby computer for customer use in a hotel, restaurant, museum or grocery store.	Taxi	Enhancement	2,000
Total Cost Through FY 2029 for Program						10,000
NEIGHBORHOOD TRAFFIC CALMING	1	Traffic Calming	Program to install traffic calming devices -- such as speed humps, pedestrian bulb-outs, traffic circles, median islands - at various locations in the city. Traffic calming projects improve safety by reducing speeding in neighborhoods. By reducing auto speeds, these projects enhance the comfort of people walking and bicycling. Public spaces can also be created or enhanced by traffic calming projects.	Traffic Calming	Enhancement	53,700

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
ATERIAL TRAFFIC CALMING	2	Traffic Calming	Program to calm traffic along arterial streets. Examples include implementing road diets, narrowing travel lanes, and installing landscaping. By reducing auto speeds, these projects enhance the comfort of people walking and bicycling. Public spaces can also be created or enhanced by traffic calming projects.	Traffic Calming	Enhancement	400,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
SIGNAL AND SIGN UPGRADES	3	Traffic Signals	Encompass upgrades of existing traffic control devices, including modifications to existing signals that lack a pedestrian feature, mast arms or related amenities. The project also includes the upgrade or replacement of signal equipment that is at the end of its useful life (50 years). Funded sign work in this category includes the graffiti program, where existing signs are replaced with signs that have higher reflectivity, and a coating that eases graffiti removal. This project will improve safety, reducing the number of injuries through improved traffic control (e.g., where pedestrian countdown signals and signal visibility improvements are provided as part of a signal modification effort). Includes new traffic signs and signals (including pedestrian and bicycle signals); implementation of transit signal priority; new pavement markings (e.g. raised pavement markers); transit lane markings; red light photo enforcement equipment; electronic parking meters; relocation of traffic maintenance shop to a new location. In general, pedestrian signals are beneficial for all pedestrians, especially those with disabilities.	Signals, Signs & Striping	Rehabilitation	423,176

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
COUNTDOWN SIGNALS & ACCESSIBLE PEDESTRIAN SIGNALS (APS)	4	Traffic Signals	Purchases, designs and installs both countdown signals and Accessible Pedestrian Signals (APS) at 356 intersections citywide. It also installs APS at 710 additional intersections throughout the city. These signals will provide crossing time information to pedestrians, thereby improving intersection safety. This information is especially important to those that are physically challenged.	Signals, Signs & Striping	Enhancement	34,364
SFGO PROGRAM	5	Traffic Signals	This citywide intelligent transportation management system gathers and analyzes real-time information on current transit and auto traffic flow and congestion; responds to changes in roadway conditions; provides transit priority and emergency vehicle preemption; disseminates real-time traveler and parking information to the public; facilitates the management of special events; and enhances day-to-day parking and traffic operations. It will significantly improve obsolete and deteriorating traffic signal communications facilities, and will implement a number of Intelligent Transportation System (ITS) technologies.	Signals, Signs & Striping	Enhancement	15,351

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
NEW SIGNAL & SIGN PROGRAM	6	Traffic Signals	Provides for installation of new traffic signals, signs, pavement markings and related traffic control hardware, with an emphasis on new locations. This project reduces vehicle delays, travel time and injuries by improved traffic control, often where STOP signs are inappropriate, i.e., due to traffic volumes, intersection configuration, and other such factors.	Signals, Signs & Striping	Enhancement	5,574
Total Cost Through FY 2029 for Program						932,165
AUTOMATIC FARE COLLECTION	1	Transit Optimization	Replaces the existing fare collection system, including replacement of fare gates, installation of new ticket vending machines, new control panels and displays for station agent booths, and integration and enhancement of the regional Clipper system. This project is near completion. Timely replacement and improvement to fare collection system will allow for a more secure transit system. The implementation of locking emergency exit gates will provide an additional deterrent to non transit users accessing the subway platforms.	Transit - Systemwide	Replacement	16,590

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BOARDING PLATFORM/ISLAND REHABILITATION	2	Transit Optimization	Rehabilitates the boarding platform islands in the transit system. The project includes the purchase of railings, equipment, shelters, lighting, closed-circuit television (CCTV) and other materials. Improvements to the platform islands include safety measures that reduce the potential for injuries. The project will improve the level of safety on platforms and improve access for disabled customers and employees. Additionally, it will increase system comfort and improve system attractiveness and cleanliness.	Transit - Systemwide	Rehabilitation	35,137
TREASURE ISLAND INTERMODAL STATION	3	Transit Optimization	Terminal and layover facilities for 108 Union line, including operator break facilities, bus pads, real time information monitors, shelters, and intermodal access facilities.	Transit	Enhancement	25,000
PARKMERCED M-OCEANVIEW REALIGNMENT	4	Transit Optimization	Realignment of M-Oceanview light rail tracks and three new light rail platforms to serve Parkmerced and SFSU. Includes crossover tracks, tail track, signals, pedestrian safety barries, transit shelters, and passenger amenities.	Transit - Light Rail	Enhancement	70,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
19th AVENUE CORRIDOR REALIGNMENT	5	Transit Optimization	From Sloat to Daly City limits, integrates M-Line realignment with broader corridor transit operation improvements. Includes westside alignment of M-Oceanview north of Parkmerced, Hwy 1 grade seperation of light rail near Eucalyptus and Randolf.	Transit	Enhancement	180,000
EASTERN NEIGHBORHOODS - ENTRIPS	6	Transit Optimization	Eastern Neighborhoods Transportation Implementation Planning Study (ENTRIPS) addresses future transportation improvements of expected growth in the EN Area Plans. The study recommends transportation and streetscape improvement plans for: 16th Street as a mixed use, transit-priority street; Folsom Street as a "civic boulevard" to serve as a major neighborhood commercial street in the South of Market; and the 7th and 8th Streets as a multi-modal, neighborhood-scaled one-way couplet that serves both city-wide and neighborhood transportation needs. Transportation improvements include transit access, bicycle lanes or cycle tracks, pedestrian safety and access, signalized mid-block pedestrian crossings, reconfigured automobile access, and modified on-street parking. Streetscape improvements focus on the pedestrian realm; bulb-outs, widened sidewalks, enhanced pedestrian crossings, pedestrian lighting, landscaping and street furnishings.	Systemwide	Enhancement	204,000

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
CHINATOWN TO NORTHBEACH LIGHT RAIL EXTENSION	7	Transit Optimization	Conduct alternatives analysis and implement a transit extension from the Central Subway terminal in Chinatown, through North Beach to a terminal in Fishermans Wharf.	Transit - Light Rail	Expansion	1,100,000
THIRD STREET PHASE 1 - SOUTHERN INTERMODAL TERMINAL	8	Transit Optimization	Extend the T-Line to the Bayshore Caltrain Station. This will improve transit connectivity with the existing Caltrain service and with the future Geneva BRT service.	Transit	Expansion	50,320
LIGHT RAIL TRANSIT (LRT) - CHINATOWN/ NORTH BEACH EXTENSION	9	Transit Optimization	Extends the T-Third rail line north, from the planned Central Subway terminal at Stockton/Clay through North Beach and into Fisherman's Wharf. This project will provide a higher capacity service along the corridor, introducing improved speed, reliability and comfort.	Transit - Light Rail	Expansion	1,106,164

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BUS RAPID TRANSIT (BRT) PROGRAM	10	Transit Optimization	Designs and implements Bus Rapid Transit in other corridors (besides Geary, Van Ness and Potrero - which have separate projects). Project goals include decreasing travel times and capacity, and improving reliability and passenger comfort through the use of exclusive lanes, limited stops, signal priority, low-floor buses, prepaid fare systems and enhanced passenger information. The following corridors have been identified: 19th Ave., 16th St., Folsom St., and the Evans/Innes corridor to Hunters Point. The project should improve reliability of Muni transit service as the BRT standard calls for use of low-floor buses in place of existing high-floor buses (when the latter are retired). The project should improve the overall quality of transit service on all corridors for the three listed areas: comfort, attractiveness and cleanliness.	Transit - Motor Bus	Expansion	376,101

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
M-LINE/J-LINE TERMINAL PROJECT	11	Transit Optimization	Provides for construction of a number of facilities, based on the Transit Effectiveness Project (TEP) recommendations and the Balboa Park Plan. These include either construction of a surface multi-track terminal for the M-Ocean View at Balboa Park, or a J-M joint facility near Park Merced, San Francisco State University, and Stonestown. This project will provide operating flexibility, as well as improved safety and access to major transit hubs.	Transit - Light Rail	Expansion	14,200
MUNI METRO EXTENSION (MMX) TERMINAL IMPROVEMENTS	12	Transit Optimization	Improves the track configuration, which currently can only be operated by double-ended, historic streetcars that are in limited supply. The project will enhance historic streetcar operations along the Muni Metro Extension (MMX) corridor by constructing additional terminal tracks and loop in the vicinity of Sixth and Berry Sts. These facilities are needed for SFMTA's historic streetcars to operate on the proposed E-Line historic streetcar service. The project will provide improved turnback of trains and assist operations in recovering service.	Transit - Light Rail	Enhancement	9,588

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BUS RAPID TRANSIT/TRANSIT PREFERENTIAL STREETS (BRT/TPS) - POTRERO	13	Transit Optimization	Encompasses planning and environmental clearance of a BRT project on Potrero Ave. between Division St. to the north and Cesar Chavez Ave. to the south. This project will speed-up bus service and improve reliability along the corridor, providing a limited service that is not as capital-intensive as a full-feature BRT project..	Transit - Motor Bus	Expansion	694

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
22-FILLMORE MISSION BAY TROLLEY COACH EXTENSION	14	Transit Optimization	Extends the 22-Fillmore on 16th St., connecting Mission Bay with regional transit at the 16th-Mission BART station as well as neighborhoods along the 22-Fillmore route. This project requires an at-grade crossing of the Caltrain tracks on 16th St., however, a solution between SFMTA and Caltrain has not been reached. The 22-Fillmore extension would be built in two phases: The first phase, funded through the Overhead Rehabilitation Program, would build new overhead infrastructure on 16th St. from Kansas to Connecticut, replacing the aging system on 17th St. (used by the 22 Line). The second phase would build new overhead infrastructure east on 16th St. from Connecticut, across the Caltrain right-of way to Third St., then north to a terminal loop utilizing the new Mission Bay North and South Common Sts. (just west of Third St.). This project will provide better access to transit from Mission Bay and potentially, could lead to reduced door-to-door travel times and increased reliability and passenger ridership on the 22-Fillmore and connecting transit routes (e.g., Muni, BART).	Transit - Trolley Coach	Expansion	12,178

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
PHELAN LOOP	15	Transit Optimization	Consists of reconfiguring and rebuilding the existing Phelan Loop bus turnaround for the 49 Mission-Van Ness and the 8X Bayshore lines, adjacent to SF City College. Reorienting the loop will free up space now occupied by the existing loop for a new public plaza and affordable housing development, which are part of the Balboa Park Station Area planning process. The reconfiguration/rebuilding of the Phelan Loop will assist in meeting reliability standards by improving efficiency in coach operation around the area.	Transit - Systemwide	Enhancement	11,278

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
24-DIVISADERO TROLLEY WIRE EXTENSION	16	Transit Optimization	Extends trolleybus infrastructure along Palou to allow for extended service of the 24-Divisadero line, supporting the Candlestick Point/Hunters Point Shipyard (CP-HPS) redevelopment project. This project is proposed to be phased for implementation and operation in advance of full CP-HPS build-out (2030). It includes 1.5 miles of trolley wire extension, poles, signal hardware and a new substation. It assumes costs will be supplemented by developer contributions for poles/foundations on newly-built street portions east of Palou and Walker. The project is designed to upgrade and expand trolley facilities on intensely-used corridor, providing better transit access. Travel speeds could benefit from the connection that this trolley line will provide between the Hunters Point Shipyard hub and both T-Third and Caltrain service. Overall transit ridership should increase significantly due to better reliability and convenience of the new connection.	Transit - Trolley Coach	Expansion	56,020

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
PALOU TPS TREATMENT/ LINK TO NORTHERN/POTRERO BRT	17	Transit Optimization	Provides for TPS treatments along Palou St., allowing for the combined service of Muni Lines 23, 24 and 44 on an eight-block (1 mile) corridor. It includes Transit Signal Priority, bus bulbs, shelters, striping, sidewalk and curb design, and real-time information displays. These treatments support the Candlestick Point/Hunters Point Shipyard (CP-HPS) project. This program will improve access to transit, integrating sustainable transportation with surrounding land uses.	Transit - Motor Bus	Expansion	23,450
HUNTERS POINT TRANSIT CENTER	18	Transit Optimization	Features a consolidated transit hub to serve significant new neighborhoods at Hunters Point Shipyard (HPS) with restrooms, real-time info, shelters, etc. This project will improve basic services at a key intermodal facility and point of access, further attracting passengers to transit.	Transit - Motor Bus	Expansion	27,878

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BUS RAPID TRANSIT/TRANSIT PREFERENTIAL STREETS (BRT/TPS) - GENEVA AVE.	19	Transit Optimization	Develops Bus Rapid Transit along the Geneva Corridor. The Geneva Corridor Transit Preferential Streets (TPS) Study will review Muni operations and identify a number of potential improvement measures consistent with long-term development plans. The project includes TPS treatments and BRT facility development along Geneva and Harney Way, supporting the Candlestick Point/Hunters Point Shipyard project and linking development to Caltrain, BART, and the T-Third line. Transit preferential elements would be implemented along Geneva, between Bayshore Caltrain Station and Naples, and BRT elements from Naples to Balboa Park BART Station. Along the route, vehicle conflicts will be minimized through traffic control. This project will speed-up bus service and improve reliability along the corridor, providing a limited BRT service.	Transit - Motor Bus	Expansion	315,181

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
THIRD STREET PHASE 2 - CENTRAL SUBWAY	20	Transit Optimization	Encompasses Phase 2 of the Third St. Light Rail Project, extending the Third Street Light Rail line north from King Street along Third Street, entering a new Central Subway near Bryant Street and running under Geary and Stockton Streets to Stockton & Clay Streets in Chinatown. New underground stations will be located at Moscone Center, Third & Market Streets, Union Square, and Clay Street in Chinatown. Includes procurement of four LRVs. The project will improve mobility in downtown San Francisco; and provide quicker, more reliable, and more direct rail service between Bayview Hunters Point and Chinatown; will improve transit capacity in a highly congested growth corridor, reducing surface vehicle traffic, transit travel times and providing travel alternatives in the corridor. As a result of this new service, the project will accommodate travel demand.	Transit - Light Rail	Expansion	1,578,300

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BUS RAPID TRANSIT (BRT) - GEARY	21	Transit Optimization	Designs and implements a rail-ready BRT project on Geary Blvd., from Van Ness Ave. to 33rd Ave. The project includes planning, environmental, design and construction. Project elements may include dedicated lanes, better shelters, and passenger information systems. This project could potentially speed-up bus service and improve service reliability along the corridor.	Transit - Motor Bus	Expansion	250,585
BUS RAPID TRANSIT (BRT) - VAN NESS	22	Transit Optimization	Designs and implements a BRT project on Van Ness Ave. from Mission to Northpoint. Project will provide two bus-only lanes and reduce mixed-flow traffic lanes from six to four lanes. Related projects include new buses and other infrastructure, including DPW landscaping and street resurfacing projects. Project includes planning, environmental, design and construction. Associated SFgo project will provide new signals and signal upgrades. The project should improve reliability of Van Ness transit service and reduce transit travel time in 2015 (Lombard to Mission) by as much as 25 percent. Also, pedestrian safety will be improved by intersection treatments that reduce conflicts (e.g., dedicated right-of-way, corner bulbs, new signals).	Transit - Motor Bus	Expansion	110,136

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BALBOA PARK STATION INTERMODAL IMPROVEMENTS	23	Transit Optimization	Provides for improvements that provide for better intermodal connections at Balboa Park Station. The Pedestrian/Bicycle Connection Project Study was recently completed and staff is currently completing a conceptual engineering study of station area improvement projects identified, as identified in the San Francisco Planning Department's Balboa Park Station Area Plan. The program includes feasibility analysis and cost estimates. This project would implement priority projects identified in these studies to improve passenger information and amenities, accessibility, and safety, including Geneva Transit Plaza, J/K/M boarding areas, kiss & ride, pedestrian crossing signals, and curb bulbs.	Transit - Systemwide	Enhancement	25,490

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
THIRD STREET PHASE 1 - MISSION BAY LOOP	24	Transit Optimization	Provides for enhancements at the Mission Bay Loop (MBL), a project that came out of Third St. LRT Phase 1. Connects the rail turnouts from the existing tracks on Third Street at 18th and 19th Streets with additional rail and overhead contact wire system on 18th, Illinois and 19th Streets. The MBL was separated due to approval delays from adjacent property owners. The project is expected to be completed by 2018 to support service levels needed for continued build out of Mission Bay, concurrent with Third St. ridership growth. This project will allow for important operational efficiencies to be achieved. Delaying this project could have a significant impact if it is not completed by the time that the Central Subway (CS) is completed -- the Operating Plan for CS includes the use of the loop as the short line terminal.	Transit - Light Rail	Expansion	5,839
GLEN PARK STATION IMPROVEMENTS	25	Transit Optimization	Includes planning, an Environmental Impact Report (EIR), design and construction of transportation improvement projects around Glen Park BART and the Muni Metro stop, based on the draft community plan. The EIR will be completed by December 2011.	Transit - Systemwide	Enhancement	4,189

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
FORT MASON HISTORIC STREETCAR EXTENSION	26	Transit Optimization	Extends Historic Streetcar service from Fisherman's Wharf through National Park Service lands into Aquatic Park and Fort Mason, using the historic railway tunnel between the foot of Van Ness Avenue and Fort Mason Center. This project is supported by a unique partnership of non-profit agencies, the National Park Service, and the SFMTA. The project will improve access, reduce transit travel time and improve reliability by providing a direct streetcar extension (via a railway tunnel) to Fort Mason. The project will increase transit ridership along the extension and could reduce auto trips.	Transit - Historic Streetcar	Expansion	51,874
LIGHT RAIL TRANSIT (LRT) LINE - GEARY	27	Transit Optimization	Constructs a surface-subway, light rail transit (LRT) line to replace the 38 Geary bus lines. Geary is in the Four Corridors plan and is the next priority for major investment after the Central Subway. This is a long-term proposal with Geary Bus Rapid Transit Service providing near-term improvements until funding for the LRT can be identified. This project will provide a higher capacity service along the corridor, providing passengers with improved speed, reliability and comfort.	Transit - Light Rail	Expansion	401,310

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
LIGHT RAIL TRANSIT (LRT) LINE - GENEVA/OCEAN	28	Transit Optimization	Entails extending light rail service along the Geneva/Ocean corridor. This project will enhance transit service along this corridor, improving access to transit, travel times and increasing peak service capacity In addition, it should improve reliability of service (e.g., LRT vehicles would replace existing high-floor, standard buses as they are retired).	Transit - Light Rail	Expansion	449,196

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRANSIT EFFECTIVENESS PROJECT PHASE 1 - ROUTE UPGRADES	29	Transit Optimization	Provides for implementation of the Transit Effectiveness Project (TEP) Phase I recommended transit route updates for the following general categories of projects--travel time reduction projects, service improvements, transfer point and terminal investments, overhead wire changes and long-term investment studies. Individual projects include minor bypass wires at route terminals, Van Ness and North Point Hub and Terminal, Lee Street Terminal for 52 Excelsior, Francisco and Richardson Transfer Point for 28L 19th Ave. Limited, and extension of the Sansome Street Bus Only Lane for the 12 Folsom-Pacific. This group of capital projects will introduce route updates that improve service productivity, more accurately reflecting current and near-future travel patterns in San Francisco.	Transit - Systemwide	Enhancement	1,838

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRANSIT EFFECTIVENESS PROJECT PHASE 2 - ROUTE UPGRADES	30	Transit Optimization	Provides for implementation of the Transit Effectiveness Project (TEP) Phase II recommended transit route updates. This group of capital projects will introduce route updates that are designed to maximize the productivity of service and better reflect current and near-future travel patterns of San Francisco residents and visitors. Individual projects include minor bypass wires at route terminals, Daly City BART Station Terminal Expansion, 6 Parnassus Overhead Wiring on Stanyan St., Transfer Point at SF General Hospital, and Upgrades to Traction Power System. This group of capital projects will introduce transit route updates that improve productivity, more accurately reflecting current and near-future travel patterns in San Francisco.	Transit - Systemwide	Enhancement	16,983

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRANSIT EFFECTIVENESS PROJECT (TEP) - E-LINE TERMINAL	31	Transit Optimization	Develops an independent terminal for the E line at its northern terminus (Jones and Beach Sts.). This project would require installation of new bypass trackage, special track work turnouts, track switches, overhead wires and poles, removal of parking spaces and creation of a new station platform. Existing line tracks on Jefferson and Beach can accommodate the E-Line, which would share tracks with the F-Line and N-Line along The Embarcadero. Other work, such as utility relocation, curb ramps, removal of traffic lane or lanes, modification of sidewalk width, and truck delivery access, may also be required. This project will provide direct historic streetcar service from Fisherman's Wharf to Caltrain via The Embarcadero and King St., improving travel times. The line stands to reduce crowding on the Waterfront portion of F-line and optimizes existing platforms and transit infrastructure.	Transit - Historic Streetcar	Enhancement	8,404

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRANSIT EFFECTIVENESS PROJECT (TEP) - TRAVEL TIME REDUCTION PROPOSALS	32	Transit Optimization	As identified in the Transit Effectiveness Project (TEP), this program provides a series of design elements, for the following categories of projects--travel time reduction projects, service improvements, transfer point and terminal investments, overhead wire changes and long-term investment studies, on the bus rapid transit corridors, including conversion of STOP-controlled intersections to signalized intersections; bus bulbs and boarding islands, transit-only lanes, queue-jump and bypass lanes and overhead bypass wires to allow local and limited services to run trolley vehicles on the same corridor (Mission St. and Fulton St.). This program will increase transit reliability and reduce transit travel times along Muni's busiest corridors. In combination with customer amenity investments designed to speed boarding, this program is expected to improve reliability and reduce transit travel times up to 20 percent along priority corridors, making the Muni system more attractive to existing users and increasing ridership by attracting new customers.	Transit - Systemwide	Enhancement	87,200

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRANSIT EFFECTIVENESS PROJECT (TEP) - CUSTOMER AMENITY PROJECTS	33	Transit Optimization	As identified in the Transit Effectiveness Project, this project improves the waiting environment at transit stops and reduces transit delays at stops associated with boarding activity. Major components include Ticket Vending Machines (TVMs), expansion of NextMuni signage, and transit stop upgrades. TVMs will be prioritized for installation at high ridership stops and will improve on-time performance and reduce transit travel time by reducing dwell time at stops associated with customers paying cash fares on-board vehicles. NextMuni signage provides real-time transit vehicle arrival information to customers at transit stops. Transit stop upgrades will include added seating, improved signage, better real-time information for visually-impaired customers, improved lighting and landscaping, bicycle parking, and other elements that can improve the customer waiting experience.	Transit - Systemwide	Enhancement	2,540

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRANSIT EFFECTIVENESS PROJECT (TEP) - TERMINAL CAMERAS	34	Transit Optimization	As identified in the Transit Effectiveness Project (TEP), this project provides for the installation of cameras and related monitoring equipment at key transit terminals and along high-ridership routes. Currently, SFMTA can track the movement of transit vehicles using GPS technology, but cannot easily ascertain the cause of system delays or other issues. This project will improve real-time service management and system safety. Real-time monitoring of key terminals and routes is needed for proactive line management, incident response, and for improved security.	Transit - Systemwide	Enhancement	270
TRANSIT EFFECTIVENESS PROJECT (TEP) - EVALUATION OF TRACTION POWER SYSTEM	35	Transit Optimization	Conducts a study to review and develop recommendations for upgrades to the traction power system needed to support added light rail and trolley coach service recommended by the Transit Effectiveness Project (TEP) service plan. The project will allow for more frequent service and higher capacity vehicles, potentially making services more attractive to the public.	Transit - Systemwide	Enhancement	894

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
TRANSIT EFFECTIVENESS PROJECT (TEP) - RAIL NETWORK STUDY	36	Transit Optimization	As recommended in the Transit Effectiveness Project (TEP), this project comprises a study to develop a long-term expansion strategy for the light rail system, including research on transit tunnel capacity, future vehicle type(s), train length, high floor versus low floor, double berthing, and Automatic Train Control System investments and updates. This study will effectively prepare the system for potential strategic enhancements and expansions to meet anticipated ridership increases.	Transit - Systemwide	Enhancement	1,274

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
BETTER MARKET STREET DESIGN	37	Transit Optimization	Includes planning, conceptual engineering, environmental review, and public outreach. Concepts will be developed and evaluated for urban design of sidewalks and boarding islands, transit facilities and operations, pedestrian facilities (e.g., crosswalks), signal timing, and bicycle facilities (e.g., cycle tracks, bike lanes, parking). The study area is bounded by blocks just north of Market St., Folsom St., Octavia Blvd. and The Embarcadero. This project will improve the quality of the public realm and optimize sustainable mobility modes (transit, walking and cycling), so that they are pleasant, reliable, efficient and comfortable for all users.	Systemwide	Enhancement	636

Project Name	Priority	Capital Program	Project Description	Mode	Investment Type	20-Year Total Cost ($ Thousands)
AUTOMATIC VEHICLE LOCATION (AVL) SYSTEM	38	Transit Optimization	Continues the integration and implementation of the Global Positioning System (GPS)-based Automatic Vehicle Location system with the radio systems for the SFMTA's transit fleet and inspector vehicles to track, expedite response to emergencies and road call requests, and collect schedule adherence data. The AVL and radio system components would provide security personnel with the ability to immediately identify and locate vehicles in the event security issues occur. It would also provide transit controllers with vehicle passenger information, i.e., for managing overloaded routes. As a result, it could improve passenger access, comfort, safety, and travel time on the transit system.	Transit - Systemwide	Enhancement	18,178
Total Cost Through FY 2029 for Program						6,648,915

APPENDIX B

Table B-1: SFMTA and Regional Plan Goals and Objectives and Scoring Criteria

	SFMTA Strategic Plan Goals/ Objectives	TEP Capital Project Data Collection Form	Capital Planning Program Funding Principles	MTC Transportation Plan 2035 Goals/ Principles	SFCTA Countywide Plan Goals	SF General Plan Trans. Element	ABAG Projections 2009 Performance Targets	BAAQMD 2000 Clean Air Plan* Trans. Measures	SF Climate Action Plan	City Goals	Total Number Of Plans Mentioning Criteria
ENVIRONMENT AND LAND USE											
Sustainability /Environmental Benefits	**X**			**X**	**X**		**X**	**X**	**X**	**Goal 2**	**6**
Land Use/Livable Communities/ TOD			**(x)**	**X**	**X**	**X**	**X**		**X**	**Goal 2**	**6**
Beautification					**X**					**Goal 1**	**1**
Encourage Multi Modal use (bike, ped)	**X**			**X**	**X**	**X**	**X**	**X**	**X**	**Goal 2**	**7**
TRANSPORTATION EFFECTIVENESS- SAFETY											
Safety and Security	**X**		**X**	**X**	**X**	**X**				**Goal 1**	**5**
System Reliability and Performance	**X**	**X**		**X**						**Goal 4**	**3**
Access, Accessibility & Service	**X**	**X**		**X**	**X**		**X**	**X**	**(x)**	**Goal 5**	**7**
Connectivity	**X**	**X**			**X**			**X**		**Goal 5**	**4**
Security and Emergency Management				**X**						**Goal 1**	**1**
Congestion Relief No increase in traffic	**(x)**	**X**		**X***	**X***	**X**	**X**		**X***	**Goal 4**	**7**

	SFMTA Strategic Plan Goals/ Objectives	TEP Capital Project Data Collection Form	Capital Planning Program Funding Principles	MTC Transportation Plan 2035 Goals/ Principles	SFCTA Countywide Plan Goals	SF General Plan Trans. Element	ABAG Projections 2009 Performance Targets	BAAQMD 2000 Clean Air Plan* Trans. Measures	SF Climate Action Plan	City Goals	Total Number Of Plans Mentioning Criteria
Auto/Parking Pricing Strategies	**X**			**X**	**X**	**X**		**X**	**X**	**Goal 2**	**6**
Maintain SF as a regional transit hub/Improve SF regional transit connections					**X**	**X**		**X**	**X**		**4**
Transit Emissions Reduction	**(x)**			**X***	**X***		**X**	**X**	**X**		**6**
ECONOMY AND EQUITY											
Support economic vitality			**X**	**X***	**X**						**3**
Equity					**X**		**X**			**Goal 6**	**2**
Economic Development			**X**		**(x)**	**(x)**				**Goal 3**	**3**
Readily Available Capital Funding/Financial Sustainability		**X**			**X**					**Goal 3**	**2**
MAINTENANCE/ RESOURCE PROTECTION											
Protection/ Maintenance of Assets			**X**	**X**	**X**					**Goal 1**	**3**
Efficient Use of Resources	**(x)**	**X**	**X**	**(x)**	**X**	**(x)**			**(x)**	**Goal 1**	**7**
INTERNAL AGENCY OPERATION											
Employee Development	**X**									**Goal 1**	**1**

	SFMTA Strategic Plan Goals/ Objectives	TEP Capital Project Data Collection Form	Capital Planning Program Funding Principles	MTC Transportation Plan 2035 Goals/ Principles	SFCTA Countywide Plan Goals	SF General Plan Trans. Element	ABAG Projections 2009 Performance Targets	BAAQMD 2000 Clean Air Plan* Trans. Measures	SF Climate Action Plan	City Goals	Total Number Of Plans Mentioning Criteria
Enhance MTA image	**X**									**No Goal**	**1**
Information Resources	**X**									**No Goal**	**1**
Customer Satisfaction	**X**	**X**								**Multiple goals indirectly**	**2**
SFMTA Operating Efficiencies/Savings		**X**	**X**							**Goal 3**	**2**
OTHER											
Efficient Freight Travel				**X**	**X**	**X**				**Goal 4**	**3**
Legal/Regulatory	**X***			**(x)**	**X**		**?**	**X**	**XX**	**No Goal but will be in CIP process**	**5**

Note: X = stated goal or objective

(x) = implied goal or priority, not specifically stated or stated as an underlying assumption used in formulating goals

X*= stated in the plan text but not in the goals/objectives

XX = legal emissions reductions requirements

* = 2009 BAAQMD Clean Air Plan underway, not completed

APPENDIX C

Table C-1: SFMTA Capital Project Evaluation Criteria

GOAL	SUB-CRITERIA	EVALUATION CRITERIA
GOAL 1. IMPROVES SAFETY AND SECURITY Ensures that the transportation system operates in a safe and secure manner.		
1A.	Security *(Protects the transportation system and agency assets from potential threats)*	Reduces system and asset vulnerability due to collisions, vandalism, security threats or natural causes (earthquakes, adaptation to climate change).
1B.	Safety *(Reduces accidents and injuries)*	Provides transportation services that address and minimize safety risks.
GOAL 2. IMPROVES SYSTEM RELIABILITY AND MAINTENANCE OF STATE-OF-GOOD REPAIR Reduces the variability and increases the predictability of the transportation system. Provides a system that can be reliably used by all. Provides for the proper function of transportation assets.		
2A.	State of Good Repair *(Replaces or rehabilitates an asset at or past its useful life)*	One for one replacement of an existing asset that has reached the end of specified life cycle, or rehabilitates an existing asset so that asset can continue to be used for an additional life cycle. Can include modernization and improvements to meet current standards or requirements.
2B.	Reliability *(Meets core operational agency performance objectives)*	Improves transit on-time performance, reduces travel time variability, or improves multi-modal trip predictability.
GOAL 3. STRATEGIC TRANSPORTATION SYSTEM ENHANCEMENTS OR EXPANSIONS (SYSTEM OPTIMIZATION) Provides for growth of the multi-modal transportation system that is consistent with long-term plans and policies. Supports continued investment in improving multi-modal transportation services (transit, pedestrian, bicycle, taxi, parking and ridesharing) using proven technologies.		

GOAL	SUB-CRITERIA	EVALUATION CRITERIA
3A.	System Quality *(Improves the quality (comfort, attractiveness and cleanliness) of the transportation system)*	Supports development of a seamless, multi-modal transportation system. Enhances multi-modal transfers, improves information and transfer arrangements. Provides or enhances pedestrian-oriented public spaces.
3B.	System Access (*Enhances system access and accessibility by incorporating principles of universal design)*	Provides access, including disabled access, where it does not exist or where existing conditions are substandard including way-finding and interconnectivity.
3C.	Travel Time *(Reduces travel time for transit, pedestrians, bicyclists or ridesharing)*	Removes or limits sources of delay through resolving a gap in rights of way, improving connectivity, physical service or expanding existing rights of way or service
GOAL 4. IMPROVES ENVIRONMENTAL SUSTAINABILITY Optimizes the resource consumption of the transportation system by minimizing the adverse environmental, social and fiscal impacts.		
4A.	Auto Vehicle Miles Traveled (VMT) *(Reduces system-wide automobile miles traveled)*	Minimizes the environmental impacts of the automobile by shifting travel to sustainable modes (transit, walking, bicycling and ridesharing).
4B.	Resource Conservation *(Reduces the SFMTA's use of non-renewable resources)*	Optimizes the use of sustainable resources and improves energy efficiency of transportation sector to protect against the impacts of Climate Change.
4C.	Other Impacts *(Creates a positive transportation impact to communities)*	Reduces glare, vibration, waste, air, water and noise pollution during construction and operation.
GOAL 5. IMPROVES AGENCY EFFICIENCY & FINANCIAL SUSTAINABILITY Directly results in a net decrease in operating or maintenance costs for the agency to operate the transportation system. Avoids potential cost increases. Directly generates additional revenue or provides a direct operating subsidy for the agency.		

APPENDIX D

Table D-1: List of Acronyms used in the Capital Plan

Acronym	Description
ABAG	Association of Bay Area Governments
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BRT	Bus Rapid Transit
CIP	Capital Improvement Program
CNG	Compressed Natural Gas
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HTF	Highway Trust Fund
MTC	Metropolitan Transportation Commission
SF*go*	Intelligent transportation management system for San Francisco
SFCTA	San Francisco County Transportation Authority
SFMTA	San Francisco Municipal Transportation Agency
SF*park*	Parking management program for San Francisco
TEP	Transit Effectiveness Project
TCC	Transportation Capital Committee
TOD	Transit-Oriented Development
VMT	Vehicle Miles Travelled