

San Francisco International Airport

Five-Year Capital Plan

Fiscal Year 2013/14 – Fiscal Year 2017/18

Business and Finance Division



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San Francisco International Airport

Five-Year Capital Plan

Fiscal Year 2013/14 – Fiscal Year 2017/18



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Executive Summary

The San Francisco International Airport (SFO) creates a five-year Capital Plan to identify its highest priority capital needs and provides a schedule for a coordinated plan of finance. The Fiscal Year (FY) 2013/14 Five-Year Capital Plan (Plan) includes projects that will build new facilities, improve existing facilities, renovate buildings, repair or replace infrastructure, preserve assets, enhance safety and security, develop systems functionality and perform needed maintenance. SFO's increasing investment reflects the economic recovery and continual traffic growth over the past five years. In FY 2012/13, SFO surpassed its previous year record for passenger traffic, serving 44.3 million passengers.

The Plan reflects the need to improve facilities to handle a higher number of passengers and to meet the customer service standard established with the re-development of Terminal 2, which opened in April 2011. New projects in the Plan include the redevelopment of Terminal 1, an On-Airport Hotel and a Consolidated Administration Campus. Continuing projects include the Redevelopment of Boarding Area E, Terminal 3 East Checkpoint Improvements, the Runway Safety Area Project, the new Air Traffic Control Tower (ATCT), the Secure Connector from Terminal 1 to Terminal 2, and the Baggage Handling System (BHS) Improvement and Checked Baggage Inspection System (CBIS) Modernization Project.

Air Traffic

For the past few years, domestic air traffic has been strong, while international air traffic has been slower to recover from the economic downturn. In FY 2012/13, SFO enplanements reached 22.3 million, an increase of 4.0% from the prior fiscal year. Most of the passenger traffic growth has been in the domestic sector, with United Airlines and Virgin America increasing service. The Airport is now experiencing very little growth in the domestic sector and moderate growth in international air traffic. For FY 2013/14, overall enplanements are forecast to increase by approximately 0.6%¹.

FY 13/14 Capital Plan

The Five-Year Airport Capital Plan for FY 2013/14 has a budget of \$2.1 billion and contains 45 projects. This Plan summary includes a brief description of each project, shows the project budget, and outlines the funding sources. The Plan is based on a revised evaluation of projects included in previous capital plans as well as newly identified needs.

The San Francisco Administrative Code requires the Airport to develop a Ten-Year Plan. The Ten-Year Plan budget is \$4.1 billion.

¹ LeighFisher, Projections of Passengers and Landed Weight through FY 2019, October 7, 2013



A summary of the Plan sources and uses by Airport cost center is presented below:

San Francisco International Airport					
Five-Year Capital Plan					
FY 2013/14 FY 2017/18					
(\$000s)					

	Five-Year	
Airport Cost Center	Capital Plan	Percent
Terminals	\$ 1,209,108	58.2%
Airport Support	356,319	17.2%
Groundside	280,762	13.5%
Airfield	146,701	7.1%
Utilities	82,278	4.0%
Total Capital Uses	\$2,075,717	100.0%

The chart below shows the distribution of funding sources for the Plan over the next five years.



Funding Sources

(\$000s)

Capital Planning Process

The Airport is committed to long-term infrastructure planning. In the development of the FY 13/14 Capital Plan, the Airport continued its structured planning process, including zero based budgeting and ranking of every project. Only the highest ranked projects were included in the Plan.

The flow chart of the Capital Plan development process is shown in Appendix 3.

CIP Working Group

In Fiscal Year 2011/12, the Airport established the CIP Working Group. This nine person committee, consisting of Senior Managers from across the Airport, reviews and evaluates all capital project submissions. Using a detailed scoring and prioritization matrix, the CIP Working Group ranks all of the proposed projects.

The following Airport Divisions are members of the CIP Working Group:

- Architecture
- Aviation Management
- Capital Finance
- Engineering
- Facilities Maintenance
- Information Technology and Telecommunications
- Planning
- Project Management
- Safety and Security

Finance staff evaluates available funding sources, including General Airport Revenue Bond (GARB) proceeds, grants, and passenger facility charges (PFC) and estimates the financial impact of the Plan on Airport rates and charges. After reviewing the rankings and financial impact, the CIP Working Group creates a five-year and ten-year capital plan proposal for the Airport's Capital Project Review Committee (CPRC).

Capital Project Review Committee (CPRC)

The CPRC, composed of executive management staff, reviews the proposed Capital Plan and makes a final recommendation before submitting the Plan to the Airport Director and the Airport Commission for review and approval.

City and County of San Francisco Capital Planning Committee

The Five-Year Airport Plan is the basis for the Airport's Ten-Year Capital and Facilities Maintenance Plan, an annual requirement by the San Francisco Administrative Code (§3.20 Capital Expenditure Plan). The City and County of San Francisco Capital Planning Committee (CPC) reviews the annual updates to the Airport Capital Plan and any appropriation or bond authorization requested by the Airport.

Other Plan Reviewers

The Airport Financial Advisory Committee, which includes financial officers from other departments of the City and County of San Francisco and members from the financial services industry, reviews the Airport Capital Plan and plan of finance.



MII Process

Under the 2011 Airport Airline Lease and Use Agreement, proposed capital improvement projects are subject to review by the Signatory Airlines. The Signatory Airlines have 45 days to respond to the Airport's request. This procedure allows a majority-in-interest (MII) of the Signatory Airlines to defer a proposed capital improvement for a period not to exceed six months, allowing time for additional discussion between the airlines and the Airport. Majority-in-interest is defined as more than 50 percent of the number of scheduled airlines, who, on the date in question, account for more than 50 percent of the aggregate revenue aircraft landed weight by the Signatory Airlines at the Airport during the immediately preceding Fiscal Year. The Airport will often request MII review for the initial phase of a multi-year capital project. Reviewing capital projects in phases allows the Airport to refine the costs and scope of projects.

Timeline for Approval

Airport staff prepares the Plan every fall and submits the annual appropriations request in February with the operating budget. The proposed revision to the Five-Year Plan is usually presented to the Airlines for review in January and to the Airport Commission for approval in February, but these timelines have been extended in some years if Plan changes are significant and require more time for review and discussion.

Plan of Finance

The plan of finance includes debt financing, grant funds, Passenger Facility Charges (PFC), and other sources. The funding sources for the Plan are shown below.





The Plan includes \$1.9 billion in bond proceeds to fund projects. The Airport is currently in the second year of a \$502.2 million appropriation approved by the Mayor and the Board of Supervisors on September 12, 2012 and will seek additional appropriation and bond authorization within the five-year time period to support the capital projects included in this plan.

The majority of grant funds are from the Airport Improvement Program (AIP) of the Federal Aviation Administration (FAA). However, the Plan also includes FAA operating funds for the Air Traffic Control Tower and Transportation Security Administration (TSA) funds for Checked Baggage Inspection System (CBIS) upgrades in the International Terminal and Terminal 3 Boarding Area F. The Plan projects \$30.0 million from other sources, including the transfer of Airport operating funds for capital projects. This five-year plan does not project using PFCs to pay directly for project expenses.

Capital Plan Overview

The Plan contains 45 projects that address a variety of needs, such as terminal renovation, system upgrades, and infrastructure improvements. The following table shows the distribution of all capital plan projects by Airport cost center.

Five-Year Capital Plan By Cost Center FY 2013/14 -- FY 2017/18 (\$000s)

	Five-Year	
Airport Cost Center	Capital Plan	Percent
Terminals	\$ 1,209,108	58.2%
Airport Support	356,319	17.2%
Groundside	280,762	13.5%
Airfield	146,701	7.1%
Utilities	82,278	4.0%
Total Capital Uses	\$2,075,717	100.0%

Capital projects are divided into three categories: new projects, discrete projects and ongoing projects. Discrete projects are one-time in nature and have a defined start and end date. Once completed, a discrete project will not be shown in the Plan. An example of this type of project is the new Air Traffic Control Tower. Ongoing projects preserve, maintain and extend the useful life of critical Airport facilities and infrastructure. While the sub-projects contained within the larger project will have a beginning and an end, the assets that the project maintains will need continued capital investment. Examples of such projects include runway reconstruction and major utility repairs.



New Capital Projects

The Plan includes five new capital projects as shown on the table below. If the project ends after the five-year planning period, Plan budget amounts will not reflect the total project cost.

Project Title	Plan Total	Project Total
1) Terminal 1 Redevelopment Program	\$ 811,493	\$1,955,748
2) Consolidated Administration Campus	210,000	210,000
3) On-Airport Hotel	165,000	165,000
4) Long Term Garage Development	72,000	72,000
 Security Local Area Network (SLAN) Replacement 	22,101	22,101
New Project Total	\$1,280,594	\$2,424,849

New Capital Projects (\$000s)

A description of each project and a budget summary are shown on the following pages.

1) Terminal 1 Redevelopment Program

The Terminal 1 Redevelopment Program will improve Terminal 1 and Boarding Areas B and C. The program will be implemented in phases and contains the following program elements:

- Demolition of the existing Boarding Area B, replacing it with a new boarding area configured to accommodate modern aircraft requirements, larger hold rooms, and improved concessions. The first phase would have 18 gates. A subsequent phase would add six additional gates.
- A renovation of Terminal 1, including a complete replacement of the architectural building envelope, upgrades of all mechanical systems and special systems replacements, interior architectural renovations, facility upgrades such as a new consolidated passenger screening checkpoint, new airline ticket counters, and new concessions program, all consistent with the Terminal 2 standard.
- A new consolidated common use baggage handling system (BHS) and checked baggage inspection screening (CBIS) system.
- Renovation of Boarding Area C to bring this facility up to current Airport standards.
- Various airport, airline and governmental agency relocations and improvements.
- South Field improvements, including a relocated vehicle screening checkpoint and realigned taxi lanes.





_	(\$000s)							
	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total	
	26,101	75,138	181,171	240,048	289,035	811,493	1,955,748	

2) Consolidated Administration Campus

This project will bring most Airport Commission employees into one consolidated administration campus at the site of the existing Jason Yuen Engineering and Architectural Building. The project includes the demolition of the Jason Yuen Engineering and Architectural Building and Museum Building and the design and construction of a new Consolidated Administration Campus.



(\$000s)	
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FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
20,161	21,869	37,455	75,744	54,771	210,000	210,000



3) On-Airport Hotel

The On-Airport Hilton Hotel was demolished in 1999. The Airport is proposing to design, construct, and develop a 403-room full-service hotel located at the site that was formerly occupied by the Hilton Hotel. The hotel will be financed, constructed and owned by the Airport, but will be managed, operated and maintained by a qualified hotel operator. The facility will be a 403 room luxury brand hotel with 25,900 sq. ft. of meeting space, 14,600 sq. ft. of food and beverage space and will include a fitness center, business center, and AirTrain connection.



(\$000c	١
(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
10,000	16,725	108,300	29,975	-	165,000	165,000

4) Long Term Parking Garage

This project will construct a second multi-level above-ground parking structure to increase on-Airport long-term parking capacity by approximately 3,100 spaces. The new facility will be built next to the existing Lot DD parking garage and use interconnecting ramps that will provide convenient access to both garages and reduce the cost of construction. The new parking structure addresses the growing demand for long-term parking due to the economic recovery and rising passenger traffic over the past few years.

	(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total			
3,000	3,000	10,000	32,000	24,000	72,000	72,000			



5) Secure Local Area Network (S-LAN) Replacement

The proposed project will replace the existing S-LAN with a new dedicated, independent, secure network. The new S-LAN will be designed and built to comply with leading information technology and best practice standards as well as to meet strict governance rules. The \$25 million project cost includes design, construction, and equipment purchases to replace the network throughout the campus.

_	(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total			
22,101	-	-	-	-	22,101	22,101			

Discrete Capital Projects

The Plan includes 22 discrete capital projects as shown in the table below. If the project begins before or ends after the five-year planning period, Plan budget amounts will not reflect the total project cost.

Discrete Capital Projects (\$000s)

oject Title	Plan Total	Project Total
6) Terminal 3 East Checkpoint Reconfiguration	\$ 174,502	\$ 201,884
7) Runway Safety Area (RSA) Improvement Program	89,060	214,206
8) ATCT Replacement and Integrated Facilities	62,993	120,486
9) Boarding Area E Redevelopment	60,870	139,000
10) BHS / CBIS Modernization	36,642	69,109
11) West Field Cargo Redevelopment	28,570	30,901
12) Cargo & Hangar Improvements	26,958	28,338
13) Ground Transportation Management System (GTMS)	13,300	14,627
14) Telecommunications Network Infrastructure Upgrades	8,667	8,667
15) Revenue Enhancement and Customer Hospitality (REACH) Program	8,000	8,000
16) CNG Shuttle Bus Replacement	6,500	6,500
17) Public Wi-Fi Improvements	5,680	5 <i>,</i> 680
18) Fire Station Improvements	5,000	5,000
19) Energy Efficiency Projects - Airport Support	4,885	5,200
20) Noise Insulation Program	4,152	4,152
21) Airport Support Computer System Improvements	3,500	3,500
22) Airport Employee Facility Improvements	2,200	2,650
23) Variable Message Signs on Freeway Ramps	2,063	2,063

Discrete Capital Projects (\$000s)

Project Title	Plan Total	Project Total
24) Ground Transportation Kiosks	1,800	1,800
25) Airport Shoreline Protection Enhancements	1,620	1,620
26) Property Management Billing System Phase II	1,330	1,330
27) Shuttle Bus Maintenance Facility Replacement	800	800
Discrete Project Total	\$ 549,092	\$ 875,513

A description of each discrete project and a budget summary are shown on the following pages.

6) Terminal 3 East Improvements

The Terminal 3 East Improvement Project will reconfigure the eastern side of Terminal 3 to enhance passenger flow, alleviate congestion, improve the passenger experience, and update building standards to achieve LEED Gold certification and extend the useful life another 35 years. The building will be expanded along the airfield side of the terminal to improve passenger circulation, provide room for concessions, and include a seismic retrofit. The project upgrades mechanical systems, expands the security screening checkpoint, provides new public restrooms and new passenger boarding bridges, a 400Hz system, GSE charging stations, fuel pit relocations, and apron paving repairs.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
34,892	82,725	55,438	1,447	-	174,502	201,884		

7) Runway Safety Area (RSA) Program



This \$214 million project funds FAA-required safety improvements to the Airport's runways. The new safety areas will minimize the hazards of aircraft passing beyond the end of a runway during an aborted takeoff or while landing, preventing passenger injuries and major damage to aircraft. The first phase of work for the project on the 10/28 runways is complete. Phase 2 of this project will procure and install Engineered Material Arresting System (EMAS) blocks at each end of the 1/19 runways. The



Airport plans to close the 1/19 runways for about three months in the summer of 2014 to install the EMAS system and make other improvements. This project must be completed by December 31, 2015.

(\$000s)									
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total			
74,362	14,526	172	-	-	89,060	89,060			

8) Air Traffic Control Tower (ATCT) Replacement and Integrated Facilities

This project continues funding for the new FAA Air Traffic Control Tower which is under construction between Terminal 1 and Terminal 2. Federal grants will cover 100% of the construction cost for the replacement of the 221 foot tall tower facility, up to \$79 million. The project also includes a building that will serve as the base for the new Tower, including restrooms and concession space, a new airline clubroom post-security, and a secure connector between T1 Boarding Area C and T2. The building will also include a new club lounge for Delta Airlines.



(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
52,792	10,201	-	-	-	62,993	62,993



9) Terminal 3 Boarding Area E Redevelopment

The \$139 million Boarding Area E (BAE) Project was first funded in the FY 2010/11 capital plan. This project will repair and enhance the Boarding Area, extending its useful life for an additional 35 years. The project will enhance the functionality of the Boarding Area and replace components and systems that are obsolete or at the end of useful life.

The BAE Project will increase the concourse floor area by approximately 18,000 square feet. The Airport plans to expand hold rooms with more seating for passengers, add revenuegenerating concession space for food and retail; provide room for passenger amenities, including a children's play area and recompose area; and expand the airline clubroom. The BAE Project



includes the addition of clerestory windows throughout the terminal to provide plentiful natural light.

The BAE Project will connect the baggage handling systems of BAE and Boarding Area F (BAF), which will allow passengers to check in at ticket counters near BAE and BAF and have their bags routed to the appropriate pier. With this improved baggage system, airlines will be able to expand services and scale gate assignments according to future demands. The project also includes funds to renovate the E Tunnel from the domestic garage.

	(\$000s)									
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total				
60,870	-	-	-	-	60,870	60,870				



10) Terminal 3 Boarding Area F and International Terminal CBIS / BHS Modernization



This project will modernize the Baggage Handling System (BHS) and Checked Baggage Inspection System (CBIS). BHS improvements will be made in the International Terminal (ITB) and in Terminal 3, Boarding Areas E and F; CBIS improvements are planned for the ITB and Boarding Area F. The Airport has entered into an Other Transaction Agreement (OTA) with the Transportation Security Administration to cover up to 90% of the CBIS Design and Modernization portion of this project.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
21,861	14,781	-	-	-	36,642	36,642		

11) West Field Cargo Redevelopment



This project will demolish and reconstruct one of the West Field Cargo buildings to meet airline demand for efficient, state-of-the-art cargo facilities and to ensure that the Airport has the necessary cargo infrastructure to support the aviation industry in the efficient movement of goods and materials through this region.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
18,414	10,156	-	-	-	28,570	28,570



12) Cargo and Hangar Improvements

This project will renovate existing cargo and hangar facilities, including improvements to the SuperBay Hangar and Building 944 (also known as JAL Cargo). The renovations to the SuperBay Hangar include improving the existing doors, replacing the door motors and rails, and upgrading the fire suppression system. The improvements to Building 944 include renovations to the mechanical systems and reconfiguring the space to maximize cargo operations.

	(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total			
4,600	7,358	3,400	11,600	-	26,958	26,958			

13) Ground Transportation Management System (GTMS) Replacement

This \$14.6 million project will replace the Automated Vehicle Identification (AVI) and Taxi Management System (TMS) into one consolidated system with the ability to manage critical commercial ground transportation functions more effectively, including transponder management, operator billing, vehicle inspections, and vehicle tracking and enforcement.

Further enhancements include improved service and access to operators through online account management and commercial vehicle environmental compliance monitoring. Additionally, this project will furnish and install power and



telecommunication infrastructure in support of Airport's GTMS and TMS hardware and software.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
7,300	6,000	-	-	-	13,300	13,300		

14) Telecommunications Network Infrastructure Upgrades

This project improves the information technology network infrastructure by upgrading or replacing telecommunications hardware and software installed by PacBell, SBC, or AT&T.



(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
3,210	4,130	1,327	-	-	8,667	8,667		

15) Revenue Enhancement and Customer Hospitality (REACH) Program

The Revenue Enhancement and Customer Hospitality (REACH) Program will build on the success of Terminal 2 by identifying and implementing innovative and forward-looking passenger experience initiatives so that SFO can continue to lead the industry in providing a world-class program. The REACH Program will increase non-airline revenue, improve ASQ scores, and create a unique SFO passenger experience.

The initial REACH program scope also includes the construction of four mini-parks (two exterior at the International Terminal and two interior - one each at the end of Boarding Area A and Boarding Area G). The mini-parks will provide a serene environment for passengers and Airport guests.

ł	(\$000s)								
	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
	6,500	1,500	-	-	-	8,000	8,000		

16) CNG Shuttle Bus Replacement

The Airport will replace 10 Shuttle Buses in its fleet (six from 1999, four from 2002) that have reached the end of their useful life. SFO Shuttle Buses operate 24-hours-a-day, 7 days—a-week with service between the long-term parking areas, terminal facilities and the employee parking facilities at Westfield Garage, Lot D, and Lot B. The SFO Shuttle Bus vehicles also serve as alternative ground transportation in the event of an AirTrain system outage and provide other Airport emergency support. The Airport has a total of 26 buses. Twelve buses were replaced in FY 12/13.





(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
3,250	3,250	-	-	-	6,500	6,500		

17) Public Wi-Fi Improvements

This project will convert the existing public Wi-Fi network that was managed by a third party provider at the Airport to a free service for passengers and tenants. The current network does not meet the current demand for bandwidth and coverage and passenger satisfaction is declining. This project will upgrade the Wi-Fi system to meet customer demand for robust services in all Airport terminals and the Rental Car Center, by increasing Wi-Fi speed and coverage, removing advertisements, and providing a more user-friendly interface.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
5,680	-	-	-	-	5,680	5,680

18) Fire Station Improvements

This project will retrofit the bathrooms and locker rooms in Airport Fire Stations to meet the needs of male and female fire fighters. This project will also complete the build out of a 2,500 sq. ft. area in Fire Station #2 that will serve as a workout and training facility. The Fire Department does not have a dedicated facility for these activities.

Because Fire Department staff work a 24-hour shift, sufficient bathroom and locker room facilities are a necessity. Firehouse #2 is located on the airfield adjacent to Super Bay Hanger and does not have a dedicated fitness area. Firefighters currently use the apparatus parking and maintenance area for fitness activity. This area is congested and exposes personnel to fumes, exhaust, and toxic chemicals used for cleaning and maintaining apparatus, equipment, and floors.



(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
5,000	-	-	-	-	5,000	5,000		

19) Energy Efficiency Projects – Airport Support

This \$5.2 million project continues the retrofit or replacement of T12 fluorescent and other inefficient lighting fixtures in all facilities outside of Airport terminals to comply with Chapter 13D Ordinance of San Francisco Building Code.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
4,885	-	-	-	-	4,885	4,885		

20) Noise Insulation Program

This project continues the Noise Insulation Program (NIP) that the Airport has been managing in since the 1980s. The project will provide acoustic treatment for homes that were not insulated in previous phases of the program because owners chose not to participate at the time and homes were subsequently sold. These properties will be considered for acoustic treatment if located within the latest noise contour map and if new owners want to participate. The project also includes the acquisition of easements and is eligible for grant funds. FAA Grants are expected to cover up to 80% of the project cost.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
508	1,612	656	677	699	4,152	4,152



21) Airport Support Computer System Improvements

This project will develop several new computer systems to support Airport business activities. The Airport plans to spend \$3.5 million over the next five years on three main systems. The Operating Budget System will assist staff in the development, implementation, tracking and monitoring of the Airport's operating budget. The Asset Management System is funded for initial development of a comprehensive asset management system to track the Airport's assets and life cycle costs. The Enterprise Resource Planning (ERP) system will collect and report Airport staff time to the City's payroll system, validate time against available funding, and improve reporting.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
2,200	1,300	-	-	-	3,500	3,500		

22) Airport Employee Facility Improvements

This \$2.65 million project funds two initiatives: a Conference Center on the 5th floor of the International Terminal Building near Boarding Area G and an SFO Training Center in the International Terminal Building near Boarding Area A.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
1,050	-	650	500	-	2,200	2,200		

23) Variable Message Signs on Freeway Ramps

This project replaces 23 Variable Message Signs (VMS) mounted on sign bridges above the freeway ramps near the Airport with new units that offer greater functionality and are less costly to operate and maintain. These signs will be centrally controlled by the Airport Communications Center. This project also funds VMS that will be installed at the Rental Car Center exit, Long-Term Parking exit, and at the Main Road R-1 outbound exit.

	(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total			
1,500	563	-	-	-	2,063	2,063			

24) Ground Transportation Kiosks

This project will install the systems equipment and required infrastructure for eight stand-alone ground transportation kiosks in the domestic terminals.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
400	1,400	-	-	-	1,800	1,800		

25) Airport Shoreline Protection Enhancements

The Airport Shoreline Protection Enhancement Project funds a feasibility study and \$1.5 million for initial design and construction work based on the study recommendations. The Airport has built approximately 30,000 feet of shoreline protection improvements such as of berms, concrete walls, vinyl sheet piles, and other protections over the last three decades. The consultant will assess the current condition of these improvements to ensure the stability of existing levees under the standards set forth under Federal law (44 CFR 65.10).

The study will also determine the feasibility of constructing a shoreline protection system that will protect the Airport property from the 1% annual chance flood or 100 year flood or base flood as defined by the Federal Emergency Management Administration (FEMA) and the forecasted sea level rise. The study will rely upon the latest Light Detection and Ranging (LiDAR) data from USGS and the latest Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM) from FEMA.



	(\$000s)							
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
1,620	-	-	-	-	1,620	1,620		

26) Property Management Billing System Phase II

The second phase of the Airport's Property Management Billing System (PMBS) will provide additional functionality for the system, including the deployment of new dashboards and enhanced reporting capabilities using SFO data warehouse.

	(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total			
470	860	-	-	-	1,330	1,330			

27) Shuttle Bus Maintenance Facility Replacement

This project will modify and ultimately replace the Shuttle Bus Maintenance Facility.

(\$000s)							
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total	
-	-	200	300	300	800	800	



Ongoing Capital Projects

The Plan includes 18 ongoing continuing capital projects as shown below. If the project begins before or ends after the five-year planning period, Plan budget amounts will not reflect the total project cost.

oject Title	Plan Total	Project Total
28) Wastewater System Improvements	\$ 47,672	\$ 48,332
29) Security Improvements	35,123	37,318
30) Runway Improvements	31,370	31,370
31) Terminal Facility Improvements	30,166	33,390
32) Power and Lighting Improvements	21,350	21,750
33) Airfield Miscellaneous Improvements	18,621	19,899
34) Viaduct Improvements	13,600	13,600
35) Central Plant Improvements	9,600	11,325
36) AirTrain Improvements	7,850	7,850
37) Taxiway Improvements	7,650	7,650
38) Roadway Improvements	7,500	7,500
39) Capital Equipment	4,760	5,105
40) Fire Equipment Replacement Program	2,300	3,800
41) Elevator, Escalator and Moving		
Walks Improvements	2,200	2,200
42) Storm Drain Improvements	2,000	2,000
43) Parking Lot and Garage Improvements	1,969	1,969
44) Water System Improvements	1,750	1,750
45) International Terminal Improvements	550	550
Ongoing Project Total	\$246,031	\$257,358

Ongoing Capital Projects (\$000s)

A description of each ongoing project and a budget summary are shown on the following pages.



28) Wastewater System Improvements



This project upgrades and replaces the Airport sewage and industrial waste systems. In the planning period, the Airport will upgrade the Industrial Treatment Plant, replace the sanitary sewage and industrial waste pump stations, construct a new wash down site, install new valves on various utility systems, construct a new sewer outfall to South San Francisco, repair the Industrial Waste Containment Basins, and upgrade pump stations at the Superbay hangar.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
4,907	24,355	3,476	9,491	5,443	47,672	47,672

29) Security Improvements



This \$37.3 million project makes investments to improve safety and security. The Airport will build a new Airfield Operations facility, replace security gates at the Coast Guard facility, enhance the existing CCTV system, renovate the Security Access Office, and implement a new Access Control System throughout the Airport to comply with FAA TSR 1542 Regulations.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
16,346	10,497	5,080	3,200	-	35,123	35,123



30) Runway Improvements



This project funds airfield pavement and infrastructure improvements to enhance the safety and efficiency of runway operations. This project funds the cyclical reconstruction of two of the Airport's runways (1L/19R and 28L/10R) and associated taxiways, upgrades related utility infrastructure, and improves airfield markings in compliance with FAA requirements. This project also includes efforts to reduce ponding within the runway areas.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
-	-	641	19,229	11,500	31,370	31,370

31) Terminal Facility Improvements

This project will make terminal facility improvements throughout the Airport campus. During the planning period, the Airport will replace the carpeting in the International Terminal, reconfigure and expand the Boarding Area A Checkpoint, and make other mechanical and HVAC improvements.

	(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total			
14,081	13,085	3,000	-	-	30,166	30,166			

32) Power and Lighting Improvements

This project will fund the planning, design, and construction of power and lighting systems to ensure reliable and redundant power supplies. Specific projects include 12kv upgrades, Power Distribution System improvements, Station BP Upgrades, and 400Hz System upgrades in the International Terminal boarding areas.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
3,396	15,384	2,570	-	-	21,350	21,350		

33) Airfield Miscellaneous Improvements

This project will fund reconstruction and improvements for various airfield areas meeting the FAA requirement for the airfield areas to be cleared, graded, and devoid of surface variations, with appropriate drainage to prevent water accumulation, ponding problems, and wetlands. This project also enhances perimeter security for the airfield, upgrades AOA checkpoints, video surveillance systems, perimeter lighting and other security systems, and creates a second full-service gate for the Airbus A380 in International Terminal on Boarding Area G.



(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
5,359	3,641	4,000	359	5,262	18,621	18,621		

34) Viaduct Improvements

This project continues the retrofit of the upper level viaduct roadway that serves the domestic terminal complex, bringing the viaduct into compliance with current roadway design criteria and seismic standards. Under this project, the Airport will improve the viaduct roadway decking, resurface the roadbed, upgrade roadway lighting, and re-route underground utilities.

(\$000s)								
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total		
450	6,155	6,995	-	-	13,600	13,600		

35) Central Plant Improvements

This project replaces large industrial capacity equipment and associated upgrades to control systems that monitor and regulate central plant operations for the Airport. These upgrades will improve energy efficiency and reduce power and fuel consumption.

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
5,050	4,265	285	-	-	9,600	9,600



36) AirTrain Improvements



This project funds upgrades to the AirTrain system, including the replacement of AirTrain cars that are approaching the end of their useful life and installing new LED signs at AirTrain stations.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
4,250	3,600	-	-	-	7,850	7,850

37) Taxiway Improvements



This project will reconstruct airfield taxiways, vehicle service roads, and aprons, replace airfield utility infrastructure, and improve airfield markings in compliance with FAA requirements. Utility infrastructure includes sewage systems, drainage systems, and electrical and lighting systems. Taxiways scheduled for renovation and reconstruction in the planning period are Taxiways G, H, and M; and Taxiways N and P. The FAA's Airport Improvement Program (AIP) may fund up to 75% of project costs.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
-	250	3,645	3,755	-	7,650	7,650

38) Roadway Improvements

This project reconstructs and resurfaces Airport bridges, circulation roads and roadways. In the planning period, the Airport will resurface and repair the lower level circulation roads. Incidental work related to the subprojects, such as roadway lighting and re-routing of underground utilities infrastructure, are also included in the project scope.

(\$000s)										
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total				
-	-	-	950	6,550	7,500	7,500				

39) Capital Equipment

The project funds various types of vehicles used on the Airport campus, including an asphalt paving machine, a backhoe, a high speed air sweeper, a crane and an excavator.

	(\$000s)										
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total					
1,820	750	825	965	400	4,760	4,760					

40) Fire Equipment Replacement Program

The project funds the replacement of various types of vehicles used by the San Francisco Fire Department on the Airport campus, including a new Mobile Command Post, ARFF Rescue Truck 88, and several paramedic vehicles.

	(\$000s)									
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total				
1,000	300	-	1,000	-	2,300	2,300				

41) Elevator, Escalator and Moving Walks Improvements



This project funds the renovation of escalators, elevators and moving walkways in Terminal 3. The Airport will rebuild and replace aged and worn mechanical and electrical components, resulting in a more reliable, safe and energy-efficient passenger transport system.

(\$000s)

FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total
2,200	-	-	-	-	2,200	2,200

42) Storm Drain Improvements

This project funds recurring, incremental upgrades to the storm drain systems, including the replacement of pump stations and storm drain pipelines.

	(\$000s)										
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total					
-	2,000	-	-	-	2,000	2,000					



43) Parking Lot and Garage Improvements

This project will replace aging Carbon Monoxide purging fans and motor control centers associated with the Carbon Monoxide system. Also, it will address the fall protection and access issues to the fans that are located on the top of each core.

	(\$000s)										
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total					
1,969	-	-	-	-	1,969	1,969					

44) Water System Improvements

This project replaces the Airport's water mains in the West of Bayshore area.

	(\$000s)									
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total				
250	1,500	-	-	-	1,750	1,750				

45) International Terminal Improvements

This project provides initial funding to modify and refurbish International Terminal check-in counters and gate podiums.

_	(\$000s)										
FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Five-Year Total	Ten-Year Total					
-	-	50	500	-	550	550					



Appendices

The following appendices provide more detailed information for the Plan:

Appendix 1 – Capital Plan Uses Summary

Appendix 2 – Capital Plan Sources Summary

Appendix 3 – Capital Planning Process Flow Chart





Appendix 1 – Capital Plan Uses Summary (\$000s)

Project Title	Cost Center	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Total
New Projects							
1) Terminal 1 Redevelopment	Terminal	26,101	75,138	181,171	240,048	289,035	811,493
2) Consolidated Administration Campus	Airport Support	20,161	21,869	37,455	75,744	54,771	210,000
3) On-Airport Hotel	Groundside	10,000	16,725	108,300	29,975	-	165,000
4) Long Term Garage Development	Groundside	3,000	3,000	10,000	32,000	24,000	72,000
5) Security Local Area Network (S-LAN) Replacement	Airport Support	22,101	-	-	-	-	22,101
New Project Sub-Total		81,363	116,732	336,926	377,767	367,806	1,280,594
Discrete Projects							
6) Terminal 3 East Checkpoint Reconfiguration	Terminal	34,892	82,725	55,438	1,447	-	174,502
7) Runway Safety Area (RSA) Improvement Program	Airfield	74,362	14,526	172	-	-	89,060
8) ATCT Replacement and Integrated Facilities	Airport Support	52,792	10,201	-	-	-	62,993
9) Boarding Area E Redevelopment	Terminal	60,870	-	-	-	-	60,870
10) BHS / CBIS Modernization	Terminal	21,861	14,781	-	-	-	36,642
11) West Field Cargo Redevelopment	Airport Support	18,414	10,156	-	-	-	28,570
12) Cargo & Hangar Improvements	Airport Support	4,600	7,358	3,400	11,600	-	26,958
13) Ground Transportation Management System (GTMS) Replacement	Groundside	7,300	6,000	-	-	-	13,300
14) Telecommunications Network Infrastructure Upgrades	Airport Support	3,210	4,130	1,327	-	-	8,667
15) Revenue Enhancement and Customer Hospitality Program	Terminal	6,500	1,500	-	-	-	8,000
16) CNG Shuttle Bus Replacement	Groundside	3,250	3,250	-	-	-	6,500
17) Public Wi-Fi Improvements	Terminal	5,680	-	-	-	-	5,680
18) Fire Station Improvements	Airport Support	5,000	-	-	-	-	5,000
19) Energy Efficiency Projects - Airport Support	Airport Support	4,885	-	-	-	-	4,885
20) Noise Insulation Program	Airport Support	508	1,612	656	677	699	4,152
21) Airport Support Computer System Improvements	Airport Support	2,200	1,300	-	-	-	3,500
Project Title	Cost Center	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	Total

FY 13/14 Capital Plan – Appendices

Five-Year Capital Plan Total		453,805	362,876	429,336	431,740	397,960	2,075,717
Ongoing Projects Sub-Total		61,078	85,782	30,567	39,449	29,155	246,031
45) International Terminal Improvements	Terminal	-		50	500		550
44) Water System Improvements	Utility	250	1,500	-	-	-	1,750
43) Parking Lot and Garage Improvements	Airport Support	1,969	-	-	-	-	1,969
42) Storm Drain Improvements	Utility	-	2,000	-	-	-	2,000
41) Elevator, Escalator and Moving Walks Improvements	Terminal	2,200	-	-	-	-	2,200
40) Fire Equipment Replacement Program	Airport Support	1,000	300	-	1,000	-	2,300
39) Capital Equipment	Airport Support	1,820	750	825	965	400	4,760
38) Roadway Improvements	Groundside	-	-	-	950	6,550	7,500
37) Taxiway Improvements	Airfield	-	250	3,645	3,755	-	7,650
36) AirTrain Improvements	Airport Support	4,250	3,600	-	-	-	7,850
35) Central Plant Improvements	Utility	5,050	4,265	285	-	-	9,600
34) Viaduct Improvements	Groundside	450	6,155	6,995	-	-	13,600
33) Airfield Miscellaneous Improvements	Airfield	5,359	3,641	4,000	359	5,262	18,621
32) Power and Lighting Improvements	Utility	3,396	15,384	2,570	-	-	21,350
31) Terminal Facility Improvements	Terminal	14,081	13,085	3,000	-	-	30,166
30) Runway Improvements	Airfield	-	-	641	19,229	11,500	31,370
29) Security Improvements	, Airport Support	16,346	10,497	5,080	3,200	-	35,123
28) Wastewater System Improvements	Utility	4,907	24,355	3,476	9,491	5,443	47,672
agoing Projects		. ,					
Discrete Projects Sub-Total		311,364	160,362	61,843	14,524	999	549,092
27) Shuttle Bus Maintenance Facility Replacement	Groundside	-	-	200	300	300	800
26) Property Management Billing System Phase II	Airport Support	470	860	_	_	_	1,330
25) Airport Shoreline Protection Enhancements	Airport Support	1,620	-	_	_	_	1,620
24) Ground Transportation Kiosks	Airport Support	400	1,400	_	_	_	1,800
23) Variable Message Signs on Freeway Ramps	Groundside	1,500	563	-	-	_	2,063
22) Airport Employee Facility Improvements	Airport Support	1,050	-	650	500	-	2,20

Appendix 2 – Capital Plan Sources Summary (\$000s)

roiont Titlo	Cost Center	Bonds	Grants	Other	Total
roject Title		Bonas	Grants	Other	Total
ew Projects	Torminal	011 400			911 402
1) Terminal 1 Redevelopment	Terminal	811,493	-	-	811,493
2) Consolidated Administration Campus	Airport Support	210,000	-	-	210,000
3) On-Airport Hotel	Groundside	135,000	-	30,000	165,000
4) Long Term Garage Development	Groundside	72,000	-	-	72,000
5) Security Local Area Network (S-LAN) Replacement	Airport Support	22,101	-	-	22,101
New Project Sub-To	otal	1,250,594	-	30,000	1,280,594
iscrete Projects					
6) Terminal 3 East Checkpoint Reconfiguration	Terminal	174,502	-	-	174,502
7) Runway Safety Area (RSA) Improvement Program	Airfield	34,508	54,552	-	89,060
8) ATCT Replacement and Integrated Facilities	Airport Support	32,188	30,805	-	62,993
9) Boarding Area E Redevelopment	Terminal	60,870	-	-	60,870
10) BHS / CBIS Modernization	Terminal	24,804	11,838	-	36,642
11) West Field Cargo Redevelopment	Airport Support	28,570	-	-	28,570
12) Cargo & Hangar Improvements	Airport Support	26,958	-	-	26,958
13) Ground Transportation Management		12 200			12 200
System (GTMS) Replacement	Groundside	13,300	-	-	13,300
14) Telecommunications Network Infrastructure Upgrades	Airport Support	8,667	-	-	8,667
15) Revenue Enhancement and Customer		8,000	-	-	8,000
Hospitality Program 16) CNG Shuttle Bus Replacement	Terminal	6,500			6,500
17) Public Wi-Fi Improvements	Groundside	5,680	-	-	6,500 5,680
18) Fire Station Improvements	Terminal		-	-	-
	Airport Support	5,000	-	-	5,000
19) Energy Efficiency Projects - Airport Support	Airport Support	4,885	-	-	4,885
20) Noise Insulation Program	Airport Support	831	3,321	-	4,152
21) Airport Support Computer System Improvements	Airport Support	3,500	-	-	3,500

oject Title	Cost Center	Bonds	Grants	Other	Total
22) Airport Employee Facility Improvements	Airport Support	2,200	-	-	2,200
23) Variable Message Signs on Freeway Ramps	Groundside	2,063	-	-	2,063
24) Ground Transportation Kiosks	Airport Support	1,800	-	-	1,800
25) Airport Shoreline Protection Enhancements	Airport Support	1,620	-	-	1,620
26) Property Management Billing System Phase II	Airport Support	1,330	-	-	1,330
27) Shuttle Bus Maintenance Facility Replacement	Groundside	800	-	-	800
Discrete Project Sub-Total		448,576	100,516	-	549,092
going Projects					
28) Wastewater System Improvements	Utility	47,672	-	-	47,672
29) Security Improvements	Airport Support	35,123	-	-	35,123
30) Runway Improvements	Airfield	7,602	23,768	-	31,370
31) Terminal Facility Improvements	Terminal	30,166	-	-	30,166
32) Power and Lighting Improvements	Utility	21,350	-	-	21,350
33) Airfield Miscellaneous Improvements	Airfield	14,350	4,271	-	18,621
34) Viaduct Improvements	Groundside	13,600	-	-	13,600
35) Central Plant Improvements	Utility	9,600	-	-	9,600
36) AirTrain Improvements	Airport Support	7,850	-	-	7,850
37) Taxiway Improvements	Airfield	2,093	5,557	-	7,650
38) Roadway Improvements	Groundside	7,500	-	-	7,500
39) Capital Equipment	Airport Support	4,760	-	-	4,760
40) Fire Equipment Replacement Program	Airport Support	2,300	-	-	2,300
41) Elevator, Escalator and Moving Walks Improvements	Terminal	2,200	-	-	2,200
42) Storm Drain Improvements	Utility	2,000	-	-	2,000
43) Parking Lot and Garage Improvements	Airport Support	1,969	-	-	1,969
44) Water System Improvements	Utility	1,750	-	-	1,750
45) International Terminal Improvements	Terminal	550	-	-	550
Ongoing Project Sub-Total		212,435	33,596	-	246,031
Five-Year Capital Plan Total		1,911,605	134,112	30,000	2,075,717

Appendix 3 – Capital Planning Process Flow Chart



Development of the 5-Year & 10 Year Capital Plan

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