Goal 4: Support & Maintain Critical City IT Infrastructure

Investing in the City's IT infrastructure allows the City to both implement new technologies and sustain its current systems. This infrastructure, which includes networks, desktops, fiber and major communication systems, is the platform that supports critical City business functions.

STRATEGIES

- Evolve the City's IT infrastructure to support current systems and future innovation;
- Equip staff with appropriate technology and tools to work efficiently and effectively; and
- Ensure IT staff develops and maintains strong skill sets to enable them to implement current and future strategies.

OVERVIEW

Forty-eight percent of all project requests ($263.5 million) were requests for infrastructure. Included under this goal are major IT investments, including two major radio replacement projects, which constitute $185.5 million of the total requests. Additionally, captured under this goal are the IT components of two major capital projects that will be completed within the next five years – the new Public Safety Building and the San Francisco General Hospital rebuild project. These four projects make up over $226.5 million, or 86.0 percent, of the total requests within this goal.

STATUS OF CURRENT PROJECTS

Over the last few years, the City has invested heavily in the maintenance and support of critical IT infrastructure. These investments have helped provide City departments with much needed upgrades to computers and software, as well as other elements of the City's IT infrastructure. The selected projects highlight progress to date on efforts that align with the goal of maintaining and supporting infrastructure.

✓ **Citywide Fiber (On-going)**

The Department of Technology continues to lay fiber optic cable below the streets of San Francisco. The City has installed 120 miles of fiber and is currently moving forward with projects for the Recreation and Parks Department and the Port. In addition, the Department of Technology is connecting public safety departments and their stations, while also seeking outside commercial partners to generate revenue for the City. Currently, the City has contracts with UC San Francisco, WETA, CENIC, and UC Berkeley.

✓ **Citywide Wi-Fi (On-going)**

The Department of Technology is working to bring Wi-Fi to various City agencies and public spaces throughout San Francisco. In addition to the work completed under the Broadband Technologies Opportunities Program, which installed 595 Wi-Fi access points, the Department has installed 18 access points of Wi-Fi connectivity on Treasure Island. Additionally, the Department is working to install internal Wi-Fi at City agencies. The Health Service System will be a pilot agency in this project. Finally, a

preliminary MOU has been signed between AT&T and the City for Wi-Fi implementation on the Market Street corridor.

✓ **PC Refresh (On-going)**

In FY 2011-12 and FY 2012-13, COIT funded the replacement of PCs, laptops, and software for General Fund departments. By bulk purchasing this equipment, the City was able to take advantage of volume discounts. In FY 2011-12, this program supported 15 departments and funded 700 new desktop and laptop computers. In FY 2012-13, this program purchased nearly 900 computers and laptops, benefiting 27 General Fund departments. This program should be continued.

✓ **Library Technology Replacement Program (On-going)**

During FY 2012-13, the Public Library is replacing 150 staff computers in the Main Library. The computers that are being replaced will be dispersed for public use in the Main Library and branches across the City. In addition to the desktops being replaced, the Public Library will also refresh 100 lending laptops and purchase an additional 90 laptops to expand the Laptop Lending Program. This program has assisted the Library in meeting the increased demand for additional public computing resources in all library locations (especially during after school hours), and provides updated, current computing resources for Department staff and the public.

MAJOR PROJECTS & INITIATIVES

Of the $263.5 million in requests that identify maintenance and support of critical IT infrastructure as a primary goal, 21.4 percent are identified as new/enhancement projects, 52.4 percent as replacements, and 26.2 percent as critical project development. A major IT investment project included under critical project development is the Public Safety Radio Replacement project, which is estimated to cost $69.0 million. Of the replacement project requests, there are a number of similar requests for technology refreshment of hardware and software. In previous years, the City has addressed some of this need through an annual PC Refresh project. This project will continue to consolidate department requests in order to maximize the savings through bulk purchasing.

The following projects grouped by functional category are highlighted in this Plan as representative of the kinds of investments the City could make in the next five years. More detail on each of the featured projects is located in the appendix. The projects that are ultimately funded must be recommended by COIT and approved through the annual budget process by the Mayor's Office and the Board of Supervisors.

NEW / ENHANCEMENTS

▪ <u>High-Tech Mobile Devices for Police</u>

Sponsoring Department: Police
Timeline: FY 2013-14 through FY 2017-18
Project Budget: $2,506,200
Project Summary: This project seeks to keep police on the streets by enabling them with mobile devices equipped with high-tech tools designed to predict and map crime, identify suspects, write reports, and access the Police Department's new state of the art Crime Data Warehouse. Specific capabilities include: access to the Crime Data Warehouse, Police Report Writing, Suspect Identification Search, and Native Smartphone Capabilities (email, talk to text, text, GPS, phone, digital camera, etc.). The Department

anticipates that through this project there will be more officers on the streets protecting citizens; more criminals apprehended due to better identification tools; quicker investigation of cases with reports started on the street; and more cases solved because of broader reach of the Crime Data Warehouse and access to its search function.

- **San Francisco General Hospital Technical Infrastructure Re-Build**
  Sponsoring Department: Public Health
  Timeline: FY 2012-13 through FY 2015-16
  Project Budget: $30,000,000
  Project Summary: This project will allow for the design and implementation of the technical infrastructure required for the new San Francisco General Hospital facility, which is anticipated to be fully operational by FY 2015-16. In collaboration with the Department of Technology, the Department of Public Health will analyze infrastructure requirements, develop the technical project plan, and complete a Bill of Materials to acquire necessary hardware and implement the required technical capabilities.

- **Fiber to City Buildings**
  Sponsoring Department: Technology
  Timeline: FY 2013-14 through FY 2014-15
  Project Budget: $ 870,089
  Project Summary: To meet the increasing need for bandwidth, and to be self-sustaining in municipal fiber resources, the Department of Technology has installed fiber in various City facilities and is expanding its fiber backbone to increase capacity and redundancy. The Department will continue this effort to ensure all necessary City facilities are connected to fiber – taking into consideration future needs. Installation of City owned fiber infrastructure will result in substantial cost savings with respect to existing and future needs for applications in use by various departments that require extremely high bandwidth. Additionally, public safety will be enhanced by maintaining a City owned infrastructure for all public safety communications.

- **Deployment of Computerized Maintenance Management System (CMMS)**
  Sponsoring Department: Public Works
  Timeline: FY 2012-13 through FY 2014-15
  Project Budget: $2,167,500
  Project Summary: The Department of Public Works is tasked with providing operational maintenance and management of City assets, such as: streets, curb ramps, medians, plazas, trees, sewers, buildings, bridges, tunnels, and staircases. Currently, the Department uses multiple independently built database systems and spreadsheets to manage and maintain these assets. The Computerized Maintenance Management System (CMMS) is a single asset management platform for all bureaus within the Department. After implementation of this project, the Department will be able to: leverage new technologies for efficient integration with other City applications; have a more cohesive understanding on assets managed; and improve coordination and communication within the Department, as well as with other City departments.

- **BayWEB/FirstNet – Interoperable Public Safety Data Network**
  Sponsoring Departments: Emergency Management, Police, Fire, Sheriff, and Technology
  Timeline: FY 2013-14 through FY 2017-18
  Project Budget: $483,120 (Site leases & Utilities only)

Project Summary: In 2010, the Bay Area received a $50.6 million federal stimulus grant called the Broadband Technology Opportunities Program (BTOP) to fund a public safety wireless broadband project. San Francisco is one of seven counties that will be part of the regional network. BayWEB is the wireless broadband data network dedicated for the region's public safety agencies. This project is one of the first phases of a nationwide network build-out of the FirstNet system. The BayWEB network incorporates cutting-edge 4G LTE technology that allows police, firefighters, and other first responders in the field to share texts, download photos, view video, and use new mobile applications to help them work more effectively. As a dedicated network just for public safety, BayWEB will ensure the continuity of service coverage during major incidents and events within the City.

REPLACEMENT

- ### Airport Security Local Area Network (SLAN) Replacement
  Sponsoring Department: Airport
  Timeline: FY 2012-13 through FY 2014-15
  Project Budget: $25,000,000
  Project Summary: The project will replace the Airport's aged Security Local Area Network (SLAN). The project includes building a new SLAN, moving systems to a supported and reliable server and desktop hardware, and insuring cyber security compliance. The Airport anticipates more efficient, secure, stable and cost-effective monitoring, maintenance, upgrades, and growth with a secure network and server environment in compliance with cyber security standards and practices. Furthermore, a new SLAN will provide more efficient integration with other current and future Aviation Security systems and applications, as well as better support first-hand notification for troubleshooting problems. The Airport projects a 99.9 percent uptime post system replacement.

- ### 9-1-1 Telephone System Replacement
  Sponsoring Department: Emergency Management
  Timeline: FY 2014- 15 through FY 2015-16
  Project Budget: $3,000,000
  Project Summary: As the primary Public Safety Answering Point (PSAP) for 9-1-1 emergency calls placed within San Francisco, the Department of Emergency Management maintains a sophisticated, highly redundant call processing system to handle emergency and non-emergency calls. The system includes a dedicated phone switch, call handling and distribution software, and call-taker workstations equipment and software. This project will upgrade the entire system and migrate it from an analog, circuit-based system, to a digital, next generation platform.

- ### SFMTA Radio Replacement
  Sponsoring Department: Municipal Transportation Agency
  Timeline: FY 2012-13 through FY 2016-17
  Project Budget: $116,500,000
  Project Summary: The Municipal Transportation Agency currently utilizes a 30-year-old radio system that is inefficient and lacks modern features. The Radio System Replacement Project will replace the Department current system and install a new Computer Aided Dispatch/Automatic Vehicle Location (CAD/AVL) system compliant with Project 25 (P25) communication interoperability standards. The new radio system will provide coverage in the City for over 1,400 Department vehicles. This will also allow for better radio communication in the Muni Metro subway. It will additionally allow for greater interoperability with other City departments. The total budget for this project is currently $116.5

million. This project is to be funded out of the Department's operating budget, as well as Prop K Sales Tax, federal and State funding. In FY 2012-13, approximately $7.55 million will be expended on this project.

CRITICAL PROJECT DEVELOPMENT

- ▪ <u>Public Safety Radio Replacement</u>
  Sponsoring Departments: Emergency Management, Police, Fire, and Sheriff
  Timeline: FY 2013-14 through FY 2017-18
  Project Budget: $69,000,000
  Project Summary: This project will upgrade the Citywide 800MHz Radio Communications System used primarily by the City's public safety agencies for push-to-talk voice communications between the 9-1-1 Dispatch Center and officers in the field to relay incident information, as well as day-to-day communications between units in the field. The current system was installed in 2000 and is nearing the end of its service life. The new technology available will improve interoperability between City departments and other mutual aid agencies. The system will support over 7,000 mobile and handheld radios, with 10 City departments and four outside agencies operating daily on the system. Initial budgetary estimates project a system replacement cost of $69.0 million.