



2012-2013 CAPITAL BUDGET

**2013-2017 CAPITAL
IMPROVEMENT PROGRAM**

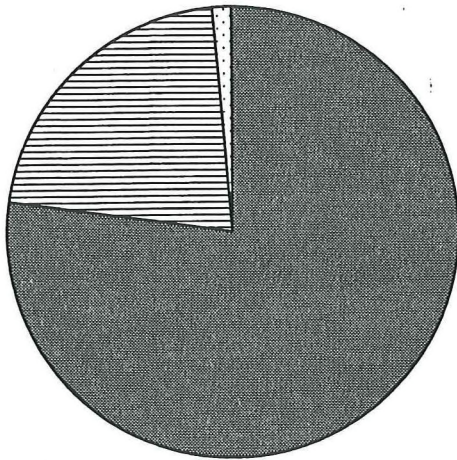


COMMUNICATIONS

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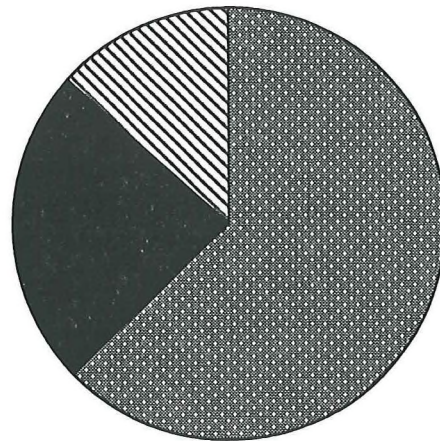
2013-2017 Capital Improvement Program

**2012-2013 Adopted
Source of Funds**



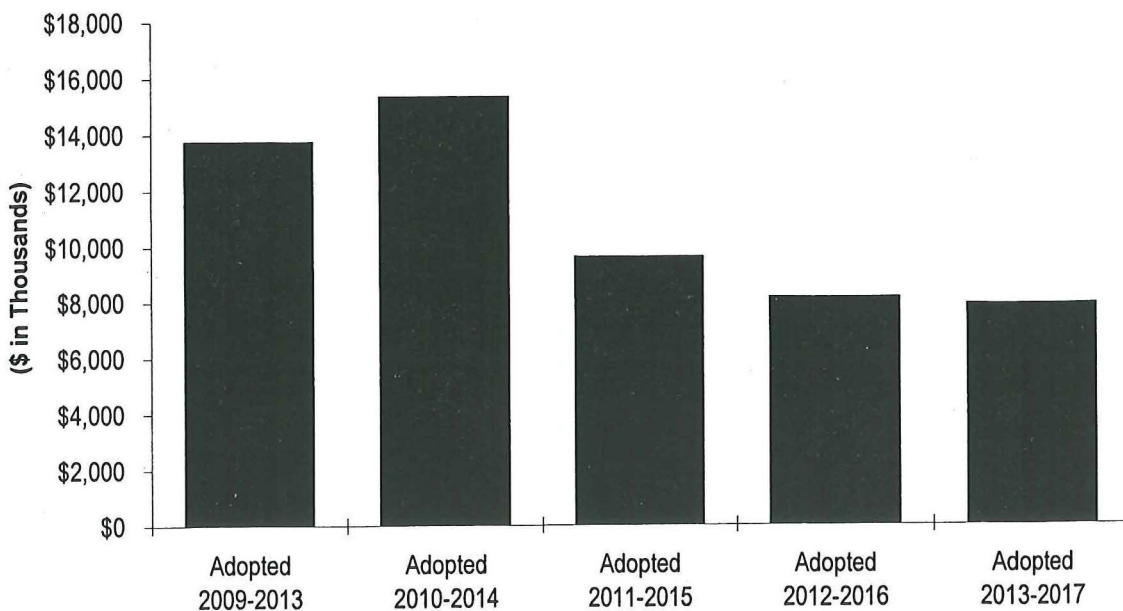
- Beginning Fund Balance
- ▨ Taxes, Fees and Charges
- Miscellaneous

**2012-2013 Adopted
Use of Funds**



- ▨ Construction
- Non-Construction
- ▨ Ending Fund Balance

CIP History



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Communications

2013-2017 Adopted Capital Improvement Program

Overview

INTRODUCTION

In October 1990, the City assumed the responsibility of providing its own emergency communications service for Police and Fire from the County of Santa Clara. The Communications Capital Improvement Program (CIP) was set up to address the replacement and upgrade of both the public safety and non-public safety radio equipment. In addition, this Program funds capital improvements related to communications facilities including land and interests in land, buildings, structures, radio and other equipment, and streets and sidewalks adjacent to City communication facilities. The inventory of equipment that is supported by this program consists of approximately 25 fixed-equipment sites; 100 base stations; and 6,700 mobile radios, portable radios, and mobile data systems. The 2013-2017 Adopted CIP provides funding of \$7.9 million of which \$3.3 million is allocated in 2012-2013.

This program is part of the Strategic Support City Service Area (CSA) and supports the following outcomes from that CSA: *Safe and Functional Public Infrastructure, Facilities and Equipment*; and *Effective Use of State-of-the-Art Technology*. In addition to two outcomes in the Strategic Support CSA, the program supports one outcome in the Public Safety CSA: *The Public Feels Safe Anywhere, Anytime in San José*.

PROGRAM PRIORITIES AND OBJECTIVES

The Communications CIP's guiding objective is the provision of reliable, necessary public and non-public safety-related communications equipment for all City employees who need this equipment to perform their job duties. Based on the CSA outcomes supported by

this program, the following list of priorities has been developed:

- Proactively replace public safety-related communications equipment and systems to ensure reliability and optimal performance, and compliance with rules of the Federal Communications Commission;
- Maintain existing radio equipment in a proactive manner to ensure optimal functionality and to extend the length of service; and
- Strategically plan for future major upgrades and technology changes.

To address each of these three priorities, a significant portion of the Communications CIP is allocated to the City-wide Trunking Radio System. Trunking is a way of using a set of frequencies in a more efficient manner which is used by many government entities that share a finite amount of the radio spectrum.

The radio infrastructure currently in service was originally designed at a time when mobile radios (radios installed in vehicles) were the primary and, in most cases, the only radios in use. In recent years, there have been increased requirements placed on existing radio infrastructure systems due to more reliance on portable coverage. Portable radios (handheld radios), although beneficial operationally, require enhanced radio infrastructure compared to mobile radios, resulting in coverage issues. Increased building density within the City has contributed to the need for enhanced radio infrastructure as well. For this reason, the Communications Program has continued to

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Overview

PROGRAM PRIORITIES AND OBJECTIVES

focus its efforts on the City-wide Trunking System.

The backbone infrastructure to operate the City-wide Trunking Radio System is the Emergency Communications Microwave (ECOMM) system. The initial phase of the ECOMM project was previously budgeted and will be completed this year. Full funding for the active City-wide Trunking Radio System (approximately \$12-15 million) is currently not available; therefore, the Trunking System will be implemented in a phased approach. The phased trunking program will begin in 2012-2013. Once implemented, trunking will enable the City to make use of existing radio frequencies, utilize the 700MHz band, as well as prioritize communications to ensure that Police and Fire transmissions take precedence. Trunking is seen as key to the success of future public safety communications and interoperability.

With the completion of the initial phases of ECOMM, the Fire Department's primary dispatch frequency was expanded to a simulcast operation. Simulcast, which is a simultaneous broadcast of audio by a number of transmitters on a single frequency and a feature of the ECOMM system, is expected to be fully implemented to the remaining Fire Department frequencies by December 2012. The Communications Program has already completed the deployment of simulcasting in the Police Department's northern and southern districts. Coverage for these districts will be further expanded, along with the deployment of simulcast operation on other Police Department frequencies deemed

necessary. It is anticipated that by the end of 2012-2013, all public safety frequencies needing enhancements will operate in simulcast, providing coverage and penetration improvements as well as operational redundancy necessary to sustain communications operations through a catastrophic event.

SOURCES OF FUNDING

The 2012-2013 Adopted Capital Budget estimate for Construction and Conveyance (C&C) taxes is \$21.0 million, of which 3.4% is allocated to the Communications Capital Program. Approximately 99% of this tax is derived from a transfer tax imposed upon each transfer of real property, with the remaining 1% generated from a construction tax levied on most types of construction. C&C tax revenue collections are assumed to remain generally flat in the near term and experience modest growth thereafter. For the 2013-2017 CIP, it is assumed that collections allocated to the Communications Capital Program will total \$714,000 in 2012-2013, increase slightly to \$748,000 in 2013-2014, and remain stable annually for the remaining years of the CIP.

At current tax collection levels, the General Fund will be required to provide funding of \$375,000 starting in 2013-2014 for the Communications Capital Program in order to ensure recommended projects can be sustained over the five-year CIP. To the extent that tax revenues are received above projected levels, the General Fund transfer to this program will be reduced.

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PROGRAM HIGHLIGHTS

Communications Equipment Replacement and Upgrade

The ongoing funding of this project keeps the City's communications sites, base stations, and approximately 6,700 mobile and portable radios functioning. Much of the existing core radio equipment system and infrastructure was installed between 2005 and 2009 and has an estimated 10-15 year life cycle. When current equipment becomes due for replacement, the Public Works Department plans to replace this equipment with dual band trunking radio system equipment capable of operation on the current systems as well as 700/800MHz trunking. This will ensure that current equipment maintains compatibility with regional improvements overseen by the Silicon Valley Regional Interoperability Authority (SVRIA) and the Bay Area Regional Interoperable Communications System (BayRICS). Of the approximately 6,700 mobile and portable radios, a small percentage requires replacement to comply with the FCC mandate for all licensed two-way radio frequencies to operate in narrowband by 2013 for increased spectrum efficiency. All City radio systems will be programmed to operate in narrowband in compliance with the FCC timelines.

The upgrade of core infrastructure, such as the City-wide Trunking Radio System, is vital to public safety communications operations and places an ever increasing demand on radio facilities. Both City-owned and leased radio facilities are in need of modernization and component replacement. Currently, public safety communications systems depend on antenna systems that have been in operation far beyond their expected service

life, which may contribute to some coverage and interference problems experienced by the City's first responders. Savings of \$1.8 million in the Communication Equipment Replacement and Upgrade project were identified due the purchase of newer equipment that has an expanded life cycle. These resources were re-allocated to the City-wide Trunking Radio System project to fully fund the first phase of that project. This reallocation of resources will have limited immediate impact on the current equipment replacement and upgrade cycles.

City-Wide Trunking Radio System

Radio coverage issues were considered in the design recommendations provided by the Trunking Radio System Feasibility Study completed in 2009 and in the functional specifications developed for the SVRIA.

With the decommissioning of the 800MHz City mobile data network in late 2011, those radio frequencies will be used for the initial build out of the trunking system.

Once implemented, trunking will enable the City to make efficient use of existing radio frequencies and utilize the 700/800MHz band, prioritize communications to ensure that Police and Fire transmissions take precedence, as well as maximize the Fire Department's utilization of the new radio infrastructure system. The efficient use of existing frequencies is important as additional frequencies are no longer available, and services to support the growing population continue to increase demand on the system. Additionally, trunking is required in order to support interoperability with other Bay Area agencies. Trunking will also allow the recording of transmissions on all channels,

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Overview

PROGRAM HIGHLIGHTS

City-Wide Trunking Radio System

enabling play back for safety and debriefing purposes.

Silicon Valley Regional Interoperability

The purpose of the SVRIA is to identify, coordinate, and implement communications interoperability solutions to its member agencies. The purpose of the SVRIA projects is to include voice and data communications between law enforcement; fire and rescue service; emergency medical services and emergency management for routine operations; and critical incidents and disaster response and recovery.

The Communications Program funds the maintenance of installed communications systems and reserves for communication equipment replacement for the SVRIA. The SVRIA Board approved a budget with a total five year cost to the City of \$4.2 million which is \$1.6 million more than current forecasted totals. As part of the 2013-2014 Proposed Budget process, the Administration will bring forward a recommendation to close this funding gap.

MAJOR CHANGES FROM THE 2012-2016 ADOPTED CIP

Major changes from the 2012-2016 Adopted CIP include the following:

- Additional resources of \$1.8 million are recommended to continue to fund the San José contractual services portion of the Silicon Valley Regional Interoperability Authority.

- To support the implementation of planned site upgrades and future trunked radio development, beginning in 2012-2013, funding for 0.5 Communications Technician will be shifted from the General Fund to the Communications C&C Tax Fund in the Communications Capital Program.
- \$1.8 million was reallocated from the Communications Equipment Replacement and Upgrade Project to the City-wide Trunking Radio System project to completely fund the first phase of the City-wide Trunking Radio System efforts beginning in 2012-2013. These reallocated funds will allow for the initial purchase of the core Trunking equipment that serves as a controller for the entire City-wide Trunking Radio System.

OPERATING BUDGET IMPACT

It is anticipated that there will be no additional operating and maintenance costs associated with projects included in the 2013-2017 Proposed CIP.

COUNCIL-APPROVED REVISIONS TO THE PROPOSED CAPITAL IMPROVEMENT PROGRAM

The City Council approved the rebudgeting of unexpended funds for City-wide Trunking Radio System (\$900,000), Communications Equipment Replacement and Upgrade (\$100,000), Communications Fault Management and Alerting System (\$100,000), and Public Art (\$27,000) projects.



2012-2013 CAPITAL BUDGET

2013-2017 CAPITAL IMPROVEMENT PROGRAM



COMMUNICATIONS

SOURCE OF FUNDS

USE OF FUNDS

The Source of Funds displays the capital revenues by funding source for each year of the Five-Year Capital Improvement Program. The Use of Funds displays the capital expenditures by line-item for each year of the five-year period.

Communications
2013-2017 Adopted Capital Improvement Program
Source of Funds (Combined)

SOURCE OF FUNDS	Estimated 2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	5-Year Total
<u>Communications Construction & Conveyance Tax Fund (397)</u>							
Beginning Fund Balance	3,039,690	2,576,190	446,690	511,190	411,690	260,690	2,576,190 *
Taxes, Fees and Charges:							
<u>Construction and Conveyance Tax</u>	714,000	714,000	748,000	748,000	748,000	748,000	3,706,000
Contributions, Loans and Transfers from:							
<u>General Fund</u>							
- Civic Center Video Equipment Repayment	37,500	37,500	37,500	37,500			112,500
- Communications Projects			375,000	375,000	375,000	375,000	1,500,000
Interest Income	8,000	9,000	4,000	6,000	6,000	3,000	28,000
Reserve for Encumbrances	2,000						
Total Communications Construction & Conveyance Tax Fund	3,801,190	3,336,690	1,611,190	1,677,690	1,540,690	1,386,690	7,922,690 *
TOTAL SOURCE OF FUNDS	3,801,190	3,336,690	1,611,190	1,677,690	1,540,690	1,386,690	7,922,690 *

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* The 2013-2014 through 2016-2017 Beginning Balances are excluded from the FIVE-YEAR TOTAL SOURCE OF FUNDS to avoid multiple counting of the same funds.

Communications
2013-2017 Adopted Capital Improvement Program
Use of Funds (Combined)

USE OF FUNDS	Estimated 2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	5-Year Total
Construction Projects							
Civic Center Broadcast Equipment Maintenance and Replacement	102,000						
Public Art		37,000	3,000	4,000	4,000	4,000	52,000
1. City-wide Trunking Radio System		1,734,000	170,000	322,000	324,000	325,000	2,875,000
2. Communications Equipment Replacement and Upgrade	238,000	220,000	120,000	120,000	120,000	120,000	700,000
3. Communications Fault Management and Alerting System		100,000					100,000
Total Construction Projects	340,000	2,091,000	293,000	446,000	448,000	449,000	3,727,000
Non-Construction							
General Non-Construction							
Capital Program and Public Works Department Support Service Costs	6,000	2,000	2,000	2,000	2,000	2,000	10,000
4. Communications Maintenance	429,000	434,000	440,000	444,000	449,000	460,000	2,227,000
5. Silicon Valley Regional Interoperability	435,000	352,000	359,000	366,000	373,000	381,000	1,831,000
Total General Non-Construction	870,000	788,000	801,000	812,000	824,000	843,000	4,068,000
Contributions, Loans and Transfers to General Fund							
Transfer to the General Fund: Human Resources/Payroll System Upgrade	1,000						
Transfer to the General Fund: Interest Income	8,000	9,000	4,000	6,000	6,000	3,000	28,000
Total Contributions, Loans and Transfers to General Fund	9,000	9,000	4,000	6,000	6,000	3,000	28,000

Communications
2013-2017 Adopted Capital Improvement Program
Use of Funds (Combined)

USE OF FUNDS (CONT'D.)	Estimated 2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	5-Year Total
<u>Non-Construction</u>							
Contributions, Loans and Transfers to Special Funds							
Transfer to the City Hall Debt Service Fund	2,000	2,000	2,000	2,000	2,000	2,000	10,000
Transfer to the Federated Retirement Fund for 2010-2011 Add'l Pymt	4,000						
Total Contributions, Loans and Transfers to Special Funds	6,000	2,000	2,000	2,000	2,000	2,000	10,000
Total Non-Construction	885,000	799,000	807,000	820,000	832,000	848,000	4,106,000
Ending Fund Balance	2,576,190	446,690	511,190	411,690	260,690	89,690	89,690*
TOTAL USE OF FUNDS	3,801,190	3,336,690	1,611,190	1,677,690	1,540,690	1,386,690	7,922,690*

* The 2012-2013 through 2015-2016 Ending Balances are excluded from the FIVE-YEAR TOTAL USE OF FUNDS to avoid multiple counting of the same funds.



2012-2013 CAPITAL BUDGET

2013-2017 CAPITAL IMPROVEMENT PROGRAM



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DETAIL OF CONSTRUCTION PROJECTS

DETAIL OF NON-CONSTRUCTION PROJECTS

The Detail of Construction Projects section provides information on the individual construction projects with funding in 2012-2013. The Detail of Non-Construction Projects section is abbreviated and provides information on the individual non-construction project, with funding in 2012-2013. On the Use of Funds statement, these projects are numbered.

Communications

2013-2017 Adopted Capital Improvement Program Detail of Construction Projects

1. City-wide Trunking Radio System

CSA:	Strategic Support	Initial Start Date:	3rd Qtr. 2009
CSA Outcome:	Effective Use of State-of-the-Art Technology	Revised Start Date:	3rd Qtr. 2012
Department:	Public Works	Initial Completion Date:	3rd Qtr. 2017
Council District:	City-wide	Revised Completion Date:	TBD
Location:	City-wide		

Description: This allocation provides funding for trunked radio system infrastructure that maximizes available capacity in a two-way radio system, increasing capacity without adding frequencies.

Justification: The City has been unable to acquire additional frequencies to accommodate the increased public safety communication needs. This project provides a logical talk group for groups of users to share, rather than using one dedicated radio frequency. Trunking is used by many government entities to provide two-way communication for fire and police departments, and other municipal services, who all share spectrum allocated to a city, county, or other entity. This project improves interoperability with other agencies in the Bay Area.

EXPENDITURE SCHEDULE (000'S)											
Cost Elements	Prior Years	2011-12 Appn.	2011-12 Estimate	2012-13	2013-14	2014-15	2015-16	2016-17	5-Year Total	Beyond 5-Year	Project Total
Design				69	70				139		139
Construction	707					72	74	75	221		928
Equipment		900		1,665	100	250	250	250	2,515		2,515
TOTAL	707	900		1,734	170	322	324	325	2,875		3,582

FUNDING SOURCE SCHEDULE (000'S)											
Communications Construction & Conveyance Tax Fund	707	900		1,734	170	322	324	325	2,875		3,582
TOTAL	707	900		1,734	170	322	324	325	2,875		3,582

ANNUAL OPERATING BUDGET IMPACT (000'S)

None

Major Changes in Project Cost:

2011-2015 CIP - Increase of \$357,000 to provide additional funding for equipment.
 2013-2017 CIP - Reallocates funding from Communications Equipment Replacement and Upgrade project to this project in the amount of \$1,765,000 to accelerate Phase I and shifts funding for 0.5 Communications Technician from the General Fund to the Communications C&C Tax Fund in order to manage this project.

Notes:

Due to the uncertainty of available grant funding which is required to fully implement this project, a completion date is not available at this time.

FY Initiated:	2009-2010	Appn. #:	7115
Initial Project Budget:	\$1,100,000	USGBC LEED:	N/A

Communications

2013-2017 Adopted Capital Improvement Program Detail of Construction Projects

2. Communications Equipment Replacement and Upgrade

CSA:	Strategic Support	Initial Start Date:	Ongoing
CSA Outcome:	Effective Use of State-of-the-Art Technology	Revised Start Date:	
Department:	Public Works	Initial Completion Date:	Ongoing
Council District:	City-wide	Revised Completion Date:	
Location:	City-wide		

Description: This allocation funds the replacement of communications equipment based upon useful life expectancy.

Justification: This allocation funds essential communications equipment for Police, Fire, and non-public safety City operations.

EXPENDITURE SCHEDULE (000'S)

Cost Elements	Prior Years	2011-12 Appn.	2011-12 Estimate	2012-13	2013-14	2014-15	2015-16	2016-17	5-Year Total	Beyond 5-Year	Project Total
Equipment		338	238	220	120	120	120	120	700		
TOTAL		338	238	220	120	120	120	120	700		

FUNDING SOURCE SCHEDULE (000'S)

Communications Construction & Conveyance Tax Fund		338	238	220	120	120	120	120	700
TOTAL		338	238	220	120	120	120	120	700

ANNUAL OPERATING BUDGET IMPACT (000'S)

None

Major Changes in Project Cost:

N/A

Notes:

Project schedule dates and selected budget information are not provided due to the ongoing nature of this project. 2013-2017 CIP - Reallocates funding to the City-wide Trunking Radio System project in the amount of \$1,765,000 in order to accelerate Phase I.

FY Initiated:	Ongoing	Appn. #:	4056
Initial Project Budget:		USGBC LEED:	N/A

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2013-2017 Adopted Capital Improvement Program Detail of Construction Projects

3. Communications Fault Management and Alerting System

CSA:	Strategic Support	Initial Start Date:	2nd Qtr. 2010
CSA Outcome:	Safe and Functional Public Infrastructure, Facilities, and Equipment	Revised Start Date:	4th Qtr. 2012
Department:	Public Works	Initial Completion Date:	4th Qtr. 2010
Council District:	City-wide	Revised Completion Date:	4th Qtr. 2013
Location:	City-wide		

Description: This allocation provides funding for the installation of a radio fault management and alerting system. This project includes the purchase and installation of necessary equipment to provide automated fault management, including facility security monitoring and alerting.

Justification: Funding is necessary to minimize component failures affecting systems' (radio, Heating, Ventilating, and Air Conditioning (HVAC), and facility security systems) performance. Minimizing radio system component failures will help mitigate interruptions to public safety radio operations. In addition, this system provides statistical and performance degradation information that will be used to make repairs or adjustments before failure occurs.

EXPENDITURE SCHEDULE (000'S)

Cost Elements	Prior Years	2011-12 Appn.	2011-12 Estimate	2012-13	2013-14	2014-15	2015-16	2016-17	5-Year Total	Beyond 5-Year	Project Total
Equipment		100		100					100		100
TOTAL		100		100					100		100

FUNDING SOURCE SCHEDULE (000'S)

Communications Construction & Conveyance Tax Fund	100	100							100		100
TOTAL	100	100							100		100

ANNUAL OPERATING BUDGET IMPACT (000'S)

None

Major Changes in Project Cost:

None

Notes:

FY Initiated:	2010-2011	Appn. #:	7260
Initial Project Budget:	\$100,000	USGBC LEED:	N/A

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2013-2017 Adopted Capital Improvement Program Detail of Non-Construction Projects

4. Communications Maintenance

CSA: Strategic Support
CSA Outcome: Effective Use of State-of-the-Art Technology
Department: Public Works
Description: This allocation funds staffing costs associated with the replacement and maintenance of communications equipment.

EXPENDITURE SCHEDULE (000'S)											
Cost Elements	Prior Years	2011-12 Appn.	2011-12 Estimate	2012-13	2013-14	2014-15	2015-16	2016-17	5-Year Total	Beyond 5-Year	Project Total
Maintenance		429	429	434	440	444	449	460	2,227		
TOTAL		429	429	434	440	444	449	460	2,227		
FUNDING SOURCE SCHEDULE (000'S)											
Communications Construction & Conveyance Tax Fund		429	429	434	440	444	449	460	2,227		
TOTAL		429	429	434	440	444	449	460	2,227		

Notes:

Selected budget information is not provided due to the ongoing nature of this project.

Appn. #: 7116

5. Silicon Valley Regional Interoperability

CSA: Strategic Support
CSA Outcome: Safe and Functional Public Infrastructure, Facilities, and Equipment
Department: City Manager
Description: This allocation funds contractual services to perform maintenance, monitoring, and service support in order to enhance the inter-agency communication between 19 separate jurisdictions' public safety agencies as part of the Silicon Valley Regional Interoperability Project.

EXPENDITURE SCHEDULE (000'S)											
Cost Elements	Prior Years	2011-12 Appn.	2011-12 Estimate	2012-13	2013-14	2014-15	2015-16	2016-17	5-Year Total	Beyond 5-Year	Project Total
Maintenance		228	228	352	359	366	373	381	1,831		
Program Management		207	207								
TOTAL		435	435	352	359	366	373	381	1,831		
FUNDING SOURCE SCHEDULE (000'S)											
Communications Construction & Conveyance Tax Fund		435	435	352	359	366	373	381	1,831		
TOTAL		435	435	352	359	366	373	381	1,831		

Notes:

Selected budget information is not provided due to the ongoing nature of this project.

Appn. #: 7333