



Memorandum

TO: PUBLIC SAFETY, FINANCE, AND STRATEGIC SUPPORT COMMITTEE **FROM:** Edgardo Garcia

SUBJECT: SEE BELOW **DATE:** May 9, 2018

Approved

Date

5-10-18

**SUBJECT: PUBLIC SAFETY COMMUNICATIONS INTEROPERABILITY
SEMI-ANNUAL REPORT**

RECOMMENDATION

Accept the semi-annual report on public safety communications and data systems that promote interoperability for first responders in San José and the Bay Area.

BACKGROUND

In public safety, interoperability refers to the ability of different departments or agencies to operate in conjunction with each other during an incident. Successful interoperability means that agencies' communications and data systems can communicate with those belonging to other agencies seamlessly.

Following the September 11, 2001 terrorist attacks, public safety agencies across the nation began to work to standardize protocols and improve their interoperability with other agencies. The U.S. Department of Homeland Security provided grant funding through the Urban Area Security Initiative that included funds that could be used to upgrade systems and make them interoperable.

In the Bay Area, agencies are working on several major projects to make it possible for police and fire personnel to communicate and provide mutual aid in the event of a natural disaster, such as an earthquake, fire, flood, or during a critical law-enforcement incident.

Following is an update on the status of projects involving the City of San José.

SEMI-ANNUAL REPORT FOR JULY 31, 2017 – DECEMBER 31, 2017

Silicon Valley Regional Communications System (SVRCS)

The Silicon Valley Regional Interoperability Authority (SVRIA) is a Joint Powers Authority comprised of Santa Clara County agencies, including the City of San José, tasked with coordinating, managing, and planning regional public safety technology initiatives. Its largest project is the countywide communications system for public safety known as the Silicon Valley Regional Communications System (SVRCS). When completed in 2018 SVRCS will replace legacy public safety radio systems operated by agency members throughout Santa Clara County with an interoperable, regional, two-way, Project 25 (P25) digital trunked radio system that will operate on the 700 MHz band. The 700 MHz band is an important swath of broadcast spectrum freed up as a result of the digital television transition and is located just above the remaining TV broadcast channels, allowing radio signals to penetrate buildings and walls easily and covering larger geographic areas with less infrastructure. The SVRCS will allow users to share a number of communication paths so that agencies throughout the region will be able to communicate with each other across jurisdictional boundaries.

The full cost of the SVRCS project originally was estimated at \$104.5 million. This cost included the radio network, microwave backhaul, and approximately 8,600 radio devices. Initially, the SVRIA relied on grant funding to build out the first part of the SVRCS infrastructure. In 2014, the estimated total required to build out the remaining infrastructure was estimated at \$30 million and San José's proportional share of the cost for the infrastructure was estimated at \$10.9 million.

The Santa Clara Valley Transportation Authority and Santa Clara Valley Water District joined the system between 2014 and 2015, which spread the costs across additional user agencies and resulted in a proportional decrease in each users' cost share for the remaining infrastructure. In addition, San José decreased the number of radios it would be operating on the system to 2,750. As a result, San José's share of the cost contribution decreased from the estimated \$10.9 million to \$7.5 million. Once built, the SVRIA has estimated San José's yearly operations and membership cost at \$1.0 million annually, beginning in 2018-2019.

The costs mentioned above cover SVRCS infrastructure and do not include the portable radios (hand pack), mobile radios (patrol car/fire rigs), or dispatch console equipment. The dispatch consoles have been purchased and are currently being installed at the Public Safety Answering Point (PSAP) and Alternate PSAP. Table 1 (below) lists the specific portable and mobile equipment that San José has purchased and the outstanding equipment that still needs to be procured. To date, San José has purchased a total of 2,330 radios for use on SVRCS by Police and Fire, as well as the Departments of Transportation; Planning, Building and Code Enforcement; Parks, Recreation and Neighborhood Services; Public Works; and Environmental Services.

The outstanding procurement of the SVRCS radios (approximately 615) is scheduled for purchase in the Proposed 2018-2019 through 2022-2023 Communications Capital Improvement Program with an allocation of approximately \$2.5 million.

The City pursues various grant opportunities for funding this equipment as they become available. For example, in the City's Proposed 2018-2019 Budget \$500,000 is recommended in the Communications Capital Improvement Program and \$250,000 of federal Urban Area Security Initiative Fiscal Year 2018 Core, for a total allocation of \$750,000 to purchase Police Department radios in 2018-2019.

In addition, the Police Department's accelerated hiring of new officers required expediting procurement of portable radios earlier than originally scheduled. The estimated cost for the remaining Police Department radios is approximately \$1.83 million, with other departments' needs bringing the projected total to approximately \$2.4 million over the 2019-2023 Proposed Capital Improvement Program. The Public Works Department has budgeted \$500,000 per year for the next five years (totaling \$2.5 million) in the five-year Communications Capital Improvement Program.

It should be noted that, in 2014, the Police Department's original portable radio estimates were based upon *actual* sworn staffing rather than *authorized* staffing numbers, which resulted in an initial shortfall of 260 portable radios (including radios for the Community Service Officers).

Subsequently in 2019-2020, the Department projects that filled uniformed personnel will rise to 1,151 budgeted positions, increasing the shortfall of portable radios to 447. The remaining radios for the Police Academy, 9-1-1 Communication Center, and emergency radio cache (natural disaster and mutual aid) is 64 radios. This brings the total number of Police Department portable radios to be purchased at 511. The Police Department continues to review hiring projections to ensure that funds needed to meet the December 2018 target for migration to the new system are available.

Table 1 has been amended from the last report to reflect actual radios purchased to date by each department and additional Police Department and Fire Department mobile and portable radio needs. Table 2 provides an overall summary of the SVRCS project status.

Table 1: SVRCS Radio Needs (As of May 2018)							
Dept.	Type	Radios Needed		Radios Purchased		To be Purchased	
		#	Estimated Cost	#	Estimated Cost	#	Estimated Cost
Police	Portable	1489	\$7,659,900	978	\$5,828,000	511	\$1,831,900
	Mobile	631	\$3,153,900	631	\$3,153,900	0	
DOT (PTCO)	Portable	48	\$245,100	48	\$245,100	0	
	Mobile	0		0		0	
PBCE (Code)	Portable	1	\$5,000	1	\$5,000	0	
	Mobile	9	\$45,000	9	\$45,000	0	
PRNS (Park Rangers)	Portable	24	\$144,000	24	\$144,000	0	
	Mobile	12	\$72,000	12	\$72,000	0	
Fire	Portable	370	\$1,850,000	370	\$1,850,000	0	
	Mobile	296	\$1,480,000	192	\$960,000	104	\$520,000
Public Works (Animal Control)	Portable	20	\$56,000	20	\$56,000	0	
	Mobile	17	\$85,000	17	\$85,000	0	
ESD (Muni Water)	Portable	28	\$72,000	28	\$72,000	0	
	Mobile	0		0		0	
TOTAL		2945	\$14,867,900	2330	\$12,516,000	615	\$2,351,900

Table 2: SVRCS Expansion Implementation Project Timeline as of May 2018

Major Milestone Task	Start Date	Finish Date	Status
Contract administration	12/22/15	2/1/16	Completed
System design approval	2/2/16	3/21/16	Completed
Order processing	3/22/16	3/28/16	Completed
Manufacture and Staging of equipment	3/29/16	7/7/16	Completed
Fleet mapping & Subscriber Template Dev	3/29/16	4/25/16	Completed
Site development/improvement (5 sites)	1/1/16	Q3 2018	In progress
Installation			
ASTRO P25 Master Site 7.15 Upgrade	3/22/16	6/30/16	Completed
Install IP Logger	4/26/16	8/30/16	Completed
South Cell Site Installation	5/9/16	Q3 2018	In Progress
Central Cell Site Installation	10/25/16	Q2 2018	In Progress
West Cell Site Installation	4/4/17	Q3 2018	In Progress
Standalone Repeater Site Installation	6/5/17	Q4 2018	In Progress
ASTRO P25 Master Site 7.17 Upgrade	2/26/2018	3/9/2018	Completed
System Optimization	Q4 2018	Q4 2018	
Audit and Acceptance Testing	Q4 2018	Q4 2018	
Finalize		12/30/18	

Completion of the remaining Central Cell sites must be accomplished before the City of San José can migrate to the new SVRCS system. Motorola is required by contract to demonstrate quoted performance before SVRIA will accept the final build out. Once complete, the City of San José Radio Shop and public safety personnel will perform additional agency-specific testing to verify adequate radio coverage for public safety personnel. Migration plans for each city department will then be implemented. SVRIA anticipates completing the major milestones in the third quarter of 2018.

Table 3 provides a status summary for the various SVRCS cell sites.

Table 3: SVRCS Site Status Summary as of May 2018

SVRCS Site	Status
<i>Master Site</i>	
Carol Drive (County Communications)	Operational Oct. 2014, expanded Jan. 2016
<i>West Cell Sites (10)</i>	9 of 10 sites installed, 7 sites operational
Santa Clara EComm – Prime	Operational Oct. 2014, expanded Jan. 2016
Sunnyvale DPS	Operational Oct. 2014, expanded Jan. 2016
Sunnyvale Fire Station 5	Operational Oct. 2016
Mt View PD	Operational Oct. 2014, expanded Jan. 2016
Palo Alto Civic Center	Operational Jan. 2016
Mt. Rodoni	Pending PG&E
San José - Doyle Road	Operational Jan. 2016
Los Gatos - Stickney Cell	Contract pending between Town and Site Manager: Pending electrical, A/C upgrade, equipment relocation, tower space
Valley Medical site	Relocated Pruneyard equipment; pending Link testing and FCC License started.
Carol Drive (County Communications)	Operational Oct. 2014, expanded Jan. 2016
<i>Central Cell Sites (11)</i>	8 of 11 sites operational
San José City Hall – Prime	Operational Jan. 2016
Mission/Frazier	Shelter and tower installed 3/22/17; PG&E competed pending energize date.
Milpitas PD	Operational Nov 2017
Eagle Rock	Operational Nov 2017
San José Fire Station 29	Operational Jan. 2016
Cadwallader	Operational July 2017
Carol Drive (County Communications)	Operational Jan. 2016
Good Samaritan Hospital	Pending link testing and optimization. Delayed due to City Hall Falcon
Sierra Azule	Operational Nov 2017
SVRCS Site	Status

<i>Central Cell Sites (cont.)</i>	
San José PD Substation	Operational Nov. 2016
Coyote Peak	Permits in the process; pending electrical and A/C
<i>South Cell Sites (4)</i>	
Holiday Lake – Prime	Operational February 2018
Woodland Acres	Pending PG&E
Gilroy Reservoir D	Pending PG&E
Gilroy Target Range	Pending link testing and optimization
<i>Standalone Repeaters (6)</i>	
Copernicus Peak	Equipment installed; permits complete; electrical complete; pending tower, A/C replacement
Mt. Chual	Waiting on PG&E design and contract
Uvas Canyon	Site identification pending
Mt. Madonna	Waiting on PG&E design and contract
Coyote Lake	Equip rec'd, site walk done; location updated; working on backhaul issues
Pacheco Peak	Equip rec'd, site walk done; working on-site access and power Issues.

SVRIA-dx (Data Exchange, CAD-to-CAD):

The goal of the SVRIA-Dx project is to improve regional interoperable information data sharing between 15 Public Safety Answering Points (PSAPs) by integrating 11 disparate Computer Aided Dispatch (CAD) systems operating in Santa Clara County and neighboring counties. Specifically, there are three key objectives to the design, development, and implementation of the project, which include:

- Create the ability and capacity for each participating PSAP CAD system to export, import, and display event and resource data created for or received from one or more other PSAP CAD systems;
- Enhance the sharing of information and facilitate interoperability across agencies; and
- Provide better access to and improve the display of event and resource status data for improved situational awareness and decision making by dispatch and field personnel.

In October 2015, San José was one of 13 PSAPs that executed Service Level and Memorandum of Understanding agreements (SLA/MOU) for the SVRIA-Dx project. Santa Clara County Information Services Department agreed to serve as the point of contact for the disparate CAD system integrations and coordinate the integration efforts with a third-party vendor. After several attempts to move the project forward, the County determined the solution being provided by the vendor would not be a long-term comprehensive solution.

In April 2017, the County advised the SVRIA agencies a new approach will be taken to integrate the various disparate CAD systems, which will be to utilize the County's new Enterprise Services Bus, or Information Service Exchange, to build the adapters/connectors to interface

directly with each agency's CAD system using the native application programming interface. The new design eliminates the need for a third-party vendor to create this environment allowing data transfer directly from each agency through the County's system and then out to the other systems. Santa Clara County has completed Phase I of development and has proven the concept using the City of Santa Clara publicly consumable data elements by pulling them from the City of Santa Clara's CAD system and displaying them on the Haystax/CalCOP and also on Innterra, a fire operations software that allows agencies to display real time apparatus and incident locations as well as perform analytics on their respective CAD data. Staff from San José Police and Fire Departments are currently reviewing the new design and applications that are being proposed. From a law enforcement perspective, once Santa Clara County secures Department of Justice certification, more sensitive, non-public consumable criminal justice information will be shared as the project progresses.

First Responder Network Authority (FirstNet) & Bay Area Regional Interoperable Communication Systems Authority:

Signed into Federal law on February 22, 2012, the Middle-Class Tax Relief and Job Creation Act created the First Responder Network Authority (FirstNet). The law gave FirstNet the mission to build, operate and maintain the first nationwide high-speed wireless broadband network dedicated to public safety. The goal of the broadband network is to fulfill a fundamental need of the public safety community for reliable and secure broadband in emergencies, as well as to implement the last remaining recommendation of the federal 9/11 Commission. FirstNet seeks to bring 21st-century tools to millions of organizations and individuals that respond to emergencies at the local, state, tribal, and federal levels.

On March 30, 2017, FirstNet announced AT&T was selected as the public-private partner to build the network. U.S. Department of Commerce Secretary Wilbur L. Ross has advised that the value of the public-private partnership is a \$46.5 billion project, in which AT&T has agreed to contribute \$40 billion to build and operate the network over the 25-year contract.

In California, the Governor's Office of Emergency Services (CalOES) represented the State's interests and assisted the Governor in improving the California plan prior to the deadline to opt in. Governor Brown opted in to the FirstNet/AT&T solution on December 28, 2017 after negotiations between CalOES and AT&T significantly improved the network proposal statewide.

CalOES has established a Broadband Services Division within the 9-1-1 Emergency Communications Branch, as well as the California First Responder Network Authority Board to manage the ongoing relationship with AT&T. These two organizations will provide coordination and recommendations for FirstNet infrastructure and coverage improvements in California based on outreach and input from each stakeholder. CalOES has provided AT&T the first 30 site locations for development based on initial feedback. Nationally, AT&T completed the FirstNet core on schedule at the end of March 2018 creating a physically separate network for public safety.

The specific broadband spectrum allocated to FirstNet, also known as Band 14, is not yet available to public safety agencies due to network hardware requirements that need to be deployed throughout the nation. AT&T currently is able to offer access to their existing 4G LTE network system to public safety agencies which includes special features of “Priority” and “Preemption.” For public safety day-to-day operations and in disaster situations, public safety would be given the highest priority to access AT&T’s existing commercial cellular network to achieve the best possible speeds and connectivity. As the FirstNet network is fully built out, AT&T plans to migrate public safety users to the FirstNet broadband spectrum.

Additionally, at this time, there are very few mobile devices (including phones and modems) or other hardware that are able to access the future FirstNet spectrum. In preparation, AT&T is setting up FirstNet accounts with current public safety subscribers who have existing AT&T devices.

San José continues to monitor FirstNet, evaluate the network performance and its progress through the Interoperability Communications Manager, its federal lobbyists and through its seat on the Bay Area Regional Interoperable Communications System Authority. The Authority was established in August 2011 with responsibility for planning, policy, and oversight of regional public safety communications projects, including FirstNet in the San Francisco Bay Area. Members include the State of California, City and County of San Francisco, City of Oakland, City of San José, Counties of Alameda, Contra Costa, Marin, San Mateo, Santa Clara, Sonoma, and “hub” cities in the East Bay and South Bay. Each member jurisdiction has appointed a representative to the Authority’s Board of Directors.

COORDINATION

This memorandum was coordinated with the Fire Department, Public Works Department, and the City Manager’s Budget Office.

/s/
Edgardo Garcia
Chief of Police

For questions, please contact Judith Torrico, Police Department, Bureau of Technical Services Deputy Director, at (408) 537-1745.