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 OFFICE OF THE CITY CLERK  
 OAKLAND  
**CITY OF OAKLAND**  
**AGENDA REPORT**

**2009 JUN 11 PM 4: 14**

TO: Office of the City Administrator  
 ATTN: Dan Lindheim  
 FROM: Oakland Fire Department  
 DATE: June 23, 2009

**RE: Informational Report on Emergency Public Safety Emergency Communications Plan And Contingencies Until The East Bay Regional Communications System (EBRCS) And Bay Area Regional Interoperable Communication System (BAYRICS) Are Fully P-25 Compliant**

**SUMMARY**

This informational report was requested by the City's Public Safety Committee on April 28, 2009. This report includes background information and the City of Oakland's Emergency Public Safety Communications plan and contingencies until the East Bay Regional Communications System (EBRCS) and the Bay Area Regional Interoperable Communications System BAYRICS) are fully P-25 Compliant.

**FISCAL IMPACT**

This is an informational report on the status of Oakland's Public Safety Emergency Communications plan and there is no fiscal impact.

As a summary, below is a table outlining the approximate investment in the City's current radio and data systems and subscribe units (radios) to move toward full interoperability and Project 25 (P-25) standards based radios systems:

<b>Time Period</b>	<b>Dollars Invested</b>	<b>Funding Source</b>
1993-2008	Approx. \$20 million	Radio Fund- Fund 4200
2007	Approx. \$700,000	Urban Area Security Initiative (UASI)Homeland Security Grant
2008	Approx. \$1 million	UASI Homeland Security Grant
2008	Approx. \$1.5 million	COPS grant (for Data)
2009	Approx. \$1 million	UASI Homeland Security Grant
2009-2010	Approx. \$1.3 million (25% match)	Public Safety Interoperable Communications (PSIC)Homeland Security Grant

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## **BACKGROUND**

Communication interoperability among agencies and jurisdictions is a long-standing problem in the public safety community.

Project 25 (P-25) was initiated in 1989 as a cooperative between the Association of Public Safety Communications officials (APCO) and the Telecommunications Industry Association (TIA). In January of 1993, APCO Project 25 moved forward by adopting a proposed system architecture, through six interface standards, that would determine the future of digital technology for use in the United States' public safety markets. The first of the interfaces to be defined was the critically important Common Air Interface (CAI). CAI created the standards that ensure basic radio-to-radio digital interoperability and compatibility. This means that in an APCO Project 25-compliant system, mobile and portable equipment from any manufacturer are capable of intercommunicating and have been able to do so since the mid-1990s.

The purpose of P-25 was to develop a suite of standards for digital radio communications used by federal, state, and local public safety agencies to promote interoperability among digital land mobile radio systems.

From 1989 until 2001, the issue of communications problems among first responders during major emergencies and disasters continued. The pivotal events of September 11, 2001 amplified the need for a national suite of standards for public safety emergency radio communications that became a requirement at all levels of government.

Since the Department of Homeland Security (DHS) was established in 2002, it has been working expeditiously to improve interoperable communications.

Beginning in Federal fiscal year 2003 to current, the Federal government has provided billions of dollars in grant assistance to state and local agencies for equipment and other projects to improve communications interoperability. In addition, programs such as the Interoperable Communications Technical Assistance Program (ICTAP) and SAFECOM have developed tools and expedited technology standards development, testing, and evaluation to assist public safety agencies in the planning and implementation of communications systems.

### **SAFECOM**

SAFECOM is a communications program of the Department of Homeland Security. SAFECOM provides research, development, testing and evaluation, guidance, tools, and templates on interoperable communications-related issues to local, tribal, state, and Federal emergency response agencies. The Office of Emergency Communications (OEC) supports SAFECOM's development of guidance, tools and templates.

The Office for Interoperability and Compatibility (OIC) supports SAFECOM-related research, development, testing, evaluation and standards. OEC is managed by the Directorate for National Protection and Programs. OIC is managed by the Science and Technology Directorate.

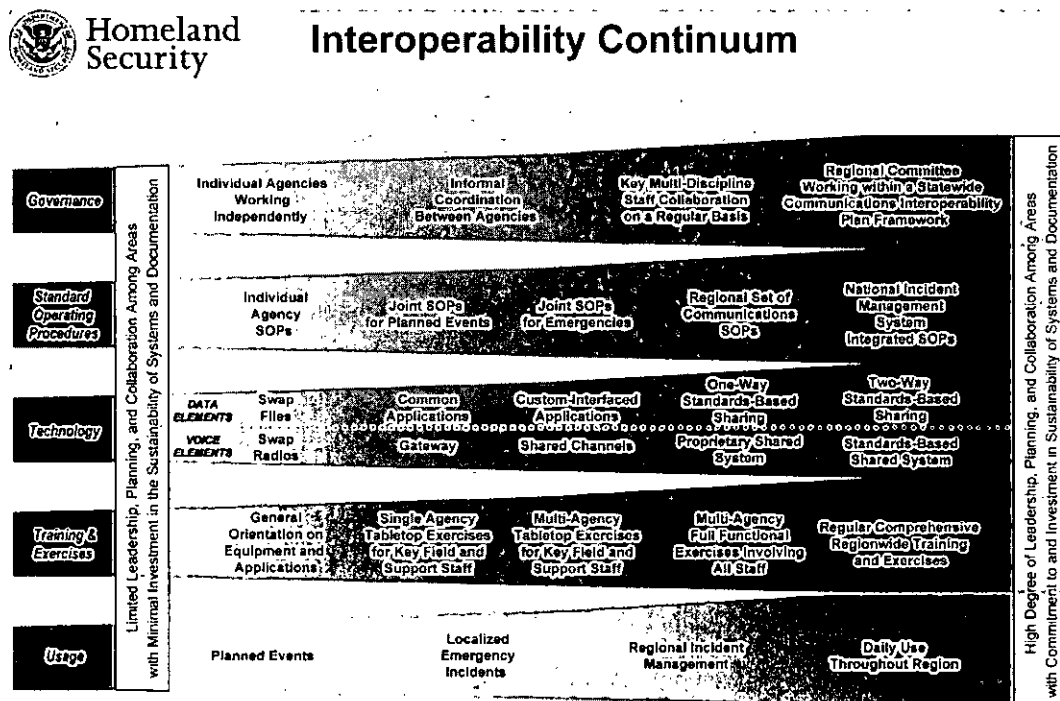
SAFECOM is an emergency responder-driven program working with existing Federal communications initiatives and key emergency response stakeholders to address the need to develop better technologies and processes for the multi-jurisdictional and cross-disciplinary coordination of existing communications systems and future networks. SAFECOM harnesses diverse Federal resources in service of the emergency response community.

The SAFECOM program developed the *Interoperability Continuum* which was designed to assist emergency response agencies and policy makers to plan and implement interoperability solutions for data and voice communications.

This tool identifies five critical success elements that must be addressed to achieve a sophisticated interoperability solution: governance, standard operating procedures (SOPs), technology, training and exercises, and usage of interoperable communications. Jurisdictions across the Nation are utilizing the Interoperability Continuum as a framework to meet P-25 compliance and full interoperability. This tool can also be utilized to track progress in strengthening interoperable communications.

Below is an illustration of the Interoperability Continuum tool:

Figure 1. SAFECOM Interoperability Continuum



As a result of all the work completed by Department of Homeland Security (DHS), the SAFECOM program and the Interoperable Communications Technical Assistance Program (ICTAP), public safety communications requirements for voice and data interoperability were first released in 2004. These requirements serve as a first step for establishing base-level communications and interoperability standards for emergency response agencies, a process that is expected to take up to 20 years to achieve.

Department of Homeland Security (DHS) determined that the primary barriers to interoperable communications are both technical and operational. Each agency typically has its own unique legacy technologies, requirements, operating environments, laws, and processes.

Therefore, achieving interoperability requires that, in addition to addressing technology and disparate communications systems, agencies examine governance, procedures, training, exercises, and usage.

### **Department of Homeland Security-Tactical Interoperable Communications Plan (TICP)**

Beginning with the Federal FY 2005 grant cycle, DHS Training and Grants division began providing urban/metropolitan areas with operational planning and exercise support to address these needs within the framework of multijurisdictional, multidiscipline incident response.

Beginning with the development of Tactical Interoperable Communications Plans (TICPs), DHS required designated urban/metropolitan areas to focus on the creation and/or validation of regional Standard Operating Procedures (SOPs) that, in some cases, represented the first time local jurisdictions had come together to align operational communications plans for emergency incident response. During the same time period, DHS emphasized multijurisdictional and multidiscipline governance structures as demonstrated through the development of the DHS *SAFECOM Statewide Communications Interoperability Planning Methodology* and the Urban Area Working Group requirements.

The TICP and validation process disclosed that nationwide there were some urban/metropolitan areas that had long-standing governance bodies that provided multijurisdictional and multidiscipline leadership in developing longer term communications goals and resource plans. Other areas used the TICP process as an opportunity to bring such leaders to the planning table.

The development of a TICP in each urban/metropolitan area was followed by a validation exercise to demonstrate agencies' ability to use the TICP procedures with their existing interoperable communications assets. The results of those exercises were provided to the areas to include in improvement plans for future TICP revisions and training efforts. A scorecard was provided to each urban/metropolitan area.

The scorecard summarized the progress made to date—from the TICP development through the exercise and After Action Reports (AAR)—and provided a foundation for each

urban/metropolitan area's next steps as it continues to enhance its interoperable communications capabilities. The scorecard was an important milestone in this ongoing process because it marked the culmination of 2 years of planning and exercising tactical interoperable communications capabilities.

### **Tactical Interoperable Communication Plan-Benefit and Results**

In addition to providing a specific interoperable emergency communications maturity assessment for each urban/metropolitan area, the scorecard provided recommendations to help the urban/metropolitan area improve its overall communications capability.

This methodology also provided DHS with vital information for technical assistance that could be provided to each urban/metropolitan area because the scorecard recommendations were tailored to address the specific urban/metropolitan area's emergency communication needs.

### **KEY ISSUES AND IMPACTS**

#### **Oakland's Public Safety Emergency Communications System and Plan**

The City of Oakland has made great strides in Public Safety Emergency Communications since 1991. Since 1991, the City's Department of Information Technology (DIT) has ensured that Oakland's investment in Public Safety Emergency Communications for data communications and voice/radio communications were cost effective, efficient and met current standards.

Moreover, DIT ensured the emergency communications infrastructure, equipment and emergency plans were flexible enough to meet the changing landscape of public safety emergency communications technologies.

The Department of Information Technology (DIT) staff determined that the City of Oakland would establish and operate a trunked 800 MHz radio system.

In 1993, the City of Oakland built its Public Safety Emergency Communications Radio System. The system was competitively bid in cooperation with Alameda County and was designed keeping a "system of systems" approach in mind for flexibility and augmentation in future years. At that time it was built to exceed daily operations and to meet future emergency communication needs. Over \$20 million dollars have gone into building an emergency communications system that was robust, functional and efficient over this 15 year timeframe. The \$20 million is from the City's Radio Fund, Fund 4200.

The Oakland Public Safety Emergency Communications Radio System was upgraded in 1998, 2003 and 2008. The system upgrades were made to ensure Project 25 (P-25) compliance and to ensure that 800 MHz and 700 MHz radios would work with the system. The system was also

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designed to ensure redundant operations in Police and Fire as well as overlapping radio system site coverage to account for disaster emergency communications needs.

### **Oakland Tactical Interoperable Communications Plan (TICP) and Scorecard**

The TICP Plan was developed by the City of Oakland over an 18-month period and submitted to the Department of Homeland Security (DHS) for acceptance and approval in April 2006. The Oakland Urban Area TICP plan was approved by DHS in June 2006. In August 2006, the City of Oakland, Alameda County and Contra Costa County public safety agencies participated in a functional exercise of the Oakland Urban Area TICP plan that was monitored by DHS for their evaluation of the overall maturity level of interoperability with the Oakland Urban Area.

The areas measured as parts of the exercise were the TICP Governance structure, the TICP Standard Operating Procedures (SOPs) and the TICP Usage. As previously mentioned, all urban/metropolitan areas were required to develop a TICP and participate in the TICP exercise for evaluation of their interoperability maturity.

In January 2007, the City of Oakland Urban Area (City of Oakland, County of Alameda and County of Contra Costa) received the DHS Tactical Interoperable Communications Scorecard (See Attachments A and B).

The City of Oakland Urban Area's (UA) functional exercise and TICP plan results were very favorable. In the area of Governance, the overall rating was intermediate implementation, and in the areas of SOPs and Usage, Oakland UA received the highest ratings possible which were advanced implementation. In reviewing the overall results of the urban/metropolitan areas, the Oakland UA was in the top percentile of the areas with high rankings in interoperability maturity. Recommendations were also made that the City of Oakland is currently working to implement.

### **Oakland's Radio Network System Capacity, Redundancy, Mutual Aid and Interoperability Protocols**

The City of Oakland's Public Safety personnel Interoperability protocols are as follows. Public Safety Interoperable emergency communications will be attempted in the following order:

1. Co-location of all Incident Command System (ICS) functions, Command and General Staff at the incident command post provides the best direct communications and reduces demand on interoperability resources.
2. If the ICS Command and General Staff are users of a shared system, the shared system will be used to establish interoperable communications.

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3. If the ICS Command and General Staff operate on disparate systems, use of a mutual aid channel, swap radios, or a gateway solution should be attempted to establish interoperable communications.
4. If no other method of interoperability can be established, the ICS Command Staff and General Staff will relay communications through staff members, e.g., face-to-face.

The City of Oakland's Public Safety personnel currently communicate via a trunked 800 MHz radio system. Police and Fire are able to communicate with each other seamlessly using the same system.

The City of Oakland has established several levels of talk groups for the Police and Fire Departments on the 800 MHz radio system. These talk groups allow for orderly communications among command personnel or rank and file personnel. At any given time an Incident Commander can order personnel to use specific channels or talk groups for communications. Within the Oakland Police or Fire Departments, the command hierarchy is pre-determined.

- In a trunked environment, the Oakland 800 MHz System can handle several hundred users from other jurisdictions when the proper talk group assignments have been established.
- The end user infrastructure is designed so that if the primary 9-1-1 Dispatch Center is interrupted or goes down in the Police Department, the Fire Dispatch Center can take over all dispatching responsibilities.
- Furthermore, other jurisdictions that share the Oakland system can communicate directly with Oakland's Public Safety personnel via the trunked system. This makes it easier for outside agency assistance or mutual aid requests.

Other agencies/jurisdictions using the Oakland system are:

- ✓ Alameda County Sheriff's Department
- ✓ City of Emeryville
- ✓ City of Piedmont
- ✓ Bay Area Rapid Transit (BART)  
(BART carries all of the Oakland frequencies and talk groups in their radios.  
BART also utilizes an 800 MHz trunked system.)

The City of Oakland has also established mutual aid agreements with many of the Bay Area jurisdictions. These jurisdictions have been provided with several radios that operate on the Oakland 800 MHz Network.

The Mutual Aid agreements are in place with the following cities/agencies:

- ✓ City and County of San Francisco
- ✓ City of Alameda
- ✓ County of Alameda

Other cities in the Bay Area provide mutual aid via the County and State conventional radio system frequencies.

The City of Oakland uses radios manufactured by M/A-COM. The normal operation for these radios is in an Enhanced Digital Access Communications System (EDACS) mode.

The EDACS mode is analog. In an interoperable mode, the Oakland radios are operating as a Project 25 (P-25) device, along with the radios of other jurisdictions that have been programmed onto the Oakland's radio network system. The radios being used by other jurisdictions can be M/A-COM, Motorola or any other manufacturer that provides a P-25 compliant radio.

Until a fully operational P-25 system is working throughout the region, the City of Oakland will continue to use its 800 MHz network on a shared basis with other jurisdictions, as required. The City of Oakland recently purchased a cache of M/A-COM 800 MHz radios that operate on the City of Oakland EDACS System, utilizing Homeland Security grant funding. Purchasing these radios was a Federal recommendation in the Tactical Interoperable Communications Plan Exercise After Action Report and Improvement Plan. The radio cache provides the City of Oakland the capability to issue radios to visiting agencies, as well as to maintain spare radios for Police and Fire personnel, as needed.

Properly programmed the cache radios can operate on the P-25 System as well as the EDACS System. Additionally, when the City's Department of Information Technology programs the radios for the City's first fully compliant P-25 radio network system, it also programs them for the EDACS system. This allows the flexibility of going back to analog if personnel are out of range of the P-25 Site or if they need to talk with a radio that is strictly EDACS with no P-25 capability.

The Oakland Fire Department has recently commissioned a Mobile Emergency Communications Command Vehicle. This vehicle carries communications devices capable of communications with all of the major agencies in the Bay Area, including the City and County of San Francisco. The vehicle was purchased utilizing Homeland Security Grant funding. This purchase was also a recommendation in the City of Oakland's TICP Exercise After Action Report and Improvement Plan.

The Emergency Communications vehicle is equipped with M/A-COM 800 MHz radios, Motorola 800 MHz radios, Kenwood VHF (Very High Frequency) radios, and other equipment, such as an ACU-1000, which is called a gateway for radio communications. "Gateway" systems

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interconnect channels of different systems (whether on different bands or modes). These gateways allow first responders to interconnect their existing radios and channels with the channels of users outside of their agencies.

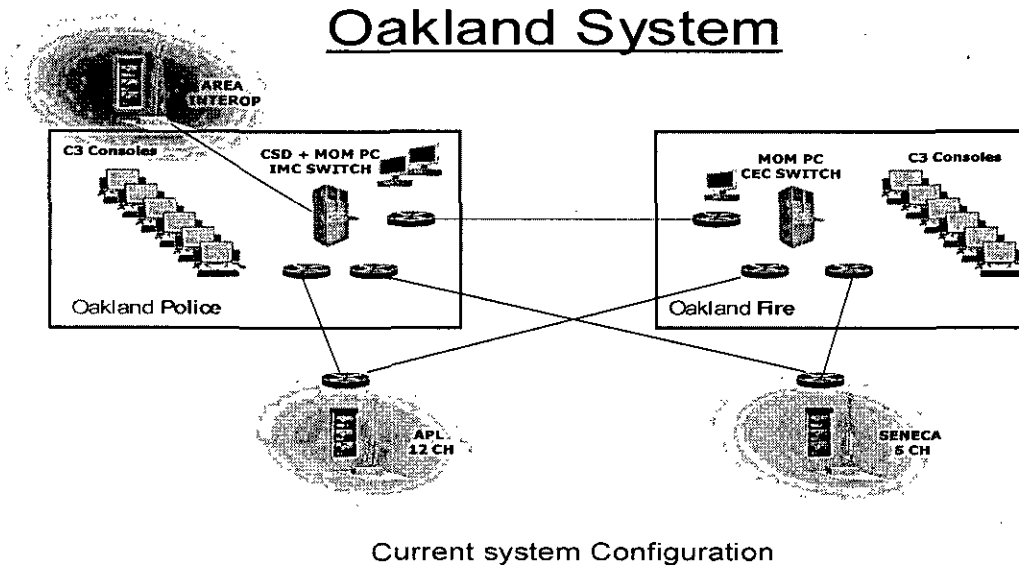
The recent addition of the Emergency Communication vehicle further adds redundancy, flexibility and capacity to Oakland's current Public Safety Emergency Communications system and plan. This resource insures that all emergency public safety radio communication spectrums are covered.

The City of Oakland's radio system network is housed in three separate sites. The sites are referred to as APL, SENECA and GWIN. All sites are secure and equipped with Uninterrupted Power Supply (UPS) systems and in the future all sites will have back-up generators to ensure continuity should there be a long term power outage. The GWIN site radio system network infrastructure has been upgraded to a full P-25 compliant system. The City of Oakland is the first city in the Bay Area to achieve full P-25 compliance at one of three of its radio system networks. Future plans include upgrading the SENECA site to full P-25 compliance by 2010 and Oakland has secured partial grant funding for accomplishing this goal and expects to receive additional grant funding to complete this site.

The APL site will be the last site to become P-25 compliant. The City of Oakland is seeking grant funding and other funding sources to cover the costs of upgrading this final site. The costs are estimated to be between \$8 and \$10 million. This is the largest site, it is considered Oakland's master radio network system site, which will tie all three sites together to ensure redundancy and maximize radio communications capacity.

Below is an illustration of the City of Oakland's current Public Safety Emergency Radio Communications system:

Figure 2. Oakland’s Public Safety Emergency Radio Communications System



**Oakland’s Data Interoperability Efforts**

The City of Oakland has also been working on Public Safety data interoperability requirements and preliminary design of the Oakland system. The new design will enable the City to upgrade the current private RF Mobile Data system, which is at the end of its life cycle. This new High Performance Data (HPD) system will replace the current DataTAC system, and provide higher bandwidth connection, geographically diversified base stations, and ubiquitous coverage in the City. In addition, the network will be able to provide data interoperability capability with the City and County of San Francisco and Alameda County Public Safety personnel. The Project will provide Project 25 High Performance Data Master Site equipment (data transport, zone, and network management infrastructure) to be interoperable with the regional Data networks. This data sharing allows for an economical and easily expandable integrated solution for higher speed data traffic for use with advanced Internet-type applications.

The Department of Justice (DOJ) 2007 COPS Grant Project will provide a connection to the San Francisco Project 25 High Performance Data Master Site (data transport, zone, and network management infrastructure) and Base Sites in Oakland, to be interoperable with the private regional Data networks. This sharing allows for an economical and easily expandable integrated solution for higher speed data traffic for use with advanced Internet-type applications.

In addition, the private 700/800 MHz narrow-band network will be able to provide the data interoperability capability to the City of San Francisco and San Mateo personnel, because they are using the same data communication technology. Based on recent discussions with the

personnel from Alameda and Contra Costa Counties, there is no plan to deploy the Private Data Radio system. The two Counties are more inclined to stay with the Cellular Data Network providers for their Data Communication needs. Since these Air Cards are not bound by geographical boundaries, like private data networks, the networking and security configuration allows the end-devices to talk to their backend data systems. In case of emergency, the individual Agency Air Cards for the Data Communications would continue to work, provided that the Cell sites are operational, and be able to send and receive the mission critical data.

Currently, Oakland Police use the Sprint EVDO system in addition to the Private Motorola DataTac system. The EVDO system has substantial recurring cost associated with it; however the end-user experience is far superior to the newly proposed HPD system because of the bandwidth speeds. For example, the new upgrade from DataTac to HPD system will operate between 32Kbps (kilobits per second) to 96Kbps, whereas the current EVDO system is running at 768Kbps to 1Mbps (megabits per second) for the data downlinks.

The City of Oakland is playing an active role in working with the City and County of San Francisco and City of San Jose in securing the 700 MHz spectrum for Wireless Broadband Spectrum for a regional wireless broadband network, which will be based on national standards and interoperability. The new developments in the FCC auction of D Block of the 700 MHz band for the Public Safety has potentially opened new doors of opportunity for the City of Oakland, the region and urban/metropolitan areas nationwide.

On May 27, 2009, the City of Oakland, the City and County of San Francisco, and the City of San Jose ("Bay Area Cities"), as members of the Bay Area Urban Area Security Initiative ("Bay Area UASI"), submitted the Amended Request for Waiver of the Federal Communications Commission's rules to allow the Bay Area Cities to use the public safety broadband spectrum in the 700 MHz band to deploy a regional, mobile, interoperable public safety broadband network. This submission clarified the Bay Area Cities' original waiver request filed March 24, 2009. Among other clarifications, this amended request underscores the commitment of the Bay Area Cities to ensuring that a Bay Area public safety broadband network would be compatible with national standards and fully interoperable with a nationwide network or other regional networks meeting national standards. The clarifications follow the Bay Area Cities' further productive collaboration with the Public Safety Spectrum Trust (PSST), as the current Public Safety Broadband Licensee (PSBL), which recently publicly announced its support of the Bay Area Cities' goal of deploying a wireless broadband network for public safety use.

The Bay Area UASI, a regional cooperation organization which includes the ten Bay Area counties, is poised to begin design and phased construction of an interoperable public safety voice and data network in the San Francisco Bay Area Region ("Region"). Granting the requested waiver would allow the Bay Area Cities, in conjunction with the Bay Area UASI, to move ahead with the design and construction of both the voice network and a public safety broadband data network at the same time. The result would be significant cost savings,

efficiency benefits, and the accelerated availability of an interoperable, voice and broadband data public safety network serving more than 7,000,000 people in Northern California, all of which strongly serves the public interest and supports the Commission's goals.

Accordingly, the Bay Area Cities seek a waiver of the Commission's rules to grant them the authorization to use the public safety broadband 700 MHz spectrum (763-768/793-798 MHz). This waiver would enable the Bay Area Cities, working with the Bay Area UASI, to immediately begin a phased implementation of a public safety wireless broadband network which will begin serving first responders within two years from the granting of the waiver. Upon approval of the waiver request, the Bay Area Cities would take the necessary steps to enter into an appropriate agreement with the PSBL for a sub-license of the public safety spectrum in the Region.

The 700 MHz Public Safety Broadband Network will assist the first responders to have instant access to criminal databases for suspect information, improved situational awareness using video technologies, and real time tracking of assets, firefighters and resources, and would be available throughout the region. For example, utilizing a shared voice and broadband data network, a battalion chief at an incident scene could communicate directly with a power utility worker, while downloading critical building floor plan information, and uploading video to the Incident Command. A police commander could communicate with mutual aid partners, such as the state patrol, or federal partners, to secure perimeters and effectively deploy resources.

The Bay Area Cities also recognize and support the goal of nationwide interoperability. As the FCC recognized in its Third Further Notice, a regional network can be designed fully compatible with this goal. The Region will wholeheartedly support efforts to integrate a regionally-constructed network with a national Shared Wireless Broadband Network (SWBN). The Region has been a leader in recognizing the importance of interoperability to regional catastrophic planning. As the Region prepares for its potential "Katrina" or any catastrophic event, the Region continues to support and emphasize the need for interoperability and network sharing. The Region is committed to best practices and is working with and sharing best practices between first responders and communication experts from all over the nation.

### **Final Summary**

The City of Oakland, Department of Information Technology believes that Oakland is at the forefront of interoperability, P-25 compliance and maximizing Public Safety Emergency Communications effectiveness and efficiencies. The City of Oakland's goal is to become Project 25 (P-25) compliant in its emergency radio communications by December 31, 2013, contingent upon the appropriate level of funding to make the final and necessary upgrades to the current infrastructure of the radio system network and radio equipment.

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## **SUSTAINABLE OPPORTUNITIES**

### ***Economic:***

There may be economic opportunities in the future for the City of Oakland, if other surrounding jurisdictions or other agencies determine that they want to be a part of Oakland's radio system network.

### ***Environmental:***

At this time there are no environmental opportunities related to this report.

### ***Social Equity:***

The City of Oakland continues to ensure that our Public Safety personnel are able to communicate during emergencies with minimal disruptions, therefore providing first responders the ability to respond during emergencies to all of Oakland's residents and the community.

## **DISABILITY AND SENIOR CITIZEN ACCESS**

In providing public safety emergency communications for first responders, the City of Oakland continues to meet all Americans with Disabilities Act (ADA) requirements and provide the highest level of service to all residents and to the community.

## **ACTIONS AND RECOMMENDATIONS**

City of Oakland staff will continue to work closely with first responders and its regional partners toward full interoperability and P-25 compliance.

Oakland staff will continue to collaborate with the County of Alameda and the cities within Alameda County, Contra Costa County, and the City and County of San Francisco, to ensure that the Tactical Interoperable Communications Plans for first responders, Standard Operating Procedures, response plans, policies and protocols are continuously updated and improved to address major emergencies and disasters.

Staff recommends that City Council continue to provide leadership and support of the efforts by the Department of Information Technology, Oakland Fire Department Office of Emergency Services, and the Oakland Fire and Oakland Police Departments to move toward Public Safety Radio and Data Interoperability and P-25 compliance.

**ACTION REQUESTED OF THE CITY COUNCIL**

Staff recommends that the City Council accept this informational report.

Respectfully submitted,



Gerald A. Simon

Interim Fire Chief

Prepared by: Renee Domingo

Emergency Services Manager

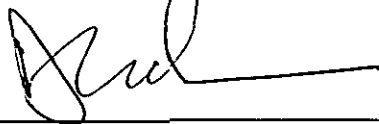
Orval Badger

Project Manager, Department of Information Technology

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Information Systems Manager, DIT

APPROVED AND FORWARDED TO THE  
PUBLIC SAFETY COMMITTEE:







Office of the City Administrator

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# Tactical Interoperable Communications Scorecard

## Definitions of Maturity Levels

Elements	Early Implementation 	Intermediate Implementation 	Established Implementation 	Advanced Implementation 
<b>Standard Operating Procedures (SOP)</b>	Region-wide SOPs were developed and formalized for the first time through the TICP, but have not been disseminated to all included agencies. Some elements of NIMS/ICS procedures for command and control are in place, but understanding varies among agencies and was an area of difficulty during exercise(s).	Some existing SOPs were incorporated in the TICP and steps have been taken to institute these interoperability procedures among included agencies. Formal NIMS/ICS procedures are in place, but understanding varies among agencies leading to some issues during the exercise(s).	Existing regional SOPs were reviewed and included in the TICP, and are in use by included agencies. NIMS-compliant command and control has been instituted by all agencies and disciplines in the region. Despite minor issues, all SOPs were successfully demonstrated during exercise(s).	Regional SOPs, reviewed through the TICP process, are in place and regularly used by included agencies. NIMS procedures are well established among all agencies and disciplines. All procedures were effectively utilized during exercise(s).
<b>Usage</b>	Interoperable communications solutions are rarely used for multi-agency communication and difficulties were encountered in achieving interoperability during exercise(s).	First responders use interoperability solutions regularly and demonstrated the ability to achieve multi-agency communications despite some challenges during exercise(s).	First responders use interoperability solutions regularly and easily. The region demonstrated successful multi-agency (which may have included state, federal, and support organizations) communications during exercise(s).	First responders regularly and seamlessly utilize interoperability solutions. The region demonstrated successful multi-agency communications during exercise(s), including state, federal and support organizations.
<b>Governance</b>	Decision making groups are informal, and do not yet have a strategic plan in place to guide collective communications interoperability goals and funding.	Some <i>formal</i> agreements exist and <i>informal</i> agreements are in practice among members of a decision making group; regional strategic and budget planning processes are beginning to be put in place.	Formal agreements outline the roles and responsibilities of a decision making group, which has an agreed upon strategic plan that addresses sustainable funding for collective, regional interoperable communications needs.	Decision making bodies proactively look to expand membership to ensure representation from broader public support disciplines and other levels of government, while updating their agreements and strategic plan on a regular basis.



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# Oakland, CA

## Tactical Interoperable Communications Scorecard

### Summary



**Governance:**  
*Intermediate Implementation*



**Standard Operating Procedures:**  
*Advanced Implementation*



**Usage:**  
*Advanced Implementation*

The Oakland Urban Area (UA) includes the City of Oakland, Alameda County, and Contra Costa County.

### Governance: *Intermediate Implementation*

The Interoperable Communications Project Group (ICPG) began meeting in 2003 and oversaw the Tactical Interoperable Communications Plan (TICP) development. As identified in the documentation, it does not appear that the group is formalized, and as noted by TICP peer reviewers, the UA should further “explain governing responsibilities and relation to the Urban Area Working Group (UAWG)” to clarify how the organizations work together. The Oakland area has completed strategic planning efforts; however, a formal plan has not yet been adopted by the included agencies. This strategy, as it gets adopted, can also support the prioritization of goals so that funding can be planned accordingly. With most project funding supported through annual federal grants, long-term funding was indicated by the UA as a concern. With respect to the federal grants, it does appear that the agencies give consideration to regional interoperable communications while procuring equipment. Although the local leadership is strong (demonstrated by involvement from local mayors and other executives), there are regional leadership differences (across the multiple jurisdictions) that may slow progress toward interoperability across the UA as a whole.

### Recommendations:

- Identify and document the roles, responsibilities, and relationships within the decision-making group (e.g., ICPG membership, relationship to UAWG)
- Develop, document, and formalize agreements (e.g., signed memoranda of understanding [MOU] with defined roles and responsibilities) among all participating agencies to support partnerships on regional interoperability
- Reference all applicable agreements (e.g., MOUs, intergovernmental agreements) in the TICP and store them in an accessible format
- Establish a regular review process to ensure that agreements remain current and relevant
- Adopt and implement the regional strategic plan
- Align regional and state strategic planning efforts to ensure that regional interoperability needs are met
- Develop and implement a regional approach to budgeting and procuring regional communications interoperability assets
- Develop and implement a regional approach to long-term (e.g., 3 to 5 years) sustainable funding that is consistent with the strategic plan
- Encourage broader involvement by senior government leadership on interoperability funding and procurement plans

### Standard Operating Procedures (SOP): *Advanced Implementation*

The Oakland TICP is based on existing policies and procedures. Since these SOPs were already well established and used frequently, the public safety agencies in the UA were well positioned to adopt the TICP. The UA has taken a number of steps to disseminate and train on the SOPs among the participating





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organizations. According to the Exercise Evaluation Guide, despite a minor issue with naming conventions on shared channels, the UA was largely successful in the use of its documented procedures. National Incident Management System (NIMS)/Incident Command System (ICS) has been used throughout the UA for more than a year, with countywide training ongoing. This is consistent with a state mandate for NIMS compliance. The exercise evaluation indicated that "members of the Unified Command staff worked together very effectively." The Communications Unit Leader was likewise praised for decisions in allocating communications resources during the exercise.

**Recommendations:**

- Consider scheduling a regular review and update process of developed policies and procedures
- Continue basic and advanced training and exercises on SOPs (include communications unit implementation consistent with the TICP) to ensure that all participating first responder agencies attain and maintain NIMS/ICS compliance

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**Usage: Advanced Implementation**

The UA frequently uses its available means of interoperable communications (e.g., radio cache, gateways, shared channels, and shared systems). Additionally, officials in the area report proficiency during real-world events (e.g., football games) where radio caches and gateways are used to provide communications to local, state, and federal agencies. During the TICP validation exercise, the participants were able to establish interoperable communications despite some minimal technical difficulty (e.g., no roll call taken for gateways and shared systems). The exercise was noteworthy for its complexity and the test it provided among local, state, and federal agencies in the area.

**Recommendation:**

- Consider adding interoperable communications as an evaluation component for all future exercises and day-to-day activities

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Below is a summary of the area's existing technology used to provide communications interoperability:

**Technology Overview**

The City of Oakland has two ACU-1000 gateways, and the County of Alameda has four deployable Infrimux G4 gateway devices. Currently, interoperability is achieved by using the gateways, shared proprietary radio systems, and National Public Safety Planning Advisory Committee (NPSPAC) channels for mutual aid. The surrounding County of Alameda has a Motorola 800 megahertz trunked communications system. The adjacent County of Contra Costa and several other adjacent localities field conventional very high frequency and ultra high frequency communications systems.

The UA is planning for a new communications system that will be a shared Project 25 (P25) standard radio system and encompass the two-county area to create a regional communications system. Regional agencies will become part of the shared P25 radio system and will be given subscriber units to use NPSPAC frequencies for mutual aid. In addition, a networked gateway system will be installed to assure operable communications during the migration of the new P25 system, allowing a gateway to outside agencies that are not P25 capable.