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HOMELAND SECURITY

Federal Leadership Needed to Facilitate Interoperable Communications Between First Responders

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HOMELAND SECURITY

Federal Leadership Needed to Facilitate Interoperable Communications Between First Responsders

Why GAO Did This Study

Lives of first responders and those whom they are trying to assist can be lost when first responders cannot communicate effectively as needed. This testimony addresses issues of determining the status of interoperable wireless communications across the nation, the potential roles that federal, state, and local governments can play in improving these communications, and the need to structure grant programs so that they better support public sector efforts to improve these communications.

What GAO Recommends

In a recent report on interoperable communications, we recommended that the Secretary of DHS (1) continue to develop a nationwide database and common terminology for public safety interoperability communications channels; (2) help states assess interoperability in specific locations against defined requirements; (3) through federal grant awards, encourage state action to establish and support a statewide body to develop and implement detailed improvement plans; and (4) require that grant applications be in compliance with statewide interoperability plans, once they are developed. GAO also recommends that the Director of OMB work with DHS to review SAFECOM's functions and establish a long-term program with appropriate authority and funding to coordinate interoperability efforts across the federal government.

www.gao.gov/cgi-bin/getrpt?GAO-04-1057T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact William O. Jenkins, Jr. at (202) 512-8777 or jenkinsjrw@gao.gov.

What GAO Found

The current wireless interoperable communications capabilities of first responders nationwide have not been determined. To assess these capabilities, a set of requirements is needed that can be used to assess "what is" compared to "what should be." The Office of Management Budget (OMB) has established the Wireless Public Safety Interoperable Communications Program, SAFECOM, within the Department of Homeland Security (DHS) as the focal point for coordinating federal efforts to improve interoperable communication. In April 2004, SAFECOM issued a document designed to serve as a set of baseline requirements and is working to develop a baseline of current capabilities by July 2005. This is a difficult task, and the details of SAFECOM's baseline study have yet to be finalized.

The federal government can take a leadership role and provide support for developing (1) a national database of interoperable communication frequencies, (2) a common nomenclature for those frequencies, (3) a national architecture that identifies communications requirements and technical standards, and (4) statewide interoperable communications plans. SAFECOM has limited authority and ability to oversee and coordinate federal and state efforts as it is dependent upon other agencies for funding and their willingness to cooperate. DHS, where SAFECOM now resides, has recently announced it is establishing an Office for Interoperability and Compatibility to coordinate the federal response to the problems of interoperability. The exact structure and funding for this office, which will include SAFECOM, are still being developed.

State and local governments can play a large role in developing and implementing plans to improve public safety agencies' interoperable communications. State and local governments own most of the physical infrastructure of public safety communications systems, and states play a central role in managing emergency communications. States, with broad input from local governments, are a logical choice to serve as a foundation for interoperability planning because incidents of any level of severity originate at the local level with states as the primary source of support. However, states are not required to develop interoperability plans, and there is no clear guidance on what should be included in such plans.

The federal funding assistance programs to state and local governments do not fully support regional planning for communications interoperability. Federal grants that support interoperability have different requirements to tie funding to interoperable communications plans. In addition, uncoordinated federal and state level reviews limit the government's ability to ensure that federal funds are used to effectively support improved regional and statewide communications systems.

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to be here today to discuss the critical issue of wireless interoperable communications for first responders.[1] In a recent report, we addressed the importance of determining the status of interoperable wireless communications across the nation and defining the potential roles that federal, state, and local governments can play in improving these communications.[2] The inability of first responders—police officers, fire fighters, emergency medical service personnel, public health officials, and others—to communicate effectively over wireless systems with one another as needed during an emergency is a long-standing and widely recognized problem in many areas across the country. Lives of first responders and those whom they are trying to assist can be lost when first responders cannot communicate effectively as needed.

Public safety officials generally recognize that effective "interoperable" communications is the ability to talk with whom they want, when they want, when authorized, but not the ability to talk with everyone all of the time. The effective interoperability of wireless systems permits a rapid and coordinated response to an emergency incident, whether that incident is a "routine" spill from an overturned tanker truck or railcar, a natural disaster, or a terrorist attack. In this statement, we (1) discuss the current status of interoperable wireless communication between first responders across the nation, (2) identify areas in which the federal government can take a leadership role, (3) highlight the critical role that state and local governments can play in the emergency communications planning process, and (4) discuss the need to structure grant programs so that they better support long-term, ongoing, and sustainable public sector efforts to improve security.

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[1]Our work addressed issues of public safety wireless communications interoperability—i.e., communications that use radio frequency waves instead of telephone wires for transmitting voice and data. We did not address interoperability problems that may be found in other homeland security functions, such as fire equipment, chem-bio equipment, and information technology.

[2]U.S. Government Accountability Office, *Homeland Security: Federal Leadership and Intergovernmental Cooperation Required to Achieve First Responder Interoperable Communications*, GAO-04-740 (Washington, D.C.: July 2004).

In doing our work, we met with federal, state, and local officials,[3] obtained and reviewed appropriate documentation, attended several meetings of public safety communications officials, and met with staff of the National Governors Association. We conducted our work from July 2003 through August 2004 in accordance with generally accepted government auditing standards.

Summary

- The current wireless interoperable communications capabilities of first responders nationwide has not been determined. To assess these capabilities, a set of requirements is needed that can be used to assess "what is" compared to "what should be." The Office of Management and Budget (OMB) has designated the Wireless Public Safety Interoperable Communications Program (SAFECOM), within the Department of Homeland Security (DHS), as the focal point for coordinating federal efforts to improve interoperable communications. In April 2004, SAFECOM issued a document designed to serve as a set of baseline requirements and is working to develop a baseline of current capabilities by July 2005. This is a difficult task, and the details of SAFECOM's baseline study are still being worked out.

- The federal government can provide the leadership, long-term commitment, and focus to help state and local governments meet interoperability goals. For example, the federal government can provide the leadership and support for developing (1) a national database of interoperable communications frequencies, (2) a common nomenclature for those frequencies, (3) a national architecture that identifies communications requirements and technical standards, and (4) statewide interoperable communications plans.

- DHS has recently created the Office of Interoperability and Compatibility to coordinate the federal response to the problems of interoperability in several functions, including wireless communications. DHS expects the office to be fully established by November 2004. As of August 2004, the exact structure and funding for the office, including SAFECOM's role within the office, were still being developed.

- With input from local governments and first responders, states can serve as focal points for statewide planning to improve interoperable

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[3]To examine potential roles that state and local governments can play in improving interoperability of first responder wireless communications, we interviewed state and local officials in California, Florida, Georgia, and Washington.

communications. States can play a key role in improving interoperable communications by establishing a management structure that includes local participation and input to analyze and identify interoperability gaps between "what is" and "what should be," developing comprehensive local, state, and regional plans to address such gaps, and funding implementation of these plans.

- The fragmented federal grant structure for first responders does not support statewide interoperability planning. SAFECOM has developed grant guidance for interoperability, but cannot require that consistent guidance be incorporated in all federal first responder grants. The structure of some federal grants does not support long-term planning efforts because, for example, they did not require a communications plan prior to receiving grant funds and required a 1- or 2-year performance period. The federal and state governments lack a coordinated grant review process to ensure that funds allocated to local governments are used for communication projects that complement each other and add to overall statewide and national interoperability capacity.

Background

Interoperable communications is not an end in itself. Rather, it is a necessary means for achieving an important goal—the ability to respond effectively to and mitigate incidents that require the coordinated actions of first responders, such as multi-vehicle accidents, natural disasters, or terrorist attacks. Interoperable communications are but one component, although a key one, of an effective incident command planning and operations structure. As shown in figure 1, determining the most appropriate means of achieving interoperable communications must flow from a comprehensive incident command and operations plan that includes developing an operational definition of who is in charge for different types of events and what types of information would need to be communicated (voice, data, or both) to whom under what circumstances. Other steps include:

- defining the range of interoperable communications capabilities needed for specific types of events;
- assessing the current capabilities to meet these communications needs;
- identifying the gap between current capabilities and defined requirements;
- assessing alternative means of achieving defined interoperable communications requirements; and
- developing and implementing a comprehensive plan—including, for example, mutual aid agreements, technology and equipment specifications, and training—for closing the gap between current capabilities and identified requirements.

Interoperable communications requirements are not static, but change over time with changing circumstances (e.g., new threats) and technology (e.g., new equipment) and additional available broadcast spectrum. Consequently, both a short- and long-term "feedback loop" that incorporates regular assessments of current capabilities and needed changes is important.

Figure 1: A Planning Process for Interoperable Communications
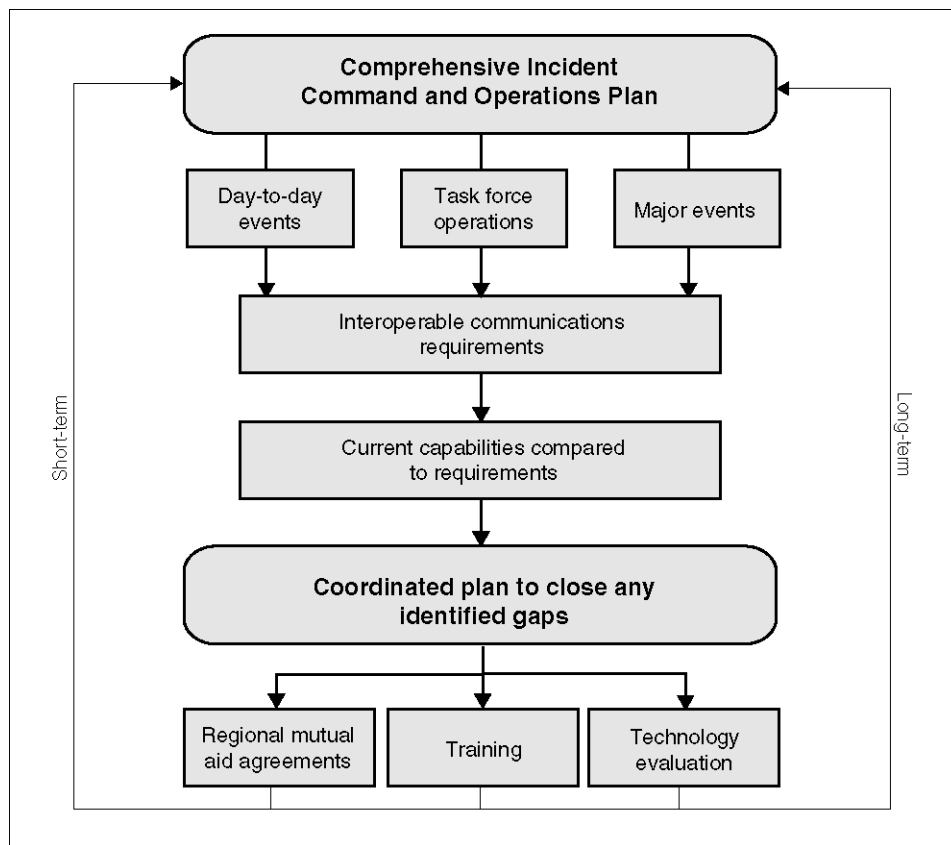
Source: GAO.

In addition, the first responder community is extensive and extremely diverse in size and the types of equipment in their communications systems. According to SAFECOM officials, there are over 2.5 million public safety first responders within more than 50,000 public safety organizations in the United States. Local and state agencies own over 90

percent of the existing public safety communications infrastructure. This intricate public safety communications infrastructure incorporates a wide variety of technologies, equipment types, and spectrum bands.[4] In addition to the difficulty that this complex environment poses for federal, state, and local coordination, 85 percent of fire personnel, and nearly as many emergency management technicians, are volunteers with elected leadership. Many of these agencies are small and do not have technical expertise; only the largest of the agencies have engineers and technicians.

In the past, a stovepiped, single jurisdiction, or agency-specific communication systems development approach prevailed—resulting in none or less than desired interoperable communications systems. Public safety agencies have historically planned and acquired communications systems for their own jurisdictions without concern for interoperability. This meant that each state and local agency developed communications systems to meet their own requirements, without regard to interoperability requirements to talk to adjacent jurisdictions.

For over 15 years, the federal government has been concerned with public safety spectrum issues, including communications interoperability issues.[5] A variety of federal departments and agencies have been involved in efforts to define the problem and to identify potential solutions, such as DHS, the Department of Justice (DOJ), the Federal Communications Commission (FCC), and the National Telecommunications and Information Administration (NTIA) within the Department of Commerce (DOC), among others. Today, a combination of federal agencies, programs, and associations are involved in coordinating emergency communications.

DHS has several agencies and programs involved with addressing first responder interoperable communication barriers, including the SAFECOM program, the Federal Emergency Management Agency (FEMA), and the

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[4]Spectrum bands are the useable radio frequencies in the electromagnetic distribution. Specific frequencies have been allocated to the public safety community.

[5]The radiofrequency spectrum is the medium that enables wireless communications of all kinds. Although the radio spectrum spans the range from 3 kilohertz to 300 gigahertz, 90 percent of its use is concentrated in the 1 percent of frequencies that lie below 3.1 gigahertz, because these frequencies have properties that make this portion of the spectrum well suited for many important wireless technologies. Radio waves are a form of electromagnetic radiation that propagate in space as the result of particle oscillations. The number of oscillations per second is called "frequency," which is measured in units of hertz. The term "kilohertz" refers to thousands of hertz and "gigahertz" to billions of hertz.

Office for Domestic Preparedness (ODP). As one of its 24 E-Gov initiatives, OMB in 2001 created SAFECOM to unify the federal government's efforts to help coordinate the work at the federal, state, local, and tribal levels to establish reliable public safety communications and achieve national wireless communications interoperability. The SAFECOM program was brought into DHS in early 2003. In June 2003, SAFECOM partnered with the National Institute of Standards and Technology (NIST) and the National Institute of Justice (NIJ) to hold a summit that brought together over 60 entities involved with communications interoperability policy setting or programs.

Several technical factors specifically limit interoperability of public safety wireless communications systems. First, public safety agencies have been assigned frequencies in new bands over time as available frequencies become congested and as new technology made other frequencies available for use. As a result, public safety agencies now operate over multiple frequency bands—operating on these different bands required different radios because technology was not available to include all bands in one radio. Thus, the new bands provided additional capabilities but fragmented the public safety radio frequency spectrum, making communications among different jurisdictions difficult. Another technical factor inhibiting interoperability is the different technologies or different applications of the same technology by manufacturers of public safety radio equipment. One manufacturer may design equipment with proprietary technology that will not work with equipment produced by another manufacturer.

Current Status of Wireless Communications Interoperability Nationwide Is Unknown

The current status of wireless interoperable communications across the nation—including the current interoperable communications capabilities of first responders and the scope and severity of the problems that may exist—has not been determined. Although various reports have documented the lack of interoperability of public safety first responders wireless communications in specific locations, complete and current data do not exist documenting the scope and severity of the problem at the local, state, interstate, or federal levels across the nation. Accumulating this data may be difficult, however, because several problems inhibit efforts to identify and define current interoperable communications capabilities and future requirements.

First, current capabilities must be measured against a set of requirements for interoperable communications, and these requirements vary according to the characteristics of specific incidents at specific locations. Who needs

to talk to whom, when they need to talk, and what set of communications capabilities should be built or acquired to satisfy these requirements depends upon whether interoperable communications are needed for day-to-day mutual aid, task force operations that occur when members of different agencies come together to work on a common problem such as the National Capitol Region sniper investigation, or major events such as a terrorist attack. Requirements for interoperable communications also may change with the expanding definition of first responders—from the traditional police, fire, and emergency medical providers to include such professions as health care providers and other professions—and the evolution of new technology.

Establishing a national baseline for public safety wireless communications interoperability will be difficult because the definition of whom to include as a first responder is evolving, and interoperability problems and solutions are situation specific and change over time to reflect new technologies and operational requirements. SAFECOM has embarked on an effort to establish a national baseline of interoperable communications capabilities by July 2005, but SAFECOM is still working out the details of the study that would be used to develop the baseline. At the time of our review, SAFECOM officials acknowledged that establishing a baseline will be difficult and said they are working out the details of their baseline study but still expect to complete it by July 2005.

Second, technical standards for interoperable communications are still under development. Beginning in 1989, a partnership between industry and the public safety user community developed what is known as Project 25 (P-25) standards. According to the Public Safety Wireless Network (PSWN)[6] program office, Project 25 standards remain the only user-defined set of standards in the United States for public safety communications. DHS purchased radios that incorporate the P-25 standards for each of the nation's 28 urban search and rescue teams. PSWN believes P-25 is an important step toward achieving interoperability, but the standards do not mandate interoperability among all manufacturers' systems. Standards development continues today as new technologies emerge that meet changing user needs and new policy requirements.

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[6]DOJ and the Department of the Treasury formed PSWN to promote effective public safety communications and to foster interoperability among local, state, federal, and tribal communications systems. PSWN was incorporated into DHS as part of the SAFECOM project in 2003.

Third, new public safety mission requirements for video, imaging, and high-speed data transfers, new and highly complex digital communications systems, and the use of commercial wireless systems are potential sources of new interoperability problems. Availability of new spectrum can also encourage the development of new technologies and require further development of technical standards. For example, the FCC recently designated a new band of spectrum, the 4.9 Gigahertz (GHz) band, for use and support of public safety. The FCC provided this additional spectrum to public safety users to support new broadband applications such as high-speed digital technologies and wireless local area networks for incident scene management. In providing the additional spectrum, the FCC requested comments on the implementation of technical standards for fixed and mobile operations on the band.

Federal Leadership Could Facilitate Interoperable Wireless Communications

The federal government, states, and local governments have important roles to play in assessing interoperability needs, identifying gaps in meeting those needs, and developing comprehensive plans for closing those gaps. The federal government can provide the leadership, long-term commitment, and focus to help state and local governments meet these goals. For example, currently national requirements for interoperable communications are incomplete and no national architecture exists, there is no standard database to coordinate frequencies, and no common nomenclature or terminology exists for interoperability channels. States alone cannot develop the requirements or a national architecture, compile the nationwide frequency database, or develop a common nationwide nomenclature. Moreover, the federal government alone can allocate communications spectrum for public safety use.

National Requirements and a National Architecture Are Needed

One key barrier to the development of a national interoperability strategy has been the lack of a statement of national mission requirements for public safety—what set of communications capabilities should be built or acquired—and a strategy to get there. A key initiative in the SAFECOM program plan for the year 2005 is to complete a comprehensive Public Safety Statement of Requirements. The Statement is to provide functional requirements that define how, when, and where public safety practitioners communicate. On April 26, 2004, DHS announced the release of the first comprehensive Statement of Requirements defining future communication requirements and outlining future technology needed to meet these requirements. According to DHS, the Statement provides a shared vision and an architectural framework for future interoperable public safety communications. DHS describes the Statement of Requirements as a living

document that will define future communications services as they change or become new requirements for public safety agencies in carrying out their missions. SAFECOM officials said additional versions of the Statement will incorporate whatever is needed to meet future needs but did not provide specific details.

A national architecture has not yet been prepared to guide the creation of interoperable communications. An explicit, commonly understood, and agreed-to blueprint, or architecture, is required to effectively and efficiently guide modernization efforts. SAFECOM officials said they are responsible for development of a national communications architecture and that will take time because SAFECOM must first assist state and local governments to establish their communications architectures. They said SAFECOM will then collect the state and local architectures and fit them into a national architecture that links federal communications into the state and local infrastructure.

Standard Databases and Common Nomenclature Have Not Been Established

Technology solutions by themselves are not sufficient to fully address communication interoperability problems in a given local government, state, or multi-state region. State and local officials consider a standard database of interoperable communications frequencies to be essential to frequency planning and coordination for interoperability frequencies and for general public safety purposes. Police and fire departments often have different concepts and doctrines on how to operate an incident command post and use interoperable communications. Similarly, first responders, such as police and fire departments, may use different terminology to describe the same thing. Differences in terminology and operating procedures can lead to communications problems even where the participating public safety agencies share common communications equipment and spectrum. State and local officials have drawn specific attention to problems caused by the lack of common terminology in naming the same interoperability frequency.

The Public Safety National Communications Council (NCC) was appointed by the FCC to make recommendations for public safety use of the 700 MHz communications spectrum. The NCC recommended that the FCC mandate

(1) Regional Planning Committee[7] use of a standard database to coordinate frequencies during license applications and (2) designation of specific names for each interoperability channel on all pubic safety bands. The NCC said that both were essential to achieve interoperability because public safety officials needed to know what interoperability channels were available and what they were called. In January 2001, the FCC rejected both recommendations. It said that the first recommendation was premature because the database had not been fully developed and tested. The FCC directed the NCC to revisit the issue of mandating the database once the database was developed and had begun operation. The FCC rejected the common nomenclature recommendation because it said that it would have to change the rules each time the public safety community wished to revise a channel label. In its final report of July 25, 2003, the NCC renewed both recommendations. It noted that the FCC had received a demonstration of a newly developed and purportedly operational database, the Computer Assisted Pre-Coordination Resource and Database System (CAPRAD), and that its recommendations were consistent with previous FCC actions, such as the FCC's designating medical communications channels for the specific purpose of uniform usage.

SAFECOM's Functions Are Critical for a Long-Term Program

In 2001, OMB established SAFECOM to unify the federal government's efforts to help coordinate work at the federal, state, local, and tribal levels in order to provide reliable public safety communications and achieve national wireless communications interoperability. However, SAFECOM was established as an OMB E-Gov initiative with a goal of improving interoperable communications within 18-24 months—a timeline too short for addressing the complex, long-term nature of the interoperability problem.[8] In addition, the roles and responsibilities of various federal

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[7]In 1987, the FCC developed a National Plan for Public Safety Radio Services that set national guidelines for use of the 800 MHz spectrum while allowing regional public safety planning committees to develop regional plans tailored to their areas own particular communications needs. A large portion of the 700 MHz public safety spectrum, approximately 53 percent (12.5 MHz), is designated for general use by local, regional, and state users. A regional planning process was adopted to govern management of this public safety spectrum. It is a process similar to that used in the 821-824 MHz and 866-869 MHz bands. Regional Planning Committees (RPCs) are allowed maximum flexibility to meet state and local needs, encourage innovative use of the spectrum, and accommodate new and as yet unanticipated developments in technology equipment. They are responsible for creating and managing regional plans.

[8]U.S. General Accounting Office, *Project SAFECOM: Key Cross-Agency Emergency Communications Effort Requires Stronger Collaboration*, GAO-04-494 (Washington, D.C.: April 16, 2004).

agencies within and outside DHS involved in communications interoperability have not been fully defined, and SAFECOM's authority to oversee and coordinate federal and state efforts has been limited in part because it has been dependent upon other federal agencies for cooperation and funding and has operated without signed memorandums of understanding negotiated with various agencies.

DHS, where SAFECOM now resides, announced in May 2004 that it had created an Office for Interoperability and Compatibility within the Science and Technology Directorate, to coordinate the federal response to the problems of wireless and other functional interoperability and compatibility. The new office is responsible for coordinating DHS efforts to address interoperability and compatibility of first responder equipment, to include both communications equipment and equipment such as personal protective equipment used by police and fire from multiple jurisdictions. The plan as approved by the Secretary of DHS states that by November 2004 the new office will be fully established and that action plans and a strategy will be prepared for each portfolio (type or class of equipment). The plan presents a budget estimate for creation of the office through November 2004 but does not include costs to implement each portfolio's strategy. The plans for the new office do not clarify the roles of various federal agencies or specify what oversight authority the new office will have over federal agency communications programs. As of August 2004, the exact structure and funding for the office, including SAFECOM's role within the office, were still being developed.

Multiple Federal Agencies Have Roles And Responsibilities For Interoperability

DHS has not defined how it will convert the current short-term program and funding structures to a permanent program office structure. When it does, DHS must carefully define the SAFECOM mission and roles in relation to other agencies within DHS and in other federal agencies that have missions that may be related to the OMB-assigned mission for SAFECOM. SAFECOM must coordinate with multiple federal agencies, including ODP within DHS, the Advanced Generation of Interoperability for Law Enforcement (AGILE)[9] program and the Office for Community

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[9]AGILE was the DOJ program to assist state and local law enforcement agencies to communicate effectively and efficiently with one another across agency and jurisdictional boundaries. DOJ's National Institute of Justice (NIJ) has announced it is bringing the AGILE program to a close and initiating a new program called Communications Technology, or CommTech.

Oriented Policing Services (COPS)[10] in DOJ, the Department of Defense, the FCC, NTIA within the Department of Commerce, and other agencies. The Homeland Security Act of 2002 assigns the DHS Office for Domestic Preparedness (ODP) primary responsibility within the executive branch for preparing the United States for acts of terrorism, including coordinating or, as appropriate, consolidating communications and systems of communications relating to homeland security at all levels of government. An ODP official said the Homeland Security Act granted authority to ODP to serve as the primary agency for preparedness against acts of terrorism, to specifically include communications issues. He said ODP is working with states and local jurisdictions to institutionalize a strategic planning process that assesses and funds their requirements. ODP also plans to develop tools to link these assessments to detailed interoperable communications plans.

SAFECOM officials also will face a complex issue when they address public safety spectrum management and coordination. NTIA is responsible for federal government spectrum use, and the FCC is responsible for state, local, and other nonfederal spectrum use. The National Governors' Guide to Emergency Management noted that extensive coordination will be required between the FCC and the NTIA to provide adequate spectrum and to enhance shared local, state, and federal communications. In September 2002, GAO reported that FCC and NTIA efforts to manage their respective areas of responsibility were not guided by a national spectrum strategy, and the agencies had not implemented long-standing congressional directives to conduct joint, national spectrum planning.[11] The FCC and the NTIA generally agreed with our recommendation that they develop a strategy for establishing a clearly defined national spectrum plan and submit a report to the appropriate congressional committees. In a separate report, we also discussed several barriers to reforming spectrum management in the United States.[12] On June 24, 2004, the Department of

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[10]Congress authorized COPS within DOJ to administer the Interoperable Communications Technology Program in 2003. The program awarded 14 grants totaling more than $66 million to first responders for interoperable communications and provides technical assistance to grantees.

[11]U.S. General Accounting Office, *Telecommunications: Better Coordination and Enhanced Accountability Needed to Improve Spectrum Management*, GAO-02-906 (Washington, D.C.: Sept. 2002).

[12]U.S. General Accounting Office, *Telecommunications: Comprehensive Review Of U.S. Spectrum Management With Broad Stakeholder Involvement Is Needed*, GAO-03-277 (Washington, D.C.: Jan. 2003).

Commerce released two reports entitled *Spectrum Policy for the 21st Century—The President's Spectrum Policy Initiative*, the second of which contained recommendations for assessing and managing public safety spectrum.[13]

SAFECOM's Authority to Coordinate Federal and State Efforts Is Limited

SAFECOM has limited authority to coordinate federal efforts to assess and improve interoperable communications. Although SAFECOM has developed guidance for use in federal first responder grants, SAFECOM does not have authority to require federal agencies to coordinate their grant award information. SAFECOM is currently engaged in an effort with DOJ to create a "collaborative clearinghouse" that could facilitate federal oversight of interoperable communications funding to jurisdictions and allow states access to this information for planning purposes. The database is intended to decrease duplication of funding and evaluation efforts, de-conflict the application process, maximize efficiency of limited federal funding, and serve as a data collection tool for lessons learned that would be accessible to state and locals. However, SAFECOM officials said that the challenge to implementing the coordinated project is getting federal agency collaboration and compliance. As of February 2004, the database contained award information from the 2003 COPS and FEMA interoperability communications equipment grants, but no others within or outside DHS.

SAFECOM's oversight authority and responsibilities are dependant upon its overall mission. OMB officials told us that they are currently in the process of refocusing the mission of the SAFECOM program into three specific parts: (1) coordination of federal activities through several initiatives, including participation in the Federal Interagency Coordination Council (FICC)[14] and establishment of a process for federal agencies to report and coordinate with SAFECOM on federal activities and

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[13]U.S. Department of Commerce, *Spectrum Policy For the 21st Century—The President's Spectrum Policy Initiative: Report 1, Recommendations Of The Federal Government Spectrum Task Force* and *Report 2, Recommendations From State and Local Governments And Private Sector Responders* (Washington, D.C.: June 2004).

[14]FICC is an informal council consisting of federal agencies, whose mission is to help local, tribal, state, and federal public safety agencies improve public safety response through more effective and efficient interoperable wireless communications by reducing duplication in programs and activities, identifying and promoting best practices, and coordinating federal grants, technical assistance, training, and standards. Proposed FICC members are federal agencies within DOJ, DHS, Defense, Agriculture, Health and Human Services, and Commerce.

investments in interoperability; (2) developing standards; and (3) developing a national architecture for addressing communications interoperability problems. They said identification of all current and planned federal agency communications programs affecting federal, state, and local wireless interoperability is difficult. According to these officials, OMB is developing a strategy to best utilize the SAFECOM program and examining options to enforce the new coordination and reporting process. SAFECOM officials said they are working to formalize the new reporting and coordination process by developing written agreements with other federal agencies and by obtaining concurrence of major state and local associations to the SAFECOM governance structure. SAFECOM officials noted that this newly refocused SAFECOM role does not include providing technical assistance or conducting operational testing of equipment. They said that their authority to conduct such activities would come from DHS enabling directives. SAFECOM officials also said that they have no enforcement authority to require other agencies to use the SAFECOM grant guidance in their funding decisions or to require agencies to provide grant program information to them for use in their database.

State and Local Governments Can Play a Central Role

States, with broad input from local governments, can serve as focal points for statewide planning to improve interoperable communications. The FCC has recognized the important role of states. In its rules and procedures, the FCC concluded that because states play a central role in managing emergency communications and are usually in control at large scale-events and disasters, states should administer the interoperability channels within the 700 MHz band of communications spectrum. States can play a key role in improving interoperable communications by establishing a management structure that includes local participation and input to analyze and identify interoperability gaps between "what is" and "what should be," developing comprehensive local, state, and regional plans to address such gaps, and funding implementation of these plans. The states we visited or contacted—California, Florida, Georgia, Missouri, Washington and a five-state Midwest consortium—were in various stages of formulating these management structures.

States are not required to establish a statewide management structure or to develop interoperability plans, and there is no clear guidance on what should be included in such plans. In addition, no requirement exists that interoperability of federal communications systems be coordinated with state and local government communications systems. The use of a standard database on communications frequencies by public safety agencies within the state and common terminology for these frequencies

in preparation and implementation of these statewide interoperable plans are essential but are also not required. Without planning, coordination, and applicable standards, the communications systems developed between and among locations and levels of government might not be interoperable.

States are key players in responding to normal all-hazards emergencies and to terrorist threats. Homeland Security Presidential Directive 8 notes that awards to states are the primary mechanism for delivery of federal preparedness assistance for these missions. State and local officials also believe that states, with broad local and regional participation, have a key role to play in coordinating interoperable communications supporting these missions. The Public Safety Wireless Network (PSWN), in its report on the role of the state in providing interoperable communications, agreed. According to the PSWN report, state leadership in public safety communications is key to outreach efforts that emphasize development of common approaches to regional and statewide interoperability. The report said that state officials have a vested interest in establishing and protecting statewide wireless infrastructures because public safety communications often must cross more than one local jurisdictional boundary.[15]

However, states are not required to establish a statewide capability to (1) integrate statewide and regional interoperability planning and (2) prepare statewide interoperability plans that maximize use of spectrum to meet interoperability requirements of day-to-day operations, joint task force operations, and operations in major events. Federal, state, and local officials are not required to coordinate federal, state, and local interoperability spectrum resources that, if successfully addressed, have significant potential to improve public safety wireless communications interoperability. As a result, states may not prepare comprehensive and integrated statewide plans that address the specific interoperability issues present in each state across first responder disciplines and levels of government.

Federal interoperability with state and local wireless communications systems is hindered because NTIA and FCC control different frequencies in the VHF and UHF bands. To enhance interoperability, NTIA has identified 40 federal government frequencies that can be used by state and local public safety agencies for joint law enforcement and incident

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[15]See *The Role of The States in Public Safety Wireless Interoperability*, PSWN (2002).

response purposes.[16] FCC, however, designated different frequencies for interoperability in the VHF band and in the UHF band from spectrum it controls for use by state and local public safety agencies.

Federal Grant Structure Does Not Support Statewide Planning

DHS recently estimated that reaching an accelerated goal of communications interoperability will require a major investment of several billion dollars within the next 5 to 10 years. As a result of these extraordinary costs, federal funding is but one of several resources state and local agencies must use in order to address these costs. Furthermore, given the high costs, the development of an interoperable communications plan is vital to useful, non-duplicative spending. However, the federal funding assistance programs to state and local governments do not fully support regional planning for communications interoperability. Federal grants that support interoperability have different requirements to tie funding to interoperable communications plans. In addition, uncoordinated federal and state level grant reviews limit the government's ability to ensure that federal funds are used to effectively support improved regional and statewide communications systems.

States and Local Governments Are Not Required to Provide Interoperable Communications Plans

Local, state and federal officials agree that regional communications plans should be developed to guide decisions on how to use federal funds for interoperable communications; however, the current funding requirements do not support this planning process. Although recent grant requirements have encouraged jurisdictions to take a regional approach to planning, current federal first responder grants differ in their requirements to tie funding to interoperable communications plans. State and local jurisdictions are not required to provide an interoperable communications plan as a prerequisite to receiving some federal grant funds. As a result, there is no assurance that federal funds are being used to support a well-developed strategy for improving interoperability. For example, the fiscal year 2004 Homeland Security Grants and Urban Areas Security Initiative (UASI) grants require new grantees to conduct a needs assessment and submit a Homeland Security Strategy to ODP, and continuation grantees to allocate funds according to their existing Homeland Security Strategies. However, the required strategies are high-level and broad in nature. They

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[16]NTIA states that these frequencies may not be used to meet day-to-day communications needs of non-federal public safety agencies.

do not require that project narratives or a detailed communications plan be submitted by grantees prior to receiving grant funds.

In another example, fiscal year 2003 funding provided by COPS and FEMA for the Interoperable Communications Equipment Grants did not require that a communications plan be completed prior to receiving grant funds. However, grantees were required to provide documentation that they were actively engaged in a planning process and a multi-jurisdictional and multidisciplinary project narrative was required. In addition to variations in requirements to create communications interoperability plans, federal grants also lack consistency in defining what "regional" body should conduct planning.

Grant Submissions and Performance Period Time Frames Also Present Challenges to Short- and Long-Term Planning

State and local officials also said that the short grant application deadlines for recent first responder grants limited their ability to develop cohesive communications plans or perform a coordinated review of local requests. Federal officials acknowledged that the limited submission timeframes present barriers to first responders for developing plans prior to receiving funds. For example, several federal grant programs—the Homeland Security Grants, UASI grants, COPS and FEMA interoperable communication equipment grants, and Assistance to Firefighters Grants—allow states only 30 or 60 days from the date of grant announcement to submit a grant proposal. These time frames are sometimes driven by appropriations language or by the timing of the appropriations enactment. Furthermore, many grants have been awarded to state and locals for communications interoperability that have 1 or 2 year performance periods, and according to state and local officials, do not support long-term solutions. For example, Assistance to Fire Fighters Grants, COPS/FEMA's interoperable communications equipment grants, and National Urban Search and Rescue grants all have 1-year performance periods.[17] UASI, the Homeland Security Grants program, and DOJ's Local Law Enforcement Block Grants have 2-year performance periods.

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[17]COPS officials said that although the performance period for the FY 2003 Interoperable Communications Technology Equipment and the COPS Interoperable Communications Technology Program was one year, no-cost extensions of time were available to grantees on a case-by-case basis to accommodate unavoidable delays.

No Coordinated Federal or State Grant Review Exists to Ensure Funds are Used to Improve Regional or Statewide Communications Interoperability

The federal and state governments lack a coordinated grant review process to ensure that funds allocated to local governments are used for communication projects that complement each other and add to overall statewide and national interoperability. Federal and state officials said that each agency reviews its own set of applications and projects, without coordination with other agencies. As a result, grants could be given to bordering jurisdictions that propose conflicting interoperability solutions. In fiscal year 2003, federal officials from COPS and FEMA attempted to eliminate awarding funds to conflicting communication systems within bordering jurisdictions by coordinating their review of interoperable communications equipment grant proposals. However, COPS and FEMA are only two of several federal sources of funds for communications interoperability.

In an attempt to address this challenge, in 2003, SAFECOM coordinated with other agencies to create the document, *Recommended Federal Grant Guidance, Public Safety Communications and Interoperability Grants*, which lays out standard grant requirements for planning, building, and training for interoperable communications systems. The guidance is designed to advise federal agencies on who is eligible for the first responder interoperable communications grants, the purposes for which grant funds can be used, and eligibility specifications for applicants.[18] The guidance recommends standard minimum requirements, such as requirements to "…define the objectives of what the applicant is ultimately trying to accomplish and how the proposed project would fit into an overall effort to increase interoperability, as well as identify potential partnerships for agreements." Additionally, the guidance recommends, but does not require, that applicants establish a governance group consisting of local, tribal, state, and federal entities from relevant public safety disciplines and purchase interoperable equipment that is compliant with phase one of Project-25 standards.

Conclusions

A fundamental barrier to successfully addressing interoperable communications problems for public safety has been the lack of effective, collaborative, interdisciplinary, and intergovernmental planning.

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[18]DHS officials said that, in addition to outlining the eligibility for grant dollars and the purposes for which federal dollars can be used, the SAFECOM grant guidance provides consensus guidelines for implementing a wireless communications system. DHS said this guidance is useful in directing all agencies towards interoperability goals, even if they are not specifically applying for federal funding.

Jurisdictional boundaries and unique public safety agency missions have often fostered barriers that hinder cooperation and collaboration. No one first responder agency, jurisdiction, or level of government can "fix" the nation's interoperability problems, which vary across the nation and often cross first responder agency and jurisdictional boundaries. Changes in spectrum available to federal, state and local public safety agencies—primarily a federal responsibility conducted through the FCC and NTIA—changes in technology, and the evolving missions and responsibilities of public safety agencies in an age of terrorism all highlight the ever-changing environment in which interoperable communications needs and solutions must be addressed and effective federal leadership provided. Interdisciplinary, intergovernmental, and multi-jurisdictional partnership and collaboration are essential for effectively addressing interoperability shortcomings.

Recommendations

In our July 2004 report,[19] we made recommendations to DHS and OMB to improve the assessment and coordination of interoperable communications efforts. We recommended that the Secretary of DHS:

- in coordination with the FCC and NTIA, continue to develop a nationwide database of public safety frequency channels and a standard nationwide nomenclature for these channels, with clear target dates for completing both efforts;

- establish requirements for interoperable communications and assist states in assessing interoperability in their states against those requirements;

- through DHS grant guidance encourage states to establish a single, statewide body to assess interoperability and develop a comprehensive statewide interoperability plan for federal, state, and local communications systems in all frequency bands; and

- at the appropriate time, require through DHS grant guidance that federal grant funding for communications equipment be approved only upon certification by the statewide body responsible for interoperable communications that grant applications for equipment purchases conform with statewide interoperability plans.

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[19]U.S. Government Accountability Office, *Homeland Security: Federal Leadership and Intergovernmental Cooperation Required to Achieve First Responder Interoperable Communications*, GAO-04-740 (Washington, D.C.: July 2004).

We also recommended that the Director of OMB, in conjunction with DHS, review the interoperability mission and functions now assigned to SAFECOM and establish those functions as a long-term program with adequate authority and funding.

In commenting on our July 2004 report, the Department of Homeland Security discussed actions the department is taking that are generally consistent with the intent of our recommendations but did not directly address specific steps detailed in our recommendations with respect to establishment of statewide bodies responsible for interoperable communications within the state, the development of comprehensive statewide interoperability plans, and tying federal funds for communications equipment directly to those statewide interoperable plans. OMB did not provide written comments on the draft report.

This concludes my prepared statement, Mr. Chairman. I would be pleased to answer any questions you or other members of the Subcommittee may have at this time.

GAO Contacts and Acknowledgments

For future contacts regarding this testimony, please call William O. Jenkins, Jr., Homeland Security and Justice Issues, at (202) 512-8777. Other individuals who made key contributions to this testimony include Katherine Davis, Sally Gilley, Robert Hadley, Latesha Love, Gary Malavenda, and Thomas James.

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