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STRATEGIES FOR STATES TO ACHIEVE PUBLIC SAFETY WIRELESS INTEROPERABILITY

Executive Summary

The lack of interoperable communications continues to be a serious, pressing public safety problem that severely undermines the ability of first responders to operate effectively during an emergency situation.[1] The events of September 11, 2001, and the recent events of Hurricanes Katrina and Rita emphasize the urgent need for public safety departments and other agencies, including police, firefighters, transportation operators, and public health officials, to communicate reliably and effectively with each other when called upon in a crisis. Federal, state, and local governments are making progress towards an improved communications system; however, there is much to be done to build collaboration and planning for disaster communications.

In order to achieve interoperability, public officials must continue to address the following:

- Incompatible and aging communications equipment.
- Limited and fragmented funding.
- Limited and fragmented planning.
- Lack of coordination and cooperation.
- Limited and fragmented radio spectrum.

Governors can play a critical role in meeting each of these challenges. They can provide the leadership to create statewide and regional communication interoperability capacity. This leadership can be exercised most effectively by employing the following strategies:

- Institutionalizing a governance structure that fosters collaborative planning among local, state, and federal government agencies. The Commonwealth of **Virginia** is an example of

a collaborative governance structure. The governance model consists of a fulltime Commonwealth Interoperability Coordinator within the Commonwealth Interoperability Coordinator's Office (CICO), the State Interoperability Executive Committee (SIEC) as established by Executive Order, and the State Interoperability Advisory Group. The SIEC and Advisory Group consist of state, local, and regional representatives.[2]

- Encouraging the development of flexible and open architecture and standards. For example, **Indiana** requires localities to use Project 25 standards before allocating funds toward their public safety needs. To date, Indiana has 69 active communications site, 16,000 registered users over 74 state, local, and federal agencies using a 800 MHz trunked voice and data system that is Project 25 compliant.[3]
- Supporting funding for public safety agencies that work to achieve interoperability and denying funding for agencies that do not include interoperable solutions. For example, **Minnesota** passed legislation that encourages state and local governments to share infrastructure instead of upgrading systems separately. The Minnesota Department of Transportation financed half the cost of the infrastructure, and the Metropolitan Radio Board funded the other half through 911 fee revenue bonds.[4]
- Supporting the efforts of the public safety community to work with the Federal Communications Commission (FCC) to allocate ample spectrum for public safety and create contiguous bands for public safety spectrum. For example, the **California** Statewide Interoperability Executive Committee (CALSIEC) administers that portion of the 700 MHz band designated as interoperability spectrum. California had an existing structure in the Governor's Office of Emergency Services (OES) to administer other existing state and

Lessons from the Field

Hurricane Katrina clearly demonstrated the need for interoperable communications at the state, local, and federal levels of government. In **Louisiana**, different levels of government used different radio systems. These different systems were only interoperable when a temporary bridge was set up. Both the state and New Orleans radio systems were quickly taxed as power generating equipment failed and forced emergency responders to use a limited number of mutual aid channels to communicate with each other. In many instances, first responders relied on runners and other technology free means of communication. (Source: *Hurricane Katrina Exposes Interoperability Failures-Highlights Need for Immediate Action* at http://www.firstresponsecoalition.org/docs/Katrina-issue-brief.pdf)

Even though Katrina highlighted a very complicated interoperability communications environment that included a complete shutdown of power in the hardest hit areas, there are examples of success with a temporary interoperable solution. The Charlottesville, **Virginia** Fire Company deployed its communication interoperability unit to respond to Hurricane Katrina. The unit connected to a

federally designated interoperability spectrum, within the context of the Master Mutual Aid system. Building on the existing structure, the Director of OES chartered CALSIEC, in 2003, to combine existing efforts and to provide a single committee to administer all interoperability spectrums in California.[5]

What is Interoperability?

Interoperability refers to the ability of public safety agencies— including law enforcement, firefighters, and emergency medical services—to share information using radio communication systems to exchange voice and/or data on demand, in real time, when needed, and as authorized.[6] A number of interoperable projects are underway in the states. Many of these projects are being implemented in urban areas where several different jurisdictions and levels of government may be involved. For example, in the Washington, DC, region there is the CapWIN project. CapWIN is a partnership between the State of **Maryland**, the Commonwealth of **Virginia**, and the District of Columbia to develop an interoperable first responder data communication and information sharing network. The various emergency responders have been training on equipment that links Virginia, Maryland, and the District of Columbia's law enforcement databases as well as providing secure access through multiple commercial wireless providers and instant messaging. This equipment will be used in a multi-jurisdictional emergency response event.

Challenges to Interoperability[7]

There are still many issues that need to be addressed to achieve interoperability among first responders. Five key issues underlie the current status of interoperability among public safety agencies in this country:

- incompatible and aging communications equipment;
- limited and fragmented funding;
- limited and fragmented planning;

- a lack of coordination and cooperation; and
- inadequate and fragmented radio spectrum.

The following section of this Issue Brief is largely paraphrased and quoted from, *"Why Can't We Talk? Working Together to Bridge the Communications Gap to Save Lives,"* produced by the National Task Force on Interoperability. The NGA Center for Best Practices, along with 17 other national associations, served on this task force to produce this guide for public officials on interoperability.

Incompatible and aging communications equipment

In many jurisdictions across the country, radio communication system infrastructure and equipment—towers, control and dispatch stations, handheld and mobile radios—are 20 to 40 years old. Antiquated systems and aging equipment escalate maintenance costs and reduce reliability for public safety agencies.

Public safety field personnel rely on their radios for assistance or backup in emergencies. Many radio systems are obsolete or will become obsolete as manufacturer support discontinues for older equipment. When systems deterioration results in an inability to exchange voice and data communications, field personnel are in danger and citizens are at risk, both in day-to-day and emergency operations.

Just as different computer operating systems will not work together or an AM receiver will not accept an FM signal, radio systems operating on different equipment and frequencies cannot communicate with one another. Moreover, some newer digital radio systems operate on unique proprietary software that prevents the exchange of voice or data communications even on the same radio frequency.

Examples of states addressing aging and incompatible communications equipment are Montana and Nebraska. In **Montana**, the radio infrastructure is between 10 and 30 years old, is unreliable, and has high maintenance costs. The end users' radios also are aging and have limited capability, thus limiting interoperability. Most of the state and local agencies operate in the VHF band in a conventional mode relying on simple mutual aid frequencies for interagency cooperation. Several state agencies have parallel statewide systems without standard interoperability.

Under the Southwest Interoperability Project and the Northern Tier Interoperability Project, Montana is deploying a system that combines P25 trunked and P25 digital and analogue

conventional technologies to provide interoperable communications that connect current user radios with newly procured digital radios.[8]

Nebraska recently launched a new multi-county interoperable communications system. The 10-county communications hub allows first responders and emergency-service providers in central Nebraska to share information across different radio systems. The new hub system uses radio and high-speed computer networks as a bridge allowing the counties to utilize existing equipment. The statewide communications plan calls for the continued development of similar regional radio network hubs that eventually will allow for a statewide system of interoperable communications without the expense of replacing communications equipment. The Central Nebraska Region for Interoperability (CNRI) allows each county to maintain control of local communications assets while tying together communications resources from participating counties under defined interoperability conditions.[9]

Limited and fragmented funding

In most cases, public safety agencies developed radio communication systems based on individual needs and on strategies that did not consider the need for interoperability. Today, public safety faces stiff competition for scarce resources. Efforts to secure funding for initiatives that cut across agencies and jurisdictions are undermined by the common practice of financing government functions on an agency-by-agency, jurisdiction-by-jurisdiction basis. Short-term strategies to incrementally improve existing radio communication systems with limited resources should be explored and developed. In addition, the cost of deploying the entire needed infrastructure in rural areas can be perceived as too high. Without political support, these areas may not receive the necessary funding.

States are beginning to take a holistic approach to funding interoperable communications projects. Instead of funding pieces of interoperable communications through agencies or jurisdictions, states are developing processes to integrate state and federal funding streams. One example is the Commonwealth of **Kentucky.** The Kentucky Wireless Interoperability Executive Committee (KWIEC) reviews all grant proposals, federal and state, involving data or voice communications equipment or projects. The KWIEC has a sub-committee that developed a comprehensive funding strategy and coordinates the funding to multiple jurisdictions and agencies to achieve common interoperability goals.

To augment limited federal funding, Kentucky passed a 70-cent Commercial Mobile Radio Service tax on cell phones. Eighty percent of the tax will go to local agencies for maintenance costs, and the State will receive 10 percent to create a grant fund for upgrades. The legislature also passed a law that enables any first responder to join the statewide data system without fees for maintenance or use of the system.

To help states fund interoperability initiatives, the Deficit Reduction Act of 2005 established the Digital Transition and Public Safety Fund. The Act mandates that U.S. broadcasters must end transmitting analog television signals and move to digital signals. This move will allow for the re-allocation of spectrum, 24 MHz, which will be used for public safety needs.[10] A billion dollars from the auction of the re-allocated spectrum will be used to establish an interoperability program. If proceeds from the spectrum auction are greater than $11.5 billion, an additional $500 million will be added to the interoperability fund.

Limited and fragmented planning

Interoperability planning is underfinanced and fragmented. Yet, without adequate planning, resources can be wasted and the necessary outcomes may not be achieved. The lack of coordination among funding streams made available for updating or replacing radio communications equipment also hampers overall interoperability. Different agency and community funding priorities and budget cycles exacerbate the problem. Without strategic planning, investments often are made in systems and equipment that are not interoperable. Agencies and jurisdictions also compete for limited federal funds, which can undermine the partnerships necessary for interoperability.

Prior to **Wyoming**'s development of a statewide interoperability plan, the state and local jurisdictions spent available funds--either through federal grants or state and local appropriations—to purchase communications equipment. The results were fragmented communication systems across the state, and interoperability was achieved either by swapping radios or carrying multiple radios that would work in neighboring jurisdictions.[11]

To address the problem of limited and fragmented planning, the Commonwealth of **Virginia** identified the need for one focal point to coordinate all of its interoperability planning efforts, in 2003. Governor Mark Warner, along with the Secretary of the Office of Public Safety and the Assistant for Commonwealth Preparedness, created the Commonwealth Interoperability Coordinator position. The Commonwealth Interoperability Coordinator created regional focus

groups designed to capture perspectives from local public safety representatives throughout the Commonwealth. The outcomes of these sessions formed the basis for a strategic planning session to define recommendations for the Commonwealth's key initiatives.[12]

Lack of coordination and cooperation

Despite the need for a coordinating body, many public safety agencies are reluctant to cede management and control of their communications systems because of disparate agency missions and jurisdictional responsibilities. Interoperability requires shared management, control, policies, and procedures. While it may appear to be a technical issue, interoperability has more to do with establishing trust and buy-in among stakeholders. In **Oregon**, each public safety agency owned its own independent communications system, but those systems were not coordinated or connected to neighboring systems or with a statewide system.[13]

The Nisqually earthquake in Washington underscored the shortcomings of standalone communication systems with little or no cooperation among responders. To address the lack of coordination and cooperation, the State of **Washington** developed a State Interoperability Executive Committee (SIEC). Washington's SIEC brings together decision makers from several governmental sectors with ultimate authority derived from the governor. Membership includes representatives from state, local, tribal, and federal agencies in addition to other stakeholders such as legislative representatives, information services, and procurement officials.[14]

Limited and fragmented radio spectrum

The FCC oversees spectrum management, and it has allocated certain frequencies for public safety. Spectrum is the amount of bandwidth available for all over-the-air communications, and it is a finite resource. An extremely limited amount of radio spectrum is reserved for public safety and is inadequate to accommodate the increasing number of electronic devices that require more and more spectrum to operate. In response, FCC has assigned additional frequency bands for public safety, which now operates in 10 separate bands. However, these allocated frequencies are scattered across the spectrum, making "ad hoc" technical solutions more difficult for different agencies and jurisdictions. As technology has advanced and improved, transmission at higher frequencies has become possible.[15]

There are two major spectrum management issues concerning the high-end frequencies. The 700 MHz radio spectrum allocated for public safety is blocked by ongoing television broadcast operations. The ability of public safety agencies to utilize the 700 MHz radio spectrum is established in the Deficit Reduction Act of 2005 (P.L. 109-362). Under the Deficit Reduction Act television broadcasters have to migrate from analogue service to digital service by February 18th, 2009, thus freeing bandwidth that will be re-allocated for public safety needs.[16]

While the 800 MHz band is being used by many state and local governments for interoperable radio communications systems, the band also faces growing interference problems from commercial radio. In addition to the interference problem, designated public safety channels already have been assigned to users in most major metropolitan areas, leaving little or no room for new system development or expansion of existing systems.[17]

The Commerce Department's National Telecommunications and Information Administration selected the **Washington, DC,** public safety wireless network to evaluate its effectiveness of sharing radio spectrum with state, local, and federal governments in time of emergencies.[18]

WARN is a pilot network run on an experimental license in the 700 MHz band provided by the FCC and is the nation's first city-wide broadband wireless public safety network. WARN consists of 12 radio sites and 200 network devices (i.e., PC cards) that facilitate wireless interconnection of local and

Governors as Catalysts

In 2005 **Kentucky** Governor Ernie Fletcher announced that Kentucky had been selected by DHS to take part in an interoperability pilot project to be conducted by the department's SAFECOM program. Representatives from SAFECOM and the Kentucky Office of Homeland Security (KOHS) have hosted nine regional meetings with first responders from all disciplines to identify their greatest needs. Among the issues that concerned first responders most was the need to achieve complete interoperability for all responders across the state and to streamline and upgrade 911 dispatch services. The governor then introduced legislation that would address many of the concerns raised regarding 911 dispatch services.

The governor also committed to appoint eight new members to the Kentucky Wireless Interoperability Executive Committee (KWIEC). The KWIEC was created to address communications interoperability, a homeland security issue which is critical to the ability of public safety first responders to communicate with each other by radio. The committee advises and makes recommendations regarding strategic wireless initiatives to achieve public safety voice and data communications interoperability.

Additionally, the governor directed Commonwealth Office of Technology Commissioner to establish a sub-working group within the KWIEC to partner with SAFECOM and KOHS to complete the pilot project's ultimate goal – to create a plan that will allow Kentucky to complete its statewide public safety communications and interoperability infrastructure. (Source: http://governor.ky.gov /mediaroom/pressreleases/02092006responders.htm)

federal public safety mobile devices throughout the District of Columbia. The system also provides broadband tools for city-wide remote surveillance, chemical and biological detection, and several other emergency related services.[19]

Strategies for Achieving Interoperability: The Role of the Governor

Governors can provide leadership and vision for creating statewide interoperable public safety wireless communications. As leaders, they can build support at the federal, state, and local levels for the necessary investment and coordination to achieve interoperability. One method of building broad based support is to create an all-inclusive executive committee to establish priorities and develop a funding strategy (see box for an example). States and local governments widely acknowledge the importance of interoperable communications investments, especially since the events of September 11th, and Hurricanes Katrina and Rita.

Furthermore, governors can use the following strategies to achieve statewide interoperability:

- Institutionalize a governance structure that fosters collaborative planning among local, state, and federal government agencies.
- Encourage the development of flexible and open architecture and standards.
- Support funding for public safety agencies that work to achieve interoperability and reject agency budgets that do not include interoperable solutions.
- Support the efforts of the public safety community in working with the FCC to allocate ample spectrum for public safety and create contiguous bands for public safety spectrum.

Institutionalize a governance structure that fosters collaborative planning among local, state, and federal government agencies

An effective governance structure is instrumental in expanding an interoperable communications system. Not only does it solidify relationships and bring various stakeholders to the table, but a governance structure provides a vehicle to explore innovative technologies and potential funding sources to achieve a given jurisdiction's vision of interoperability.

Providing local representation on the governance body and in interoperability planning is a critical. The state governance board that oversees the development of public safety wireless communications should include local public safety agency requirements for emergency communications. Local officials should be included in planning and decision making early.

States should consider a system that provides incentives to local agencies, as they are the most familiar with the needs of their first responders. For instance, if local agencies use the statewide infrastructure, they may not have to build their own infrastructure and the state may even purchase mobile radios for local police, fire, and EMS units. Creating a statewide plan that accommodates local needs and guarantees efficient use of resources is an effective strategy.

Florida's interoperability strategy has been, and continues to be, grass roots-based and reflects local, state, and federal interests. Each of the seven Regional Domestic Security Task Forces (RDSTFs) has an Interoperable Communications Committee that is open to all radio systems staff in the region. Individuals who are responsible for radio service to their users meet regularly to address short-term and long-term issues, build business relationships for interagency actions, and contribute to statewide discussions and actions.

The Domestic Security Oversight Board (DSOB) sets the overall direction and priorities for domestic security and related emergency management plans, actions and funding. Linking the DSOB to the local RDSTF local committees are the State Working Group and Florida Executive Interoperable Technologies Committee (FEITC).

In **Maryland**, the Maryland State Interoperability Executive Committee (SIEC) officially convened in 2005. The Maryland SIEC is a collaborative body of representatives from Maryland municipalities, counties, and state agencies. It reports to the Governance Working Group (GWG) and has three primary subcommittees: Operations Subcommittee, Administrative Subcommittee, and Technical Subcommittee. The SIEC is co-chaired by a representative from the counties and a state agency.[20]

Encourage the development of flexible and open architecture and standards

Interoperable communications systems designed on an open architecture that adheres to universally agreed upon standards allows for maximum flexibility and ease in linking disparate systems. There are numerous efforts underway to develop an established set of standards that can be accepted by both the public safety community and private industry. Some of the standards development works that are underway include:

Project 25 (P25) - In response to the lack of standards in wireless communications interoperability, APCO, an association of public safety agencies and private-sector companies, developed a digital standard for wireless communications users called “Project 25.” It was

developed under state, local, and federal government guidance and Telecommunications Industry Association (TIA) governance. P25 has become the set standard for interoperable digital two way wireless communication products and systems.

P25 has four primary objectives[21]:

- *Allow effective, efficient, and reliable intra agency and inter agency communications*
- *Ensure competition in system life cycle procurement*
- *Provide user- friendly equipment*
- *Improve radio spectrum efficiency*

To date, P25 systems are available and deployed globally. These standards provide states with needed guidance for procuring new land mobile radio systems following P25.

Although not all first responders are adopting "Project 25" because of investments they may have already made in equipment, it is a model that agencies can use when purchasing digital radios to achieve interoperable communications.[22]

Recent funding for interoperable communications available through the U.S. Department of Homeland Security (DHS) and the U.S. Department of Justice's Office of Community Oriented Policing Services (COPS) requires localities to use open-based standards when procuring equipment.

Department of Homeland Security's Statement of Requirements - In April 2004 the Department of Homeland Security's SAFECOM Program released a Statement of Requirements (SOR), in partnership with the National Institute of Justice's CommTech (formerly AGILE) Program for interoperability. The SOR defines future requirements for voice and data communications in day-to-day, task force, and mutual aid operations. This is a key component for states that then hire vendors to implement the equipment that will meet these requirements, thereby, installing a solution that will adhere to future trends in interoperable solutions.

The SOR was created using a "bottom up" approach incorporating input from public safety officials and commented on by 55 regional planning committees before release. SAFECOM submitted the SOR to a National Public Safety Telecommunications Council (NPSTC) working group for technical review and endorsement.[23]

Grant Guidance - The federal fiscal year 2006 appropriations makes grants available to address public safety's interoperable communications needs. To coordinate the way in which grant

funding is allocated, SAFECOM--with input from the public safety community--has developed general grant criteria.[24] The guidance outlines eligibility for grants, purposes of the grants, and guidelines for implementing wireless interoperable systems.

Industry Initiatives - Industry leaders also have assisted states in developing interoperable frameworks. For example, Motorola is working with **Florida** to develop an interoperable first responder system. Florida will be the using a solution called MOTOBRIDGE™ IP Interoperable Solution that will allow agencies at any level of government to talk with one another regardless of the type of systems or frequencies they normally use. In addition, private sector companies worked with public agencies and the Association of Public Safety Communications Officials – International, Inc. (APCO) to develop the standards set forth in P25.

Support funding for public safety agencies that work to achieve interoperability and reject agency budgets that do not include interoperable solutions

Optimizing the use of limited funding available is important in interoperability planning and implementation. States should develop strategies for governmental units to coordinate and share funding for common infrastructure and equipment. Likewise, state and local governments should ensure that homeland security funding designated for interoperable communications is spent effectively and efficiently through the coordination of statewide and regional plans. Several states use financial incentives to encourage and leverage cooperation and participation in interoperability initiatives.

Minnesota passed legislation that encourages state and local governments to share infrastructure instead of upgrading systems separately. The Minnesota Department of Transportation financed half the cost of the infrastructure, partly through general obligation bonds and partly with monies from the state's trunk highway fund. The other half of the capital costs came from the Metropolitan Radio Board through revenue bonds issued on its behalf by the Metropolitan Council. Debt service upon the bonds is provided from a commitment of 4 cents from the 9-1-1 surtax, which is collected monthly on all of the state's wired and wireless telephone lines.[25]

In the state of **Michigan**, the legislature approved funding to build the infrastructure for a statewide system. To attract local users, the state will fund all upgrades to the public safety communications system[26]. In **North Carolina**, the state is building the system infrastructure using state funds and the state's portion of the State Homeland Security Grant funds. Local agencies will be able to upgrade their communications system without infrastructure costs.[27]

Support the efforts of the public safety community to work with FCC to allocate ample spectrum for public safety and create contiguous bands for public safety spectrum

State and local governments are working with the FCC to find ways to bring public safety frequencies into contiguous bands. Governors have adopted a NGA policy urging Congress to revise provisions of the Balanced Budget Act of 1997 so radio spectrum for public safety is available to state and local governments as soon as possible.[28]

The 9/11 Commission report recommends that Congress should use the reconciliation process or any other legislative mechanism to mandate the re-allocation by the earliest possible date. Congress passed the Deficit Reduction Act of 2005 authorizing the FCC to terminate analog licenses and broadcasting by the television industry. The FCC will re-allocate 24 MHz of the available analog spectrum for public safety needs by February 18, 2009.[29]

The FCC has established an aggressive DTV implementation schedule to facilitate the availability of the band for public safety use. The FCC has also established the Public Safety National Coordination Committee (NCC) to provide recommendations on technical and operational standards. The FCC developed rules that permit the operation of trunked radio system below 512 MHz that can reduce crowding in large metropolitan areas. The National Telecommunications and Information Administration (NTIA) also has authorized additional frequencies in the 162-174 MHz bands to provide for interoperability and communications for emergencies.

However, the reallocation of 24 MHZ does not meet all existing and future telecommunications needs for public safety. The Public Safety Wireless Advisory Committee (PSWAC) states that 72.5 MHz will be required by 2010. Furthermore, the 9/11 Commission recently released a report outlining the status of the commission's recommendations. In that report "minimal progress" was made in providing adequate radio spectrum for first responders. Thus far, legislation has been introduced in the House and Senate to reallocate a portion of the analog broadcast spectrum for first responders and the National Association of Broadcasters has announced it will not oppose it.[30]

In addition, leading telecommunications companies that provide products and services for the public safety community also have been active in lobbying for spectrum allocation. Sprint Nextel Communications is working with the FCC to create a plan whereby the 700 MHz band will be reconfigured to allow public safety channels to be contiguous. This plan will exchange 16 megahertz of spectrum in the 700 MHz, 800 MHz, and 900 MHz bands for public safety use to

avoid interference and consolidate Sprint Nextel spectrum bands on a continuous spectrum in the 800 MHz band[31].

Conclusion

Governors are well positioned to provide the leadership to facilitate a process for improving statewide and regional public safety communications interoperability. Without a statewide plan that incorporates an intergovernmental approach with specific action and support, new investments in equipment and infrastructure can hinder interoperability.

While events such as September 11th and Hurricane Katrina are shocking, they have brought attention to a serious public safety problem and provided an opportunity to bring stakeholders together to focus on the need for different and more effective emergency responses. Though tools are available to achieve interoperability, it will take leadership and political will to provide the impetus to work through jurisdictional battles and to facilitate innovative policy and technical solutions.

Additional Resources

Federal Sources[32]

- SAFECOM is the umbrella program within the federal government that oversees initiatives and projects pertaining to public safety communications and interoperability. The program is managed by the Department of Homeland Security and is housed within the Science and Technology Directorate.
- The Web site for the Office of Justice Programs (OJP) Information Technology Initiatives offers guidance on both federal and private funding sources.
- The CommTech program from the National Institute of Justice (NIJ), which will work to inform SAFECOM's policy, coordination, and technology development activities.
- Local Law Enforcement Block Grants (LLEBGs) from the Bureau of Justice Assistance (BJA) can be used to procure equipment, technology, and other material directly related to basic law enforcement functions.
- The Office for Domestic Preparedness (ODP) Equipment Grant Program can be utilized to enhance the capacity of state jurisdictions to respond to, and to mitigate the consequences of incidents of domestic terrorism involving the use of weapons of mass

destruction (WMD). Communications equipment is part of the authorized equipment purchase list for these grants.

- The Science and Technology Directorate has established a new Office of Interoperability and Compatibility (OIC), which includes the Safe Communications program that was created to coordinate public safety communications to achieve national wireless interoperability. This office is charged with creating standards, in partnership with the public safety community, for communications, equipment, and training, to enable first responders from different jurisdictions to share information.[33]

Funding Opportunities

The House and Senate adopted a conference report that recommends $30.8 billion in discretionary funding for homeland security operations and activities. The 2006 Homeland Security Appropriations Act provides $26.5 million in funds for interoperability and compatibility initiatives.

- *Law Enforcement Terrorism Prevention Program (LETPP):* LETPP will provide law enforcement communities with funds to support information sharing to support interoperable communications. These funds may be used for planning, organization, training, exercises, and equipment, and will be administered by the respective State Administering Agency (SAA).[34]
- *Interoperable Communications Technical Assistance Program (ICTAP):* ICTAP is a technical assistance program designed to enhance interoperable communications between local, state, and federal emergency responders and public safety officials. The goal of ICTAP is to enable local public safety agencies to communicate as they work to prevent or to respond to a CBRNE (Chemical, Biological, Radiological, Nuclear, Explosive) terrorist attack. ICTAP leverages other federal, state, and local interoperability to enhance the overall capacity for agencies and individuals to communicate with one another. Grantees are encouraged to request ICTAP support should they need assistance in meeting the tactical interoperable communications requirement.[35]
- *Urban Area Security Initiative:* In 2004 alone, over $830 million was allocated to state, regional and local interoperability efforts through state and local grant programs. During 2005 and 2006, these efforts will be expanded to other cities participating in the Urban

Area Security Initiative. Interoperability will continue to be a major focus of state and local homeland security grants.[36]

- *Office of Interoperability and Compatibility (OIC)* within the Science & Technology Directorate will allow the Department to expand its leadership role in interoperable communications that could be used by every first responder agency in the country. The OIC currently has identified three program areas: communications, equipment, and training. With $20.5 million in FY 2006, the OIC will plan and begin to establish the training and equipment programs, as well as to continue existing communication interoperability efforts through the SAFECOM Program.[37]
- *Deficit Reduction Act of 2005:* The Act establishes a grant program, through the Department of Commerce in consultation with the Department of Homeland Security, to assist public safety agencies in the acquisition of, deployment of, or training for the use of interoperable communications. The program will allocate $1 billion through fiscal year 2010.[38]
- *DHS Grants and Training Office:* The 2006 Homeland Security Appropriations Act provides $26.5 million in funds for interoperability and compatibility initiatives. In addition, the Department of Homeland Security's Grants and Training Office has streamlined its grant application and reporting process by consolidating its grant program and application process.
- *"One Stop Shop" for Grants*: the Grants and Training Office has redesigned and streamlined its grant application and reporting processes, resulting in a much more efficient and effective process for distributing grant funding to the homeland security community. The Homeland Security Grant Program (HSGP) consolidated six programs into one application to better coordinate funding and administration. These programs included the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), Law Enforcement Terrorism Prevention Program (LETPP), Citizen Corps Program (CCP), Emergency Management Performance Grant (EMPG), and Metropolitan Medical Response System (MMRS).[39]

State Plans

Virginia

Virginia released its interoperable communications strategic plan. The Statewide Communications Interoperability Planning (SCIP) model will be used by the Department of Homeland Security as a best practice model for states to follow during their interoperable communications planning. The plan was drafted by Virginia's first responders using local experts to determine the mission, vision, and recommended initiatives to pursue. The key strategic goals of Virginia's communications interoperable plan are:

- Expand the statewide use of a common language and coordinated communication protocols.
- Increase interoperability capabilities and coordination by maximizing the use of existing communications systems and equipment and by planning for future technology purchases.
- Enhance the knowledge and proper use of existing and future communications equipment by providing frequent and routine training for public safety personnel.

Idaho

In August 2003, Idaho's Governor Dirk Kempthorne signed Executive Order 2003-07, creating the Idaho Statewide Interoperability Executive Council (SIEC). The SIEC's responsibility was to develop a statewide radio system that enables and improves real-time communication between all first responders. SIEC developed the I-C-A-WIN Concept-a concept plan for the development of a statewide emergency communications system.

The concept plan was created with the assistance of the NGA Center's Policy Academy on Wireless Interoperable Communications. The SIEC recommended that the state and localities begin immediate planning and implementation of a single Project 25 (P25) infrastructure to serve the communications needs of emergency responders.

Nevada

Nevada completed two years worth of work that culminated in the Communication Interoperability Plan. Nevada's interoperability plan is modeled in part on SAFECOM guidelines. The plan outlines a "Core Four" concept that capitalizes on existing on

communications systems investments already made by the four systems operations and connecting them through a virtual system. The initiative provides immediate interoperability improvement between all of the major systems through "trunked" systems. Nevada's interoperability plan emphasizes convergence over time, upgrading when equipment needs changing rather than a wholesale exchange of existing operational equipment in order to preserve existing investments. All new purchases are to conform to P25 standards.[40]

Kentucky

The Kentucky State-Wide Strategic Plan for Communications and Interoperability was a product of a series of regional focus group sessions and a strategic planning session held from September through December 2005 in the Commonwealth. During these planning sessions, Kentucky's public safety practitioners shared experiences and visions for improving public safety communications and interoperability statewide. The plan relies on a locally driven strategy, in which the knowledge and needs of local responders are drawn on to build the appropriate initiatives for improved emergency response.[41]

NGA Center for Best Practices Policy Academy

To foster statewide planning, the NGA Center selected five states (**Georgia**, **Idaho**, **Nevada,** **Louisiana**, and **Wisconsin**) to participate in the *2004 Public Safety Wireless Interoperability Policy Academy* with funding from the National Institute of Justice. The goal of the policy academy was to help governors and state and local policymakers develop a statewide interoperability plan that improves emergency response communications. Selected states participated in an intensive process that included in-state site visits, policy academy meetings, and customized technical assistance. In addition to working within their own teams, states collaborated with their peers and a faculty of government representatives, researchers, and experts.

The policy academy has been a catalyst for increasing the number of states involved in statewide planning activities that included local officials, fire, law enforcement, and emergency management. With the success of the 2004 Policy Academy the Department of Homeland Security SAFECOM Program provided additional funding for 2006/2007 academies. In 2006 states selected include **Alabama**, **Indiana**, **Minnesota**, **Montana**, and **Washington**. With the support of federal agencies, state and local practitioners, and national organizations, these states

have made considerable progress to improve interoperability among public safety agencies and first responders. Examples of the progress made by the Policy Academy are:

Georgia used the resources made available through the Policy Academy to complete its implementation plan. Georgia has also piloted a technical systems solution, procured an interoperable state system, and developed a requirements analysis document.

The **Idaho** Statewide Interoperability Executive Council (SIEC) developed the Idaho Cooperative Agencies' Wireless Interoperable Network (I-C-A-WIN) Concept plan for the development of a statewide emergency communications system. This is a major milestone towards setting a strategic course for implementation that includes consensus from the stakeholder group. The SIEC recommends that the state and localities begin immediate planning and implementation of a single Project 25 (P25) infrastructure to serve the communications needs of emergency responders. The plan outlined the concept by stating that the network created should leverage the State of Idaho's Microwave System investment; leverage the Idaho Bureau of Homeland Security's Master Site investment; and utilize all available spectrum including the newly available 700MHz.

With the assistance of the Policy Academy subject matter experts**, Louisiana** formed an advisory board called the Louisiana Totally Interoperable Environment (LATIE) User Group. This advisory board has identified a 700 MHz communications system which will support voice, data, imagery, and achieve interoperable communications among all participating jurisdictions. The Policy Academy also provided Louisiana examples of legislation formalizing an interoperability governance structure. From these examples, Louisiana developed and Governor Kathleen Babineaux Blanco signed, Executive Order 2006-17, which established the Statewide Interoperable Communication System Executive Committee.

Using grant funds and technical assistance provided by the Center. **Nevada** completed version 1.0 of its statewide communication interoperability plan. Furthermore, Nevada drafted an executive order, which Governor Kenny Guinn signed on July 13, 2005 that established the Nevada Communications Steering Committee with the mandate to facilitate the planning and implementation of interoperable communications within the state.

Drawing on the subject matter expertise and technical assistance provided by the Policy Academy, **Wisconsin** Governor Jim Doyle formally created the State Interoperability Executive Committee (SIEC) by executive order. The peer-to-peer interaction in the Policy Academy

allowed the Wisconsin team to gather information about other states' outreach plans and materials. From those plans and materials, the Wisconsin SIEC developed and released a brochure for dissemination to local policy makers, first responders, and other parties interested in the issue of public safety radio interoperability in the state of Wisconsin. Finally, the Wisconsin SIEC, with the assistance of the Policy Academy subject matter experts, drafted a Technical Plan to Support Statewide Interoperability and Functional Specifications for a proposed Wisconsin Public Safety Communications System.

Endnotes

1 Why Can't We Talk? Working Together to Bridge the Communications Gap to Save Lives," National Task Force on Interoperability, February 2003, Executive Summary. NGA served on the task force throughout 2002 and was involved in the preparation of this planning guide for public officials. Many of the ideas in this Issue Brief are drawn from the planning guide.

2 Commonwealth of Virginia's 2007 Strategic Plan available at http://www.interoperability.publicsafety.virginia.gov/pdfs/FY%2007%20Strategic%20Plan.doc

3 Project Hoosier Safe-T 2005 Annual Report available at http://www.in.gov/ipsc/safe-t/pdfs/AR2005.pdf

4 "Why Can't We Talk?," 18-19.

5 California SIEC Web site available at http://rimsinland.oes.ca.gov/calsiec.nsf/home?OpenForm

6 SAFECOM Web site available at www.safecomprogram.gov/SAFECOM/interoperabillity/default.htm

7 "Why Can't We Talk?" 15-21.

8 Montana Land Mobile Radio Deployment Requirement available at http://siec.mt.gov/docs/SIEC_I_O_Def_tech_req.doc

9 Governor Dave Heinemann's Press Release available at http://www.gov.state.ne.us/news/2006_02/10_first_responders.html

10 Deficit Reduction Act of 2005 available at http://www.govtrack.us/data/us/bills.text/109/s1932.pdf, 95- 101.

11 Wyolink Web site available at http://wyolink.state.wy.us/

12 SCIP Methodology Executive Summary available at http://www.safecomprogram.gov/NR/rdonlyres/C0327AC2-84ED-4E38-B9BE-04DDB09B45F9/0/VAExeSumFinal2.pdf

13 Oregon SIEC Brochure available at http://www.oregon.gov/SIEC/docs/SIEC_Publications/SIEC_Brochure.pdf

14 State of Washington SIEC Best Practice available at http://www.safecomprogram.gov/NR/rdonlyres/0005019D-4E1C-471B-9907-06482E323B4F/0/Washington_State_SIEC_Best_Practices_Guide.pdf

15 "Why Can't We Talk?" 21.

16 Deficit Reduction Act of 2005 available at http://www.govtrack.us/data/us/bills.text/109/s1932.pdf, 95-101.

17 "Why Can't We Talk?" 54.

18 NTIA Press Release available at http://www.ntia.doc.gov/ntiahome/press/2006/publicsafety_042506.htm

19 Wireless Accelerated Responder Network Web site available at http://www.octo.dc.gov/octo/cwp/view,a,1304,q,628505,octoNav,%7C32780%7C,.asp

20 Maryland SIEC Web site available at http://www.gov.state.md.us/gohs/SIEC/about_seic.htm

21 Project 25 Technology Interest Group available at www.project25.org

22 APCO International and Project 25 Web sites available at http://www.apco911.org/ and http://www.project25.org/pages/archive.htm

23 Statement of Requirements for Public Safety Wireless Communications and Interoperability. SAFECOM Program, Department of Homeland Security. Version 1.0, March 10, 2004.

24 SAFECOM Grant Guidance available at www.safecomprogram.gov/NR/rdonlyres/CCC6FF72-A366-4390-8208-34FCF28D7C3E/0/GRANTGUIDANCEFY06FINAL.doc

25 “Why Can’t We Talk?,” 18-19.

26 Michigan Public Safety Communications System Web site available at http://www.michigan.gov/mpscs/0,1607,7-184-25408-71405--,00.html

27 State of North Carolina Interoperable Communications System Web site available at http://www.nccrimecontrol.org/Index2.cfm?a=000001,001148,001150

28 NGA Policy Position EDC-8.3, adopted July 2002.

29 Deficit Reduction Act of 2005 available at http://www.govtrack.us/data/us/bills.text/109/s1932.pdf, 95-101.

30 Report on the Status of 9/11 Commission Recommendations. September 14, 2005 available at http://www.9-11pdp.org/press/2005-12-05_report.pdf

31 http://www.dailywireless.org/modules.php?name=News&file=article&sid=2788

32 Volume Two: Homeland Security: A Governor’s Guide to Emergency Management, p. 39.

33 White House Office of Management and Budget FY 06 Budget Priorities- Homeland Security

34 Department of Justice, http://www.ojp.usdoj.gov/odp/docs/fy05hsgp.pdf

35 Department of Justice, http://www.ojp.usdoj.gov/odp/docs/fy05hsgp.pdf

36 The White House, www.whitehouse.gov/omb/budget/fy2006/dhs.html

37 Department of Homeland Security, Office of Interoperability and Compatibility, http://www.dhs.gov/dhspublic/interapp/press_release/press_release_0529.xml

38 Deficit Reduction Act of 2005 available at http://www.govtrack.us/data/us/bills.text/109/s1932.pdf, 95-101.

39 Department of Homeland Security, http://www.dhs.gov/interweb/assetlibrary/Budget_BIB-FY2006.pdf

40 Nevada Communication Interoperability Plan- Ver 1.0. Nevada Communications Steering Committee. June 28, 2005 available at http://nitoc.nv.gov//ncsc/DocsOfInterest/2005-06-30-InteroperabilityPlanVer1.pdf

41 Kentucky’s Statewide Interoperability Plan available at http://www.safecomprogram.gov/NR/rdonlyres/AE100D0D-1A09-4947-9213-DD4FA3A6AC54/0/KYStatewideStrategicPlanFINALJune20062.pdf