



---

*Saving Lives and Property Through Improved Interoperability*

***National Interoperability Forum  
Summary Report***

**FINAL**

**November 2001**

The Public Safety Wireless Network (PSWN) Program and the National Institute of Justice co-sponsored the 2001 National Public Safety Wireless Interoperability Forum. The forum was held October 2-3, in Washington, DC. More than 100 elected and appointed officials and public safety executives came together in the Nation's capital to discuss the challenges to, and potential solutions for, public safety communications interoperability—the ability of the Nation's public safety responders to communicate via two-way radio during emergencies.

During the forum, participants learned about key obstacles to public safety communications interoperability. They also heard firsthand accounts of interoperability experiences from their peers in public safety and public service. The most important activity of the forum, however, was the opportunity for elected and appointed officials from local and state jurisdictions and federal agencies to share ideas and begin to develop actionable strategies with which to improve interoperability.

We believe that the forum filled an immediate need—raising the awareness of elected officials and senior public safety executives on the issue and bringing them together to work collaboratively on how to get involved. In many instances, the forum confirmed the objectives and activities that the PSWN Program and the AGILE Program have led to plan and foster interoperability among public safety wireless networks. For example, the participants identified the need for a national interoperability strategy. Fortunately, the PSWN Program has created, and made available, such a strategy in the form of the Public Safety WINS: Wireless Interoperability National Strategy.

This summary, which reflects the discussions and ideas of the forum participants, provides information that senior-level policy makers and associations that lead policy development can use to take action. These actions can be taken individually or collectively, to ensure that public safety wireless communications interoperability remains a high priority and an integral part of national security.

Sincerely,



Robert E. Lee, Jr.  
PSWN Program Manager  
Department of Justice



Julio R. Murphy  
PSWN Program Manager  
Department of the Treasury

## Public Safety Officials Cannot Communicate: The Basics of Interoperability

The Nation's police officers, firefighters, emergency medical services, and other public safety personnel cannot always depend on wireless radio communications to provide the seamless exchange of information they need. This lack of *interoperability* between agencies can severely hinder public safety workers in providing a coordinated response to natural disasters, catastrophic accidents, or criminal incidents.

Interoperability is the ability of public safety personnel to communicate by radio with staff from other agencies, on demand and in real time.

During the forum, attendees were briefed on the basics of wireless communications interoperability. Harlin McEwen, retired Chief of Police of Ithaca, New York, provided an overview to forum participants in a presentation entitled *Communications Interoperability 101*.

The problem of interoperability has evolved over time. In the past, public safety radio systems operated in a common analog mode, generally in the same frequency band, making it relatively easy to communicate. However, as a result of the increasing need for spectrum, public safety radio frequencies became spread across many different bands. Furthermore, new developments in technology (e.g., trunking) introduced problems because equipment manufacturers began to use proprietary systems protocols that made it

### Why Is Interoperability Important to Elected and Appointed Officials?

- Helps protect lives and property of constituents
- Ensures effective public safety operations
- Saves tax-payer money

difficult to “talk” with systems with equipment from another vendor. To make matters worse, vendors did not develop open standards for these radio systems, limiting public safety agencies choices in the marketplace and adding cost. These problems not only affect voice communications, but also the growing area of mobile data communications.

Fortunately, government leaders and the public safety community have begun efforts to improve interoperability. In 1997, the Congress recognized the need to meet some of public safety's spectrum needs by allocating an additional 24 megahertz (MHz) of spectrum in the 700 MHz band. Further, the Federal Government has established programs, such as the Public Safety Wireless Network (PSWN) Program and the Advanced Generation for Interoperability of Law Enforcement (AGILE) Program to provide leadership on interoperability issues.

Local and state government officials have been working to develop single, shared systems that allow interoperability between all participants on the system. These elected and appointed officials have also been working through their associations to promote the issues of interoperability. Additionally, the public safety community has been working to define standards for land mobile radio equipment. However, despite all of this activity, much work remains to be done.

### Tough Questions About Interoperability

- Should a single entity manage public safety spectrum?
- Can government exert more influence in the standards process?
- Should there be a nationwide purchasing alliance to obtain cost competition?
- Where should funding for interoperability come from?

## Government Leaders Issue a Call for Action

Congressman Curt Weldon, U.S. Representative, Seventh Congressional District, Commonwealth of Pennsylvania, gave the forum's keynote address. His participation continued his leadership in advising the current administration and the Congress regarding an important constitutional responsibility—national security. Congressman Weldon, the current chair of the Armed Services Readiness Subcommittee, noted that the country was not adequately prepared for communications during times of crisis. Similarly, he noted that our Nation's domestic defenders, the public safety community, were equally unprepared for communications during crisis. In his address, Congressman Weldon noted several actionable steps the forum participants could take to improve interoperability—

- Ask tough questions of your legislature on the preparedness of their jurisdiction's communications interoperability and raise the legislators' awareness of this important issue.
- Brief key congressional staffers on the issue and "demand that the needs" of their jurisdiction or region are addressed.
- Work with congressional staff and the Congressional Fire Services Institute (CFSI) to raise awareness of the issue of communications interoperability.
- Raise your voices now, stating that, "if there was ever a time that the country was listening, that time is now."

Other prominent elected officials and public safety executives reiterated the importance of wireless communications interoperability to the forum participants. Presentations included—

- Ms. Suzanne Peck, Chief Technology Officer, District of Columbia, outlined the District's efforts to use commercial and private radio communications systems to ensure communications interoperability within the city as well as with responding local, state, and federal public safety agencies in the Washington metropolitan region.
- Former Oklahoma City Council member Mark Schwartz introduced a summary video, "*Why Can't We Talk When Lives Are at Stake?*" to explain the issues and problems surrounding public safety radio communications. Mr. Schwartz emphasized that local agencies are the frontline response in emergency situations.
- Oklahoma City Council member Ann Simank presented her firsthand experience as an elected official responding to the April 19, 1995, bombing of the Alfred P. Murrah Federal Building. She noted that 26,000 public safety responders needed to communicate during the ensuing aftermath and that interoperability depended on "runners" who passed key messages between agencies.
- Colonel Michael Robinson, Director, Michigan State Police, stressed the importance of coordination between all levels of government to develop wide area interoperability.
- Mr. Steve Proctor, Executive Director, Utah Communications Agency Network (UCAN), summarized elements of *Public Safety WINS: Wireless Interoperability National Strategy*, which provides technical and policy solutions for improving interoperability.

## Challenges to Wireless Interoperability

The National Interoperability Forum afforded attendees an opportunity to work in small groups to further explore the challenges preventing widespread interoperability among public safety wireless systems. The forum participants were randomly divided into groups containing a mix of local and state elected and appointed officials and staffers, public safety executives, and association representatives. These groups met in facilitated working groups to identify and prioritize key challenges to communications interoperability.

Each group had vibrant discussions in four topic areas: coordination and partnerships, funding, spectrum, and standards. Despite being located in five different rooms, the groups agreed on many of the same challenges. A summary of the results of the working groups is provided below and shown in Table 1.

In terms of coordination and partnerships, participants recognized the disastrous

implications of “turf wars” that have long stymied cooperation between different public safety agencies. Forum attendees also said they believed that there was no national leader offering clear strategies for how to improve wireless interoperability.

Working groups surmised that selling radio systems to government leaders is difficult because of a lack of understanding of the cost/benefit tradeoffs. Additionally, they acknowledged that funding streams from the Federal Government are extremely fragmented. Furthermore, the public safety marketplace is also fragmented, limiting the community’s ability to leverage its size for purchasing power.

Public safety spectrum was widely believed to be a low priority. In addition, it was noted that public safety must compete with commercial interests that had more money and savvy in gaining access to spectrum. Participants also noted that the Federal Communications Commission (FCC) had not been effective in planning and managing spectrum.

As for technical standards that would allow equipment from different vendors to work together, participants stated that there were currently no incentives for vendors to develop such equipment. Furthermore, the process could be extremely slow.

TABLE 1	KEY CHALLENGES
<b>Coordination and Partnerships</b>	<ul style="list-style-type: none"> <li>▪ Long-standing “turf” issues.</li> <li>▪ No recognized national leader or interoperability issue</li> <li>▪ Lack of interoperability planning</li> </ul>
<b>Spectrum</b>	<ul style="list-style-type: none"> <li>▪ Public safety radio spectrum is in short supply</li> <li>▪ Direct competition with powerful commercial interests</li> <li>▪ Lack of understanding of the spectrum issue by policy makers and the public</li> <li>▪ No leadership in the regulatory arena</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>▪ Difficult to “sell” to government executives.</li> <li>▪ The public safety wireless infrastructure estimated at \$18 B</li> <li>▪ Federal funding streams are fragmented</li> <li>▪ Agencies cannot leverage combined purchasing power.</li> <li>▪ Competition with other important government projects.</li> </ul>
<b>Standards and Technology</b>	<ul style="list-style-type: none"> <li>▪ Neighboring areas have incompatible equipment from different vendors</li> <li>▪ Standards development lacks support and funding</li> <li>▪ The standards process is slow</li> <li>▪ No incentives for the vendors to adhere to standards</li> </ul>

## Strategies to Improve Wireless Interoperability

*“With the exception of those in public safety communications, the level of understanding of these issues from state government perspective is non-existent. The content of this forum, paired with partnerships outlined and strategies developed, will greatly assist my agency to bring these issues to appropriate persons and agencies in my state.”* <sup>3/4</sup>State Telecommunications Official

The purpose of the second working group session was to identify and prioritize actions and strategies that would help overcome the key challenges to interoperability that were discussed during the first working group session. Attendees reconvened in the same working groups to begin developing strategies and actions to overcome the challenges to wireless interoperability.

Each group had an opportunity to brief the entire forum on its proposed strategies. There was agreement across the groups regarding several high-level strategies. Taken together, these strategies form an actionable agenda for Members of Congress, local and state elected and appointed officials, public safety executives, representative associations, and federal executive programs.

### Leadership Strategies

- Fund federal programs providing leadership on interoperability issues
- Support the appointment of a Director of Public Safety Communications or the formation of an Interoperability Assistance Administration under the Office of Homeland Security
- Develop an interoperability white paper authored by governors and delivered to the President
- Promote a national strategy with coherent direction and best practices for improving communications interoperability
- Identify and develop interoperability “champions” at all levels of government

### Funding Strategies

- Develop policy statements that encourage seed funding for planning interoperable systems
- Encourage Federal Government to tie funding incentives for local and state jurisdictions to efforts that support communications interoperability
- Create state and local consortium for collective procurements to leverage combined purchasing power
- Identify sustainable funding sources that can be used throughout the life cycle of public safety wireless communications systems

### Spectrum Strategies

- Develop a joint resolution to deliver to the U.S. Congress requesting additional frequency blocks for public safety use
- Deepen involvement by associations of elected and appointed officials and public safety executives across key spectrum issues
- Form a committee to study the feasibility of leasing spectrum for public safety use

### Standards Strategies

- Raise awareness about the relevance of standards and help to broaden user input in the standards decision-making process
- Provide incentive to manufacturers to adhere to available standards
- Streamline the standards development process

## “Now the Real Work Begins...”

The 2001 National Interoperability Forum successfully highlighted public safety wireless communications interoperability as a priority national concern. The 100 elected and appointed officials and public safety executives who were brought together to begin addressing this critical issue took the first steps in solving the interoperability problem—they not only identified many of the problem’s root causes, but also the types of actions needed to work these problems. In doing so, participants have prepared themselves as leaders on the issue.

It is imperative that the attendees not let the strategies they discussed in this forum go unused. The attendees play a key role in spreading the messages of this forum. Participants are urged to step up and lead actions that promote interoperability. Key to this “leadership challenge” is the ability of the audience to *challenge current processes* and *envision a better way* of doing business. Whether it means challenging how spectrum is allocated or asking within a

region or jurisdiction to explain why they do not interoperate, forum attendees must take action. As a result, leaders can, and should work, to *model a way* that supports communications interoperability. Whether it is requiring interoperability to be part of all new or replacement radio communications systems or setting up collaborative committees to monitor and manage the implementation of these systems. Leaders must set a new standard for communications systems—interoperability is not optional.

Attendees can take these issues to their respective associations, peers, state legislators, and the Congress. Through these and other means, they can work for action. Fortunately, forum attendees have many resources available to help them in their endeavors including the resources of the PSWN Program ([www.pswn.gov](http://www.pswn.gov)) and the AGILE program ([www.agileprogram.org](http://www.agileprogram.org)). Only by working together will this issue be resolved.

## National Interoperability Forum Overview

The 2001 National Public Safety Wireless Interoperability Forum was held October 2–3, 2001, at the Georgetown University Conference Center in Washington, DC. The goal of the forum was to—

- Engage policy makers at all levels of government
- Elevate the issue of public safety wireless communications to the national level
- Create an actionable plan to address the issue in a collaborative way.

The forum brought together more than 100 public safety executives and elected and appointed officials from all levels of government (local, state, federal, and tribal) to discuss challenges and solutions to interoperability. The forum consisted of three primary components spread over the 2-day conference:

- Plenary sessions where attendees learned about the basics of public safety wireless communications interoperability and gained a clear understanding of the current policy challenges that prevent widespread interoperability
- A working group session to discuss the key challenges to interoperability and identify the potential root causes of these challenges
- A second working group session to identify actionable strategies attendees and their associations can take to work toward resolution of the key challenges and raise wireless interoperability as a national priority.

### Hosted By:

The PSWN Program is an initiative jointly sponsored by the U.S. Department of Justice and the U.S. Department of the Treasury. The program has been in existence since 1996 and has developed a Public Safety WINS: Wireless Interoperability National Strategy. The strategy presents the PSWN Program's policy approach for improving communications interoperability among public safety wireless networks around the Nation. You can contact the PSWN Program at 1-800-565-PSWN or via e-mail at [information@pswn.gov](mailto:information@pswn.gov).

The AGILE Program is a National Institute of Justice (NIJ) initiative to develop a focused, comprehensive program to address interoperability. The AGILE Program was created in 1998 to pull together all of the interoperability projects currently under way at NIJ. AGILE's strategy consists of a three-pronged approach that addresses both short-term (interim) interoperability solutions and long-term interoperability implemented through standardization encompassing wireless communications and information technology applications.

The 2001 National Public Safety Wireless Interoperability Forum was held with the support of the following organizations of elected and appointed officials and public safety executives:

- Association of Public Safety Communications Officials International, Inc.
- International Association of Chiefs of Police
- International Association of Fire Chiefs
- International City/County Management Association
- National Association of Counties
- National Association of State Chief Information Officers
- National Association of State Emergency Medical Services Directors
- National Conference of State Legislatures
- National Criminal Justice Association
- National Emergency Management Association
- National Governors Association Center for Best Practices
- National League of Cities
- National Public Safety Telecommunications Council
- National Sheriffs' Association
- Public Technologies, Inc.
- The Council of State Governments
- The United States Conference of Mayors