



Saving Lives and Property Through Improved Interoperability

***State and Local Interoperability Assistance
Support—
Statewide Strategy Best Practices Report***

FINAL

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EXECUTIVE SUMMARY

The Public Safety Wireless Network (PSWN) Program recently completed interoperability assistance efforts in the states of Mississippi, Tennessee, and West Virginia. As part of this assistance, the program provided strategy-based assistance tailored to meet the unique needs of each state. This report captures the key findings of the strategic approaches that were used by each of these three states. Although this report only highlights the strategic approaches of the states of Mississippi, Tennessee, and West Virginia, the actions, strategies, and best practices can be tailored for any state or region seeking to improve interoperable communications. The actionable best practices derived from the analysis of the strategy-based assistance provided to these states included—

- Comprehensively develop political and stakeholder support
- Centralize coordination among multiple agencies through a formal committee
- Formalize coordination committees through executive orders, charters, or memorandums of understanding
- Emphasize coordination, partnership, and asset sharing
- Conduct detailed analysis of current needs and capabilities while planning future developments
- Prepare and provide a wide range of educational materials to stakeholders and decision-makers
- Sponsor communications and interoperability forums where officials can learn about current challenges and plans, provide input into the process, or learn how to get involved
- Solicit input from all interested parties or entities throughout the coordination, planning, and project processes
- Examine the successful strategies of similar states or regions.

These initial strategy best practices are provided to educate and assist other state and regional public safety officials or decision makers as they embark on their own strategy-based activities. As it completes ongoing interoperability assistance efforts in other states, the PSWN Program may identify and present additional strategy best practices to the public safety community. Similarly, funding best practices derived from PSWN Program interoperability assistance efforts in the states of Alaska, Arizona, and Wyoming can be found in the “Federal Interoperability Assistance Support—Funding Strategy Best Practices Report,” located within the library section of the PSWN Program Web site (www.pswn.gov).

1. INTRODUCTION

Developing successful strategies for the improvement or implementation of interoperable public safety communications systems is a lengthy and complex task. Efforts to improve interoperability require a delicate balance of technical, organizational, political, and fiscal approaches. Once assembled in aggregate, the overall mixture of approaches, solutions, plans, and timelines leads to a complete strategy for communications system development and interoperability. To assist the public safety community in this critical activity, the Public Safety Wireless Network (PSWN) Program collected and categorized best practices and lessons learned regarding system planning and interoperability strategy development based on three recently completed interoperability assistance projects related to wireless system development strategy.

1.1 Purpose

This report presents best practices and lessons learned applicable to any state or region seeking to form a system development and interoperability strategy. The report also serves to educate public safety officials and decision makers on the need for, and process of, developing successful strategies related to the planning and implementation of enhanced communications systems and interoperability for public safety.

1.2 Background

The PSWN Program's *Statewide Strategy Best Practices Report* examines tactics and strategies used or observed during the PSWN Program's recently completed interoperability assistance efforts conducted in Mississippi, Tennessee, and West Virginia (see Figure 1). As part of this assistance, the program provided strategic support tailored to meet the unique needs of each state as each state's officials worked to form initial system planning and development strategies. However, the actions, strategies, and best practices described in this guide can be tailored for any state or region seeking to assemble strategies focused on improving interoperable wireless public safety communications.

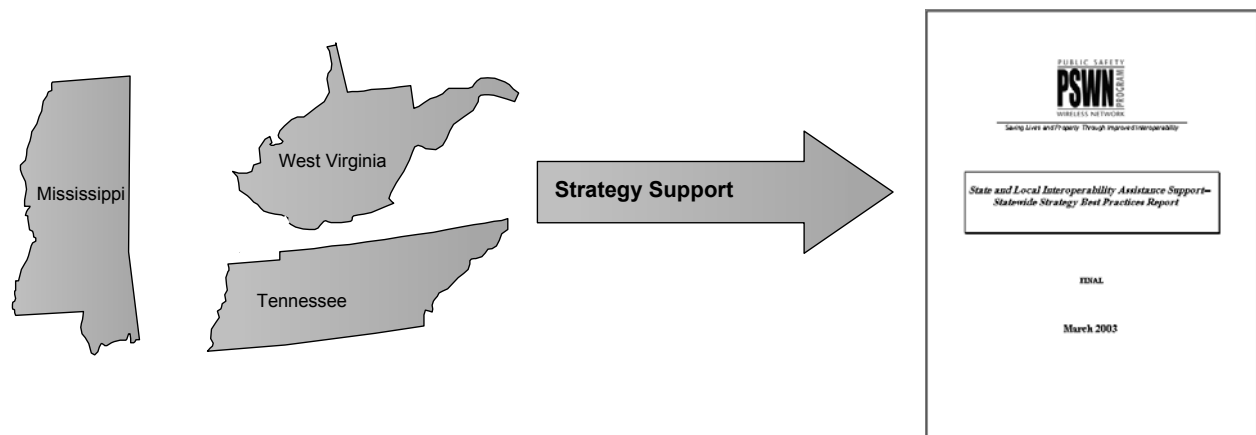


Figure 1
Strategy Best Practices Adaptation

In Mississippi, state officials formed two distinct and separate “committee-like” groups working on public safety communications-related issues. Although the Mississippi Telecommunication Committee (MTC) had been in existence for some time to examine the long-term communications system needs across state agencies, the Mississippi Homeland Security Interoperable Communications Task Force was formed by the governor shortly after the terrorist attacks in the fall of 2001 to examine near-term needs associated with homeland security-related communications. While each group focused on distinctly different time frames and, therefore, different solution concepts (e.g., new shared systems versus connecting existing systems), their efforts were largely complementary to each other. PSWN Program support in Mississippi focused on forming a coordinated system development and interoperability body for the state (i.e., state interoperability executive committee [SIEC]), educating involved or affected officials on the issues surrounding interoperability, and developing the framework for a statewide system development and interoperability plan.

In Tennessee, the Mobile Communications Alliance Team (MOCAT) is tasked with providing policy-level direction for matters related to planning, designing, funding, implementing, and governing a shared communications system. MOCAT membership is composed of representatives from participating federal, state, and local agencies, public utilities, and public safety and fire/emergency medical services (EMS) associations. PSWN Program support to the MOCAT was designed to help the state formalize MOCAT as a centralized coordination and planning body and develop initial support for improved interoperable communications across levels of government and public safety-related disciplines. Specifically, the support consisted of executive meeting support, strategy development, regional technical assistance, and a one-day public safety communications symposium.

In West Virginia, state officials in many state agencies were planning system upgrades or replacement on a largely independent basis. Traditionally, interoperability in West Virginia was possible due to the prevalence of legacy conventional systems operating in the very high frequency (VHF) band. The possibility of multiple stovepipe systems being replaced by newer potentially incompatible systems caused many state officials to pause and consider more detailed planning. PSWN Program support in West Virginia was focused on centralized, statewide strategy development and consisted of system development strategy guidance, centralized coordination committee (i.e., SIEC) formation and education, and pre-planning survey design and analysis.

1.3 Approach

The strategy best practices described in this report were derived from an analysis of the strategy-based assistance that the PSWN Program provided to Mississippi, Tennessee, and West Virginia. As depicted in Figure 2, a three-step approach was used to develop this report. The initial step was to identify the best practices and lessons learned, specific to strategy development, from the assistance provided to each state. This step involved examining the interoperability assistance compilation report materials to identify the strategies used to improve interoperable wireless communications and capturing the observations of PSWN Program team members from each project. In the second step, assessment and analysis, the best practices and lessons learned were compared among the three states so that commonalities could be extracted, grouped, and analyzed. Finally, during the best practices development, the program developed actionable lessons learned and provided detailed explanations of the identified best practices.

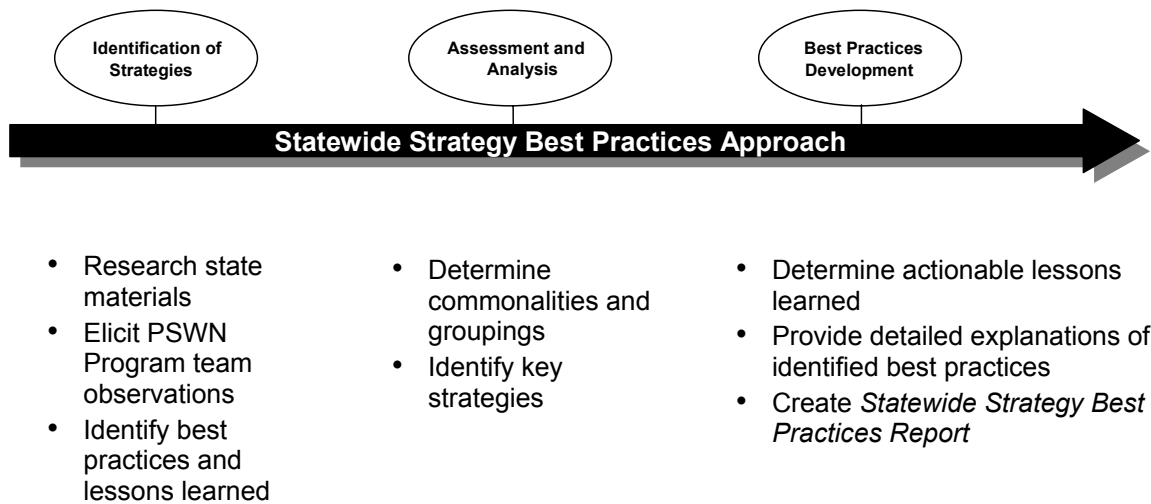


Figure 2
Strategy Best Practices Approach

2. KEY FINDINGS

Based on the observations of PSWN Program team members from each assistance project and a review of the interoperability assistance compilation report materials developed for the states of Mississippi, Tennessee, and West Virginia, the PSWN Program identified the key elements of strategies and strategy development associated with communications systems development and interoperability. Table 1 provides a listing of the key findings, grouped into logical categories and denotes in which of the states each finding was observed. From the comparison established in the table, commonalties can be determined across the individual state’s strategies. These common strategies will form the basis for the best practice development.

**Table 1
Strategy Key Findings**

Strategy Key Findings	Mississippi	Tennessee	West Virginia
Cultivated Political and Stakeholder Support			
Executive Briefings	✓	✓	✓
Executive Input Solicitation	✓	✓	✓
“Open” Meetings	✓	✓	✓
Identification of Areas Where Stakeholder Knowledge was Fundamental but Lacking	✓		
Determined System Planning Requirements			
Similar States/Regions Review	✓	✓	✓
Strategic Planning and/or Framework Development	✓	✓	
Commonalities Across Agencies Examined	✓		✓
Current Wireless Capabilities and Future Needs Identification	✓	✓	✓
Detailed Findings from Results of Survey	✓	✓	✓
Provided Education to Groups Within the State			
Interaction with Broader Group of Member Entities			✓
Meeting Agenda and Note Distribution	✓	✓	✓
Educational Briefings		✓	
Interoperability Conference	✓	✓	
Coordinated Support Across Entities			
State Interoperability Executive Committee-type Organization	✓	✓	✓
Official Documentation to Formalize State Committee	✓	✓	✓
Regular Member/Stakeholder Meetings	✓	✓	✓
Participation by Critical Infrastructure Operators		✓	
Participation by Agencies Across Levels of Government and Public Safety-related Disciplines	✓	✓	✓
Information About Current LMR Fiscal Resources or Expenditures per Agency Shared			✓

3. STRATEGY BEST PRACTICES

This section describes, in detail, the strategy best practices that any state or region can use to assist in obtaining support for their wireless communications system. These actionable best practices are derived from the common strategies identified across the states of Mississippi, Tennessee, and West Virginia. Specific state examples further illustrate the effectiveness of these best practices.

- **Cultivate Political and Stakeholder Support.** Cultivating the support of key political leaders and stakeholders is critical to the success of any initiative to improve interoperable public safety wireless communications. Communications projects are generally expensive, labor intensive, and time consuming. As such, they typically compete with other projects for priority on a state’s agenda, so it is vital that projects of this nature have dynamic and proactive champions that are willing to support the project through each phase. Similarly, stakeholder support is necessary from concept to completion so that the solutions implemented are suitable for the widest user base possible.
 - In Mississippi—
 - » Officials have involved key political leaders and stakeholders in each of their system development efforts since their inception.
 - » The Department of Transportation (DOT) began conducting a statewide needs analysis for a new LMR system and has regularly reported their progress to the board of transportation commissioners.
 - » DOT asked myriad state agencies to participate in the needs analysis itself so that a shared system concept could be fully explored.
 - » Officials determined specific areas (e.g., standards) where stakeholder knowledge would be critical moving forward so that specific educational materials (e.g., PSWN Program publications) could be requested and distributed.
 - » Executives developed specific briefings that explained interoperability issues, their impact to the state, and recommended actions for making progress (e.g., establishing an SIEC).
 - In Tennessee—
 - » Officials developed a briefing addressing the mission and goals of the MOCAT that targeted key members of various state agencies– the Tennessee Valley Authority (TVA), the Office of the Governor, and the Tennessee Homeland Security Council.

- In West Virginia—
 - » Officials included relevant state executives in early discussions regarding the potential opportunity to create an SIEC.
 - » Officials developed a short briefing describing SIECs and their role in statewide system development to accompany the draft executive order submitted to Governor Wise for signature.
 - » Executives developed specific briefings that explained interoperability issues, their impact to the state, and recommended actions for making progress (e.g., establishing an SIEC).
- In all three states—
 - » The most frequent method of stakeholder inclusion is actively encouraging all interested parties to attend meetings focused on system development and interoperability issues and provide input along the way.
- **Determine System(s) Planning Requirements.** Before beginning the design, procurement, or implementation phases of a communications project, it is important to conduct a detailed assessment of current and future systems needs and requirements. Although this process may be time consuming and could require hiring an outside consultant, conducting these activities at the outset of the project will help to save money throughout the life cycle of the system. Additionally, when attempting to gain the support of the legislature and other key decision makers, it can be beneficial to show that the project team has comprehensively studied and determined system requirements, while capitalizing on commonalities across agencies and opportunities for partnerships.
- In Mississippi—
 - » Officials involved in the working group that drafted an executive order for the formation of the Mississippi SIEC included language that can be used as a framework for developing a detailed statewide interoperability plan, thereby giving detailed guidance to the eventual membership of the SIEC.
 - » The DOT hired a consultant to conduct a detailed statewide needs assessment specific to state agencies.
 - » The study should provide state officials with a detailed understanding of current LMR resources and agency-specific LMR requirements and recommend specific system development actions.

- In Tennessee—
 - » Officials involved in the MOCAT partnership conducted strategic planning sessions early in the effort as a way of finding common interests and concerns across partner agencies, developing relationships among participants, and setting measurable goals for the overall partnership effort.
 - » Work group members developed a survey to identify the current wireless capabilities and future wireless needs of the state.
 - » From this survey, the state developed detailed findings and technical and operational recommendations addressing funding, interoperability planning, partnership development, and infrastructure improvement.
- In West Virginia—
 - » Officials assembled and distributed an LMR survey to all state agencies that focused on five key areas: LMR need and usage, current infrastructure, spectrum, interoperability, and future development plans.
 - » The survey results were analyzed and a report detailing the findings was distributed to state officials to aid their understanding of the current state of communications among state agencies and to drive the identification of partnership opportunities among state agencies.
- In all three states—
 - » Officials sought out information on states that had faced similar system development situations and analyzed their actions and results in hopes of educating their own decision making and planning processes.
- **Provide Education to Groups Within the State.** It is vital to provide education to various groups within the state on the importance of interoperable public safety wireless communications. As seen in the three states examined here, the education can take many forms and can be both implicit (e.g., distributing meeting notes) and explicit (e.g., providing educational briefings). Increasing the level of awareness of interoperability issues within the general public, project stakeholders, and potential partners will help to build a wide range of support for improved communications. This increased support could ultimately contribute to the completion and success of any system development or interoperability projects undertaken.
- In Mississippi—
 - » State officials hosted a conference to educate and gain support for efforts within the state to improve interoperability.

- » The conference was specifically tailored to the issues and challenges present in Mississippi and focused on sharing lessons learned from other states that are or have faced similar challenges, while providing attendees with details about current state system development plans.
- In Tennessee—
 - » MOCAT representatives prepared and distributed briefings to interested public safety officials explaining partnership concepts, interoperability issues, and future plans.
 - » State officials hosted a conference to educate and gain support for efforts within the state to improve interoperability.
 - » The conference was specifically tailored to the issues and challenges present in Tennessee and focused on sharing lessons learned from other states that are or have faced similar challenges, while providing attendees with details about current state system development plans.
- In West Virginia—
 - » The SIEC detailed representatives to specific state public safety association conferences (e.g., West Virginia Sheriffs’ Association Conference) to share information about the SIEC and its plans and to solicit their participation in the SIEC meetings.
- In all three states—
 - » Committee representatives prepared and distributed meeting agendas and notes, which served as an implicit educational resource, updating interested parties on the outcomes and plans of past and future SIEC meetings.
- **Coordinate the Activities of Multiple Agencies and Build Consensus.** By coordinating and establishing consensus on goals and objectives for statewide system development or interoperability projects, sponsor agencies and project managers can present a unified front when trying to gain support from political figures and other key decision makers. In this era of shrinking budgets and increasing security requirements at the state level, it is necessary to show coordination across agencies and maximized cost and infrastructure sharing.
- In Mississippi—
 - » Officials utilized an executive order to formally establish an SIEC, which outlined committee structure, membership, and responsibilities.

- In Tennessee—
 - » Officials developed a draft charter for the envisioned steering committee that would oversee the activities of the MOCAT, which defined roles, responsibilities, objectives, and the authority of the committee.
 - » In addition to government and public safety representation, the MOCAT membership construct allowed for participation by critical infrastructure operators in the region (i.e., utility companies).

- In West Virginia—
 - » Officials utilized an executive order to formally establish an SIEC, which outlined committee structure, membership, and responsibilities.
 - » Officials used the SIEC as a mechanism through which to collect and distribute detailed information on current state agency budget allocations and expenditures specific to LMR.
 - » This effort allowed the SIEC to gain an understanding of how much is being spent across state government, where redundancies may exist, and how consolidation efforts may result in fiscal benefits for the state as a whole.

- In all three states—
 - » The most frequent and effective way to ensure coordination across the state is through the establishment of an SIEC-like body that can centrally coordinate statewide system development and interoperability efforts.
 - » The committees included membership representation across levels of government and public safety-related disciplines in order to gain input from local, state, and federal entities while understanding the needs of law enforcement, fire, and EMS agencies.
 - » The committees conducted ongoing meetings for members and stakeholders to build momentum around their efforts and to provide a regular mechanism for information sharing and partnership building.

4. FOR ADDITIONAL INFORMATION

Since its inception, the PSWN Program has recognized that improving interoperable wireless communications systems requires a strategic approach. The program has collected and analyzed information and developed resource documentation that the public safety community can use to strategically improve interoperability. Specifically, the program can offer the following reports—

- *Case-Based Tutorial: Shared System Development Through Coordination and Partnerships*—Fictional case designed to assist members of the public safety community in learning about shared systems development
- *Coordination and Partnerships Awareness Guide*—Role of coordination and partnership in improving public safety communications interoperability
- *Federal Interoperability Assistance—Funding Strategy Best Practices Report*—Best practices and lessons learned in developing and implementing a successful funding strategy
- *How to Establish and Manage Talk Groups*—Best practices, technical and organizational issues, and practical aspects of talk group definition and management
- *How-To Guide for Managing the Radio System Life Cycle*—Issues essential to successful planning, design, procurement, implementation, operations, and maintenance of a radio communications system
- *National Interoperability Forum Summary*—Discussion of the challenges to, and potential solutions for, public safety communications interoperability
- *Public Safety Land Mobile Radio Systems: A Road Map for Systems Development*—Challenges and key actions associated with each phase of the systems development process
- *Role of the Federal Government in Public Safety Wireless Interoperability*—Guide detailing the Federal Government’s role as an enabler of interoperability
- *Role of the Local Public Safety Community in Wireless Interoperability*—Guide detailing the local public safety community’s role as the primary practitioner of interoperability
- *Role of the States in Public Safety Wireless Interoperability*—Guide detailing the states’ role as the linchpins to interoperability
- *Washington State SIEC Best Practices Guide*—Best practices and lessons learned in developing a state interoperability executive committee.

Further, the PSWN Program recently launched the Public Safety WINS: Wireless Interoperability National Strategy Web site (www.publicsafetywins.gov). Public Safety WINS provides a composite view of interoperability approaches, solutions, and strategies, along with the current “state of interoperability” at the state and federal levels. The information available on the site is relevant to policy, operational, and technical challenges and can be used by senior decision makers and technical personnel alike.