



West Virginia

Statewide Communication Interoperability Plan (SCIP)

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EXECUTIVE SUMMARY

The West Virginia Statewide Communication Interoperability Plan (SCIP) is a stakeholder-driven, multi-jurisdictional, and multi-disciplinary statewide strategic plan to enhance interoperable and emergency communications. The SCIP is a critical mid-range (three to five year) strategic planning tool to help West Virginia prioritize resources, strengthen governance, identify future investments, and address interoperability gaps.

The purpose of the West Virginia SCIP is to:

- Provide the strategic direction and alignment for those responsible for interoperable and emergency communications at the State, regional, local, and tribal levels.
- Explain to leadership and elected officials the vision for interoperable and emergency communications and demonstrate the need for funding.
- Guide public safety communications and solve interoperability within the State.
- Encourage the development of interoperable emergency communications guidelines, common standards, and procedures.
- Develop and provide training, education, and outreach for interoperable communications that can be used by all entities statewide.

The following are West Virginia's Vision and Mission for improving emergency communications operability, interoperability, and continuity of communications statewide.

Vision: To coordinate resources and improve statewide public safety wireless communications interoperability; to establish and develop policies and guidelines, and identify technology and standards affording the citizens of West Virginia safety and enhanced response thereby protecting life, limb, and property.

Mission: To establish, maintain, and facilitate interoperable communications for public safety in West Virginia.

The following strategic goals represent the priorities for delivering West Virginia's vision for interoperable and emergency communications.

- Governance –
 - Codify the Statewide Interoperability Executive Committee (SIEC) governance body through legislation to oversee and administer the Statewide Interoperable Radio Network (SIRN) and other technologies
 - Establish dedicated funding for the Statewide Interoperability Coordinator (SWIC), technical, and administrative staffing positions and sustainability of SIRN as a line item in the State budget
 - Implement a management system for the operation and maintenance of the SIRN

- Standard Operating Procedures (SOPs) –
 - Develop, execute, and update SOPs for systems (legacy, SIRN, broadband) and cross-border usage at local, regional, and State levels
- Technology –
 - Provide network redundancy to the SIRN while continuing to improve statewide coverage and completing the system
 - Develop and finalize the West Virginia State and multi-State regional broadband plan(s) in conjunction with Nationwide Public Safety Broadband Network (NPSBN) / First Responder Network Authority (FirstNet)
 - Identify and develop public safety uses and management for SIRN / NPSBN / FirstNet
- Training and Exercises –
 - Develop and conduct training and provide exercise support to continuously enhance and update statewide interoperability capabilities
- Usage –
 - Identify and encourage the appropriate use of communications resources to facilitate interoperability
 - Identify current and potential users of public safety broadband systems and services
- Outreach and Information Sharing –
 - Leverage existing resources and outreach tools to enhance intra- and inter-state Land Mobile Radio (LMR) / broadband communications
 - Promote annual stakeholder conferences focused on communications outreach and training
- Life Cycle Funding –
 - Establish sustainable life cycle funding for the construction, operation, administration, and maintenance of SIRN as a line item in the State budget
 - Establish a funding plan for statewide participation in the NPSBN / FirstNet

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1. INTRODUCTION

The West Virginia Statewide Communication Interoperability Plan (SCIP) is a stakeholder-driven, multi-jurisdictional, and multi-disciplinary statewide strategic plan to enhance interoperable and emergency communications. The SCIP is a critical mid-range (three to five years) strategic planning tool to help West Virginia prioritize resources, strengthen governance, identify future investments, and address interoperability gaps. This document contains the following planning components:

- Introduction – Provides the context necessary to understand what the SCIP is and how it was developed.
- Purpose – Explains the purpose/function(s) of the SCIP in West Virginia.
- State's Interoperable and Emergency Communications Overview – Provides an overview of the State's current and future emergency communications environment and defines ownership of the SCIP.
- Vision and Mission – Articulates the State's three- to five-year vision and mission for improving emergency communications operability, interoperability, and continuity of communications at all levels of government.
- Strategic Goals and Initiatives – Outlines the strategic goals and initiatives aligned with the three- to five-year vision and mission of the SCIP and pertains to the following critical components: Governance, Standard Operating Procedures (SOPs), Technology, Training and Exercises, Usage, Outreach and Information Sharing, and Life Cycle Funding.
- Implementation – Describes the process to evaluate the success of the SCIP and to conduct SCIP reviews to ensure it is up-to-date and aligned with the changing internal and external environment.
- Reference Materials – Includes resources that provide additional background information on the SCIP or interoperable and emergency communications in West Virginia or directly support the SCIP.

Figure 1 provides additional information about how these components of the SCIP interrelate to develop a comprehensive plan for improving interoperable and emergency communications.

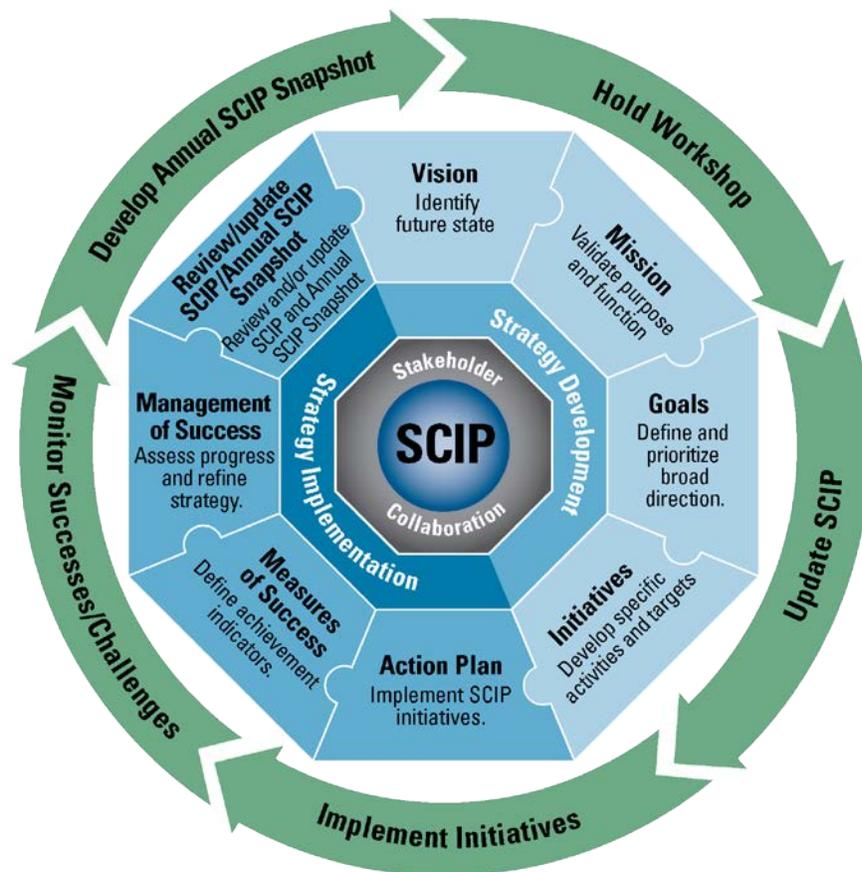


Figure 1: SCIP Strategic Plan and Implementation Components

The West Virginia SCIP is based on an understanding of the current and mid-range interoperable and emergency communications environment. West Virginia has taken significant steps towards enhancing interoperable and emergency communications, including:

- Enhancing overall coverage and users within the Statewide Interoperable Radio Network (SIRN) by providing tower and microwave radios
- Updating the Statewide Interoperable Executive Committee (SIEC) Executive Order to include a Regional Interoperability Committee (RIC) in each of the state's six Homeland Security Regions to incorporate local level input and participation
- Establishing a broadband committee within the SIEC to plan for emerging technologies
- Strengthening inter- and intra-State planning through regular coordination with other States (e.g. Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications (MACINAC), FEMA's Region-III Regional Emergency Communications Coordination Working Group (RECCWG) and other surrounding States)

However, more remains to be done to achieve West Virginia’s vision. It is also important to note that this work is part of a continuous cycle as West Virginia will always need to adapt to evolving technologies, operational tactics, and changes to key individuals (e.g., Governor, project champions). In the next three to five years, West Virginia will encounter challenges relating to operability, interoperability, geography, aging equipment/systems, emerging technologies, changing project champions, and sustainable funding.

Wireless voice and data technology is evolving rapidly and efforts are underway to determine how to leverage these new technologies to meet the needs of public safety. For example, the enactment of the Middle Class Tax Relief and Job Creation Act of 2012 (the Act), specifically Title VI, related to Public Safety Communications, authorizes the deployment of the Nationwide Public Safety Broadband Network (NPSBN). The NPSBN is intended to be a wireless, interoperable nationwide communications network that will allow members of the public safety community to securely and reliably gain and share information with their counterparts in other locations and agencies. New policies and initiatives such as the NPSBN present additional changes and considerations for future planning efforts and require an informed strategic vision to properly account for these changes. Figure 2 illustrates a public safety communications evolution by describing the long-term transition toward a desired converged future.

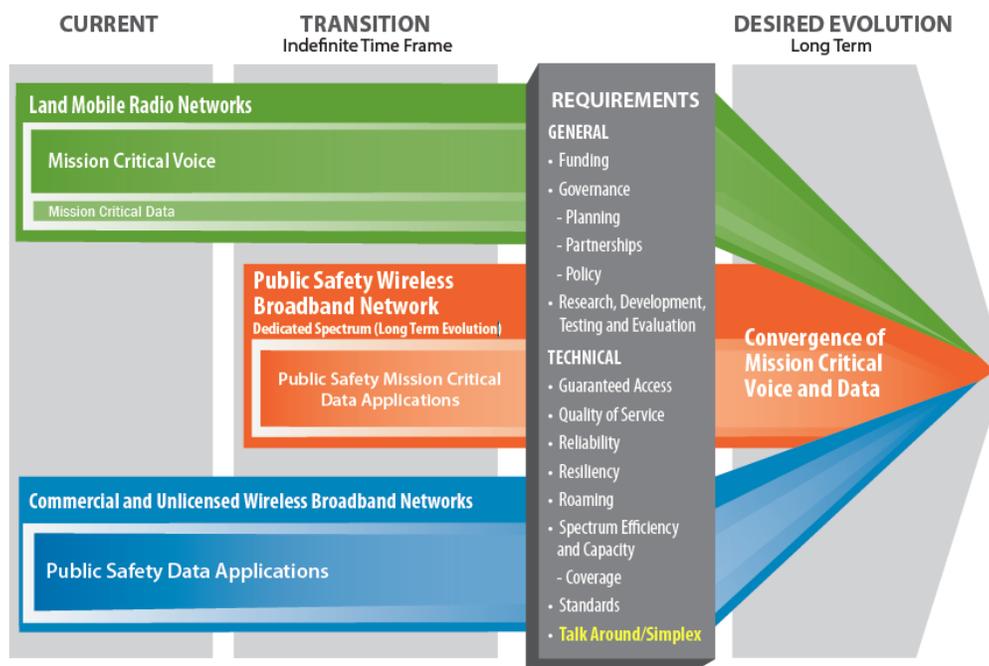


Figure 2: Public Safety Communications Evolution

Integrating capabilities such as broadband provide an unparalleled opportunity for the future of interoperable communications in West Virginia. It may result in a secure path for information-sharing initiatives, Public Safety Answering Points (PSAP), and Next Generation 911 (NG911) integration. Broadband will not replace existing Land Mobile Radio (LMR) voice systems in the foreseeable future due to implementation factors associated with planning, deployment, technology, and cost. A cautious approach to this

investment is needed. Therefore, robust requirements and innovative business practices must be developed for broadband initiatives prior to any implementation.

There is no defined timeline for the deployment of the NPSBN; however, West Virginia will keep up-to-date with the planning and build-out of the NPSBN in the near and long term in coordination with the First Responder Network Authority (FirstNet). FirstNet is the independent authority within the National Telecommunications and Information Administration (NTIA) and is responsible for developing the NPSBN, which will be a single, nationwide, interoperable public safety broadband network. The network build-out will require continuing education and commitment at all levels of government and across public safety disciplines to document network requirements and identify existing resources and assets that could potentially be used in the build-out of the network. It will also be necessary to develop and maintain strategic partnerships with a variety of stakeholder agencies and organizations at the national, State, regional, local, and tribal levels and design effective policy and governance structures that address new and emerging interoperable and emergency communications technologies. During this process, investments in LMR will continue to be necessary and in the near term, wireless data systems or commercial broadband will complement LMR. More information on the role of these two technologies in interoperable and emergency communications is available in the Department of Homeland Security (DHS) Office of Emergency Communications (OEC) Public Safety Communications Evolution brochure.¹

In 2010, West Virginia received a Broadband Technology Opportunities Program (BTOP) grant in which the State was able to upgrade the statewide microwave system as well as other SORN equipment in preparation for the NPSBN. In addition, West Virginia's SIEC established a Broadband Committee to assist with the preparation of State broadband plans and SOPs.

Additionally, achieving sustainable funding in the current fiscal climate is a priority for West Virginia. As State and Federal grant funding diminishes, States need to identify alternative funding sources to continue improving interoperable and emergency communications for voice and data systems. Key priorities for sustainable funding in West Virginia are to:

- Ensure radio interoperability so that first responders from different jurisdictions have the ability to communicate in the same talk group to collaborate and coordinate during emergency responses.
- Ensure that the West Virginia Statewide Interoperability Coordinator (SWIC) has the resources necessary to continue to be an inter- and intra-State leader for interoperable and emergency communications.
- Ensure full life cycle support of interoperable and emergency communications systems.
- Develop a West Virginia Communications Office to support West Virginia's SWIC, SORN, FirstNet, and State-level communications personnel.

¹ OEC's Public Safety Communications Evolution brochure is available here:
http://publicsafetytools.info/oec_guidance/docs/Public_Safety_Communications_Evolution_Brochure.pdf

More information on a typical emergency communications system life cycle, cost planning, and budgeting is available in OEC’s System Life Cycle Planning Guide.²

The Interoperability Continuum, developed by SAFECOM and shown in Figure 3, serves as a framework to address all of these challenges and continue improving operable/interoperable and emergency communications. It is designed to assist emergency response agencies and policy makers with planning and implementing interoperability solutions for voice and data communications.

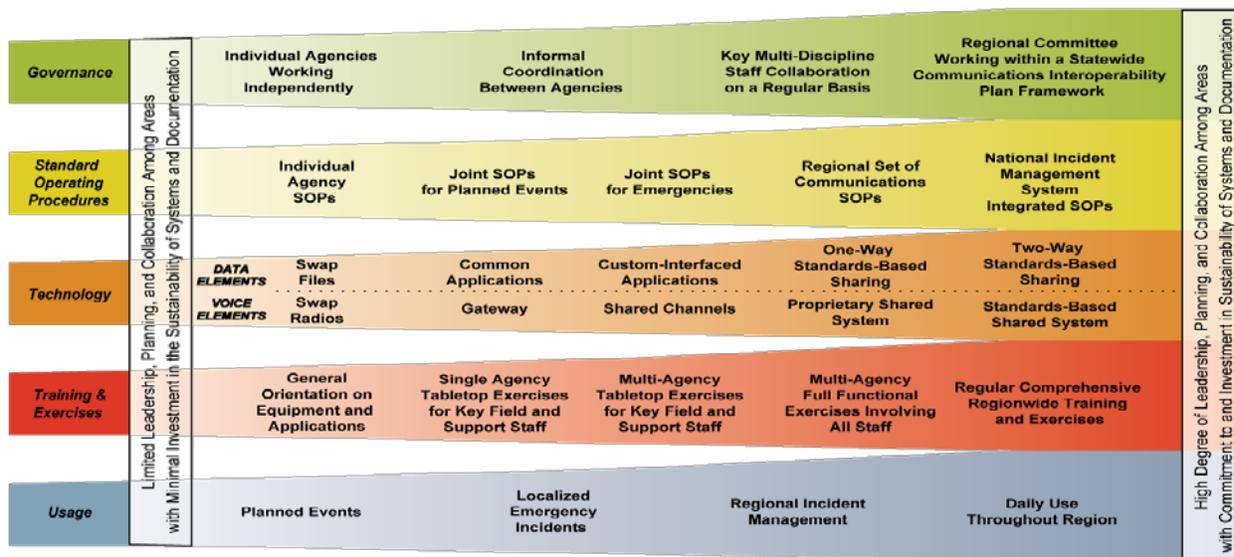


Figure 3: The Interoperability Continuum

The Continuum identifies five critical success elements that must be addressed to achieve a successful interoperable communications solution:

- **Governance** – Collaborative decision-making process that supports interoperability efforts to improve communication, coordination, and cooperation across disciplines and jurisdictions. Governance is the critical foundation of all of West Virginia’s efforts to address communications interoperability.
- **SOPs** – Policies, repetitive practices, and procedures that guide emergency responder interactions and the use of interoperable communications solutions.
- **Technology** – Systems and equipment that enable emergency responders to share voice and data information efficiently, reliably, and securely.
- **Training and Exercises** – Scenario-based practices used to enhance communications interoperability and familiarize the public safety community with equipment and procedures.
- **Usage** – Familiarity with interoperable communications technologies, systems, and operating procedures used by first responders to enhance interoperability.

² OEC’s System Life Cycle Planning Guide is available here: http://publicsafetytools.info/oec_guidance/docs/OEC_System_Life_Cycle_Planning_Guide_Final.pdf

More information on the Interoperability Continuum is available in OEC's Interoperability Continuum brochure.³ The following sections will further describe how the SCIP will be used in West Virginia and West Virginia's plans to enhance interoperable and emergency communications.

2. PURPOSE

The purpose of the West Virginia SCIP is to:

- Provide the strategic direction and alignment for those responsible for interoperable and emergency communications at the State, regional, local, and tribal levels.
- Explain to leadership and elected officials the vision for interoperable and emergency communications and demonstrate the need for funding.
- Guide public safety communications and to solve interoperability within the State.
- Encourage the development of interoperable emergency communications guidelines, common standards, and procedures.
- Develop and provide training, education, and outreach for interoperable communications that can be used by all entities statewide.

The development and execution of the SCIP assists West Virginia with addressing the results of the National Emergency Communications Plan (NECP) Goals and the Federal government with fulfilling the Presidential Policy Directive 8 (PPD-8)⁴ National Preparedness Goal for Operational Communications.⁵

In addition to this SCIP, West Virginia will develop an Annual SCIP Snapshot that will be shared with OEC and other stakeholders to highlight recent accomplishments and demonstrate progress toward achieving the goals and initiatives identified in the SCIP. More information on the SCIP Snapshot is available in Section 6.4.

This SCIP is owned and managed by the SIEC. The SIEC has the authority to and is responsible for making decisions regarding this plan. The SWIC is also responsible for ensuring that this plan is implemented and maintained statewide. The West Virginia SCIP was created by engaging with key public safety agency stakeholders who have detailed knowledge and experience with interoperable communications requirements throughout the State. Beginning with a series of three planning calls with the SWIC and culminating in a day-long workshop, public safety communications leaders in West

³ OEC's Interoperability Continuum is available here:

<http://www.safecomprogram.gov/oecguidancedocuments/continuum/Default.aspx>

⁴ PPD-8 was signed in 2011 and is comprised of six elements: a National Preparedness Goal, the National Preparedness System, National Planning Frameworks and Federal Interagency Operational Plan, an annual National Preparedness Report, and ongoing national efforts to build and sustain preparedness. PPD-8 defines a series of national preparedness elements and emphasizes the need for the whole community to work together to achieve the National Preparedness Goal. <http://www.dhs.gov/presidential-policy-directive-8-national-preparedness>.

⁵ National Preparedness Goal – Mitigation and Response Mission Area Capabilities and Preliminary Targets – Operational Communications: Ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

1. Ensure the capacity to communicate with the emergency response community and the affected populations and establish interoperable voice and data communications between Federal, State, and local first responders.
2. Re-establish sufficient communications infrastructure within the affected areas to support ongoing life-sustaining activities, provide basic human needs, and transition to recovery.

Virginia updated the SCIP to outline the strategic direction and alignment of all emergency communications at the State, regional, and local levels in West Virginia. **State's Interoperable and Emergency Communications Overview**

West Virginia's interoperable and emergency communications environment consists of a statewide 450 megahertz (MHz) ultra-high frequency (UHF), Project 25 (P25) digital trunked system known as the West Virginia Statewide Interoperable Radio Network (SIRN). The SIRN enables Federal, State, and local agencies to communicate with one another and provides interoperable communications for all public safety agencies in West Virginia on a shared radio network, as well as provides interoperable connectivity to its bordering States. The future of the SIRN will involve upgrades to existing radio tower sites and infrastructure, the development and construction of new radio tower sites, and additional staff to support maintenance and management.

The geography of West Virginia constitutes the largest communications challenge within the State. The Appalachian Mountains hinder using higher frequency ranges because more towers tend to be required when operating at higher frequencies. Thus, West Virginia uses the 450 MHz range UHF, P25 trunking system as the standard communication system throughout the State due to its line of sight considerations. Many agencies' infrastructure, including the West Virginia State Police and several local agencies, use communications technology that is over 40 years old and is limited in capability compared to present technology. As the equipment is outdated, maintenance and support become an important task as replacement parts are no longer stocked by vendors.

Another key factor affecting radio interoperability in West Virginia is the National Radio Quiet Zone, which encloses a land area of approximately 13,000 square miles near the border of Virginia, and was designated to minimize harmful interference to the National Radio Astronomy Observatory in Green Bank, West Virginia. Power density thresholds in the radio spectrum that exceed the levels that are harmful to observations in Green Bank are not permitted without power reduction, antenna modification, relocating the antenna, or selecting different frequencies where the power density limits are different. Due to these limitations, the State chose to establish the 450 MHz UHF digital trunked radio spectrum as the State's official radio system.

3. VISION AND MISSION

The Vision and Mission section describes the West Virginia vision and mission for improving emergency communications operability, interoperability, and continuity of communications statewide.

West Virginia Interoperable and Emergency Communications Vision:

To coordinate resources and improve public safety wireless communications interoperability; to establish and develop policies and guidelines and identify technology and standards affording the citizens of West Virginia safety and enhanced response and protection, thereby protecting life, limb, and property.

West Virginia Interoperable and Emergency Communications Mission:

To establish, maintain, and facilitate interoperable communications for public safety in West Virginia.

4. STRATEGIC GOALS AND INITIATIVES

The Strategic Goals and Initiatives section describes the statewide goals and initiatives for delivering the vision for interoperable and emergency communications. The goals and initiatives are grouped into seven sections, including Governance, SOPs, Technology, Training and Exercises, Usage, Outreach and Information Sharing, and Life Cycle Funding.

5.1 Governance

The Governance section of the SCIP outlines the future direction of the West Virginia governance structure for interoperable and emergency communications. The primary governance body associated with interoperable and emergency communications in West Virginia is the SIEC. The West Virginia SIEC was formed June 16, 2011 under the Executive Order 2-11, signed by Governor Earl Ray Tomblin. Executive Order 2-11 realigns the governance structure to align to the NECP with the governance body being renamed from Interoperability Working Group (IWG) to the SIEC. The SIEC identifies new and developing technologies and standards as well as enhances the coordination of all available resources for public safety communications interoperability. The SIEC's standing committees (Planning; Policy and Procedures; Training, Exercise and Outreach; Broadband and Conference) meet monthly to stay on top of interoperable communications needs within the state and region.

A significant challenge for the SIEC is that it has not yet been codified into law. A key focus for West Virginia is to have legislation introduced and passed by the West Virginia Legislature designating the SIEC responsible for the duties, powers, responsibilities, and authority necessary to govern the institution and operate the network.

The RICs assist with the governance and monitoring of the SIRN's implementation and operation, and assist in establishing goals for the improvement of the SIRN. RICs serve as the mechanism for providing local level input to the SIEC.

The SWIC provides recommendations to the West Virginia State Homeland Security Advisor who presents the information to the Governor to determine statewide priorities related to interoperable communications. The SIEC is the primary advisory group for the SWIC in the West Virginia Division of Homeland Security and Emergency Management.

Table 1 outlines West Virginia's goals and initiatives related to governance.

Table 1: Governance Goals and Initiatives

| Governance Goals and Initiatives | | | | |
|----------------------------------|--|--|-------------------------------------|-----------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| 1.1 | Codify the SIEC governance body through legislation to oversee and administer the SIRN and other technologies | 1.1.1 Identify legislative champion(s) to assist in the interim study | SIEC | July 2015 |
| | | 1.1.2 Draft legislation, working with the legislation, to be presented during the 2016 session | SIEC | January 2016 |
| | | 1.1.3 Codify legislation | SIEC, SIRN | July 2016 |
| 1.2 | Establish dedicated funding for the SWIC, technical, and administrative staffing positions and sustainability of SIRN as a line item in the State budget | 1.2.1 Continue to provide updates to Executive and Legislative Branches on the SIRN activities | SIEC | September 2015 |
| 1.3 | Implement a management system for the operation and maintenance of the SIRN | 1.3.1 Implement an asset management system (Service Management; Track open tickets) | SWIC | July 2015 |
| | | 1.3.2 Enhance relationships with legal, contractual, and procurement services | Director of Homeland Security, SWIC | September 2015 |

5.2 Standard Operating Procedures (SOPs)

The SOPs section of the SCIP identifies the framework and processes for developing and managing SOPs statewide. West Virginia is currently in the process of creating SOPs on an as needed basis and has plans to create an SOP guide. The current SOPs can be found on the West Virginia SIRN website (<http://www.sirn.wv.gov/governance/sops/Pages/default.aspx>). West Virginia will continue to develop new SOPs, leveraging existing SOPs as much as possible, and will develop a master SOP template for end users, locals, RICs, and counties. Additional work remains to address the need for SOPs in the future. Currently, no standardized process exists for developing SOPs and many jurisdictions are not aware of where to find successfully completed SOPs and their templates. The SIEC is using the SIRN website to list and maintain completed State SOPs; however, outreach is needed to ensure all jurisdictions are aware of this asset.

Table 2 outlines West Virginia's goals and initiatives for SOPs.

Table 2: Standard Operating Procedures Goals and Initiatives

| Standard Operating Procedures Goals and Initiatives | | | | |
|---|---|---|----------------------------|-----------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| 2.1. | Develop, execute, and update SOPs for systems (legacy, SIRN, broadband) and cross-border usage at local, regional, and State levels | 2.1.1 Continue to share SOPs through the SIRN website and newsletter | SIEC | Ongoing |
| | | 2.1.2 Develop SOPs relating to tower leases, subletting of tower space and broadband capacities | SIEC | October 2015 |
| | | 2.1.3 Develop Quality of Service and infrastructure resource rate structure | SIEC (Broadband Committee) | October 2015 |

5.3 Technology

The Technology section of the SCIP outlines West Virginia's plan to maintain and upgrade existing technology; the roadmap to identify, develop, and implement new and emerging technology solutions; and the approach to survey and disseminate information on current and future technology solutions to ensure user needs are met.

The SIRN, a statewide 450 MHz UHF, P25 digital trunked system enables Federal, State, and local agencies to communicate with one another. The long-term strategy for the SIRN is to provide interoperable communications for all public safety agencies in West Virginia on a shared radio network and to provide interoperable connectivity to its bordering states. The SIRN incorporates existing legacy technology and new construction to build out a statewide radio network.

The National Radio Quiet Zone and lack of funding opportunities for technology upgrades and maintenance of communications systems are key challenges that the State continues to focus on to improve interoperability in West Virginia.

Table 3 outlines West Virginia's goals and initiatives for technology.

Table 3: Technology Goals and Initiatives

| Technology Goals and Initiatives | | | | |
|----------------------------------|--|--|----------------------------|------------------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| 3.1 | Provide network redundancy to the SIRN while continuing to improve statewide coverage and completing the system | 3.1.1 Develop a redundancy plan | SIEC (Technical Staff) | December 2016 |
| | | 3.1.2 Identify and obtain funding | SIEC | December 2017 |
| | | 3.1.3 Procure and install equipment | SIEC (Technical Staff) | December 2017 |
| 3.2 | Develop and finalize the West Virginia State and multi-State regional broadband plan(s) in conjunction with NPSBN/FirstNet | 3.2.1 Conduct current and future user-needs assessment | SIEC | December 2016 |
| | | 3.2.2 Continue coordination efforts with MACINAC and neighboring States | SIEC | December 2016 |
| 3.3 | Identify and develop public safety uses and management for SIRN/NPSBN/FirstNet | 3.3.1 Identify methods of access and state-level management of network capacities | SIEC | December 2018 |
| | | 3.3.2 Identify specific needs of various disciplines of public safety | SIEC | December 2018 |
| | | 3.3.3 Identify how the private sector will integrate | SIEC | December 2018 |
| | | 3.3.4 Evaluate and implement potential broadband capabilities | SIEC | December 2018 |
| | | 3.3.5 Assess cybersecurity and data security needs and gather data about the security/privacy safeguards available for public safety data use and technology | SIEC | December 2015; ongoing |
| | | 3.3.6 Assess wireless data usage and coverage needs | SIEC (Broadband Committee) | December 2016 |

| Technology Goals and Initiatives | | | | |
|----------------------------------|-------|---|------------------------|------------------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| | | 3.3.7 Monitor developments in emerging 9-1-1 technologies | SIEC (9-1-1 Committee) | December 2015; ongoing |

5.4 Training and Exercises

The Training and Exercises section of the SCIP explains West Virginia's approach to ensure that emergency responders are familiar with interoperable and emergency communications equipment and procedures and are better prepared for responding to real-world events. The SIEC has a Training, Exercise, and Outreach subcommittee that oversees and assists in addressing the training needs of the State relating to interoperable communications. West Virginia offers an annual conference in which end-user training, education, and hands-on operation is presented. In addition to inviting statewide users of the SIRN to the conference, SWICs from neighboring States are invited to attend to foster inter-State coordination.

Additionally, the RICs are responsible for addressing their respective training needs in each region. The RICs report to the SIEC on the needs of their respective region. As the RIC's develop training materials, they are encouraged to share information statewide. The use of the Department of Homeland Security's website First Responder Communities of Practice (<https://communities.firstresponder.gov/>) is also a resource where information and best practices can be shared statewide and nationwide.

West Virginia is developing a train-the trainer approach to radio programming and usage. Communications Unit Leader (COML) courses have been offered and conducted. Pocket Guides for quick reference on radio usage have been developed and distributed statewide to the end-users. In addition, regional full-scale exercises, to include agencies from bordering (intra-State) counties and bordering States, continue to be conducted on a periodic basis. West Virginia is developing a system to document communications capabilities via after action reports during real-life incidents and events. The State will continue yearly National Incident Management System (NIMS) compliant training programs and exercises.

Additional work remains to address training and exercise needs in the future. Specifically, West Virginia does not currently have a centralized training center that develops and manages training courses and a list of certified instructors does not currently exist to offer training courses at the local level. It is the goal of the SIEC to establish a training program within the State by the end of 2015.

Table 4 outlines West Virginia's goals and initiatives for training and exercises.

Table 4: Training and Exercises Goals and Initiatives

| Training and Exercises Goals and Initiatives | | | | |
|--|--|---|------------|-------------------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| 4.1 | Develop and conduct training and provide exercise support to continuously enhance and update statewide interoperability capabilities | 4.1.1 Develop comprehensive training and exercise course materials | SIEC, RICs | September 2015; ongoing |
| | | 4.1.2 Identify course instructors | SIEC, RICs | September 2015; ongoing |
| | | 4.1.3 Create and distribute training courses (also through website, newsletter) | SIEC, RICs | December 2015; ongoing |
| | | 4.1.4 Conduct re-certification sessions at annual conferences and other venues | SIEC, RICs | September 2015 |
| | | 4.1.5 Use exercises to validate training | SIEC, RICs | December 2016 |
| | | 4.1.6 Develop public safety broadband awareness training for stakeholders | SIEC, RICs | September 2015 |

5.5 Usage

The Usage section of the SCIP outlines efforts to ensure responders adopt and familiarize themselves with interoperable and emergency communications technologies, systems, and operating procedures in the State. Regular usage ensures the maintenance and establishment of interoperability in case of an incident. The number of times interoperability is required for incidents varies greatly across the State of West Virginia from year to year. The most frequent need for interoperability occurs during major weather events. West Virginia must also respond to real world events such as sporting events, festivals, and mining disasters. Planned and unplanned events remind leaders of the importance of interoperability and the need for continual improvements.

Table 5 outlines West Virginia's goals and initiatives for usage.

Table 5: Usage Goals and Initiatives

| Usage Goals and Initiatives | | | | |
|-----------------------------|---|--|------------|-----------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| 5.1 | Identify and encourage the appropriate use of communications resources to facilitate interoperability | 5.1.1 Develop core list of system technology through the development of Tactical Interoperable Communications Plans (TICPs) | SIEC, RICs | December 2017 |
| | | 5.1.2 Update and maintain the State Interoperable Field Operating Guide (IFOG) to incorporate voice and data, as well as future broadband capabilities | SIEC | December 2018 |
| 5.2 | Identify current and potential users of public safety broadband systems and services | 5.2.1 Gather data to determine what systems and capabilities are used | SIEC, RICs | December 2018 |
| | | 5.2.2 Research best practices and technologies to enhance coverage | SIEC, RICs | December 2018 |

5.6 Outreach and Information Sharing

The Outreach and Information Sharing section of the SCIP outlines West Virginia's approach for building a coalition of individuals and emergency response organizations statewide to support the SCIP vision and for promoting common emergency communications initiatives. Outreach efforts bring interoperability information to West Virginia's public safety community, elected officials, and other stakeholders such as private and non-profit partners.

Outreach and information sharing has been identified as an opportunity for improvement, primarily due to a shortage of dedicated staff to carry the weight of outreach and information sharing efforts. West Virginia has identified targeted ways to make improvements by promoting the use of the SIRN website as a resource for local stakeholders and as a tool to disseminate information that impacts local stakeholders (e.g., NPSBN/FirstNet activities or developments).

Table 6 outlines West Virginia's goals and initiatives for outreach and information sharing.

Table 6: Outreach and Information Sharing Goals and Initiatives

| Outreach and Information Sharing Goals and Initiatives | | | | |
|--|---|---|------------|-------------------------------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| 6.1 | Leverage existing resources and outreach tools to enhance intra- and inter-state LMR/broadband communications | 6.1.1 Participate in FirstNet Consultation/Workshops | SIEC | September 2015; annually thereafter |
| | | 6.1.2 Disseminate information through RICs, website, newsletter, and conferences, and obtain feedback from stakeholders | SIEC, RICs | December 2015; ongoing |
| | | 6.1.3 Continue partnership with MACINAC in regional broadband efforts | SIEC, SWIC | December 2015; ongoing |
| 6.2 | Promote annual stakeholder conferences focused on communications outreach and training | 6.2.1 Conduct annual interoperability conference with education and training seminars | SIEC | December 2015; ongoing |
| | | 6.2.2 Participate in affiliated conferences with partners to share information and best practices on education and training | SIEC | December 2015; ongoing |
| | | 6.2.3 Stay abreast of emerging trends and technologies | SIEC | December 2015; ongoing |
| | | 6.2.4 Collect stakeholder information for future training and educational needs | SIEC | December 2015; ongoing |
| | | 6.2.5 Incorporate broadband/FirstNet updates in conferences | SIEC | December 2015; ongoing |

5.7 Life Cycle Funding

The Life Cycle Funding section of the SCIP outlines West Virginia's plan to fund existing and future interoperable and emergency communications priorities. With a national economy that is struggling, and with the elimination or significant reduction in programs supported by DHS during the current economic downturn, identifying ongoing and

alternative funding to support the statewide interoperability efforts will continue to be a priority.

Key priorities for sustainable funding in West Virginia are to:

- Ensure radio interoperability so that first responders from different jurisdictions have the ability to communicate in the same talk group to collaborate and coordinate during emergency responses.
- Ensure that the West Virginia SWIC has the resources necessary to continue to be an inter- and intra-State leader for interoperable and emergency communications.
- Ensure full life cycle support of interoperable and emergency communications systems.
- Develop a West Virginia Communications Office to support West Virginia's SWIC, SIRN, FirstNet, and State-level communications personnel.

West Virginia also identified a need for a line item in the State budget for the construction, operation, administration, and maintenance of SIRN to maintain the level of interoperability in the State and to adequately plan for interoperability needs in the future (e.g., emerging technologies).

Table 7 outlines West Virginia's goals and initiatives for life cycle funding.

Table 7: Life Cycle Funding Goals and Initiatives

| Life Cycle Funding Goals and Initiatives | | | | |
|--|--|---|---------------------|------------------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| 7.1 | Establish sustainable life cycle funding for the construction, operation, administration, and maintenance of SIRN as a line item in the State budget | 7.1.1 Identify current expenditures for SIRN and responsible owners | SIEC / Stakeholders | September 2015 |
| | | 7.1.2 Enhance partnerships for sharing infrastructure expenses | SIEC / Stakeholders | December 2016; ongoing |
| | | 7.1.3 Request legislative funding in State budget for SIRN | SIEC | September 2015 |
| 7.2 | Establish a funding plan for statewide participation in the NPSBN/FirstNet | 7.2.1 After receiving guidance from FirstNet, review State broadband plan and incorporate into SCIP | SIEC | December 2018 |
| | | 7.2.2 Integrate FirstNet goals and objectives into fiscal and operational planning and investments | SIEC/Stakeholders | December 2018 |

| Life Cycle Funding Goals and Initiatives | | | | |
|--|-------|--|-------|-----------------|
| Goal # | Goals | Initiatives | Owner | Completion Date |
| | | 7.2.3 Stay abreast of emerging trends and technologies for funding plans | SIEC | December 2018 |

5. IMPLEMENTATION

6.1 Action Plan

The Action Plan section of the SCIP describes the process West Virginia will use to determine a plan to execute the initiatives in the SCIP.

6.2 Measures of Success

The Measures of Success section of the SCIP defines the measures that West Virginia will use to monitor progress and indicate accomplishments toward achieving the vision for interoperable and emergency communications. Measures of success are used to meaningfully assess the outcomes and impacts of program functions and processes in meeting strategic goals. Table 8 outlines these measures for West Virginia. More information on how these measures are managed is included in Section 6.3.

Table 8: SCIP Measures of Success

| Measures of Success | | | | | |
|---------------------|--|---|--|--|-----------------|
| Goal # | Strategic Goal(s) Supported | Initial State | Target Measurement | Measure Completion Date | Owner or Source |
| 4.1 | Develop and conduct training and provide exercise support to continuously enhance and update statewide interoperability capabilities | Limited implementation of communications training | Number of first responders receiving training in interoperable communications within each region | Contingent upon when training is developed and participation in regions by December 2015 | SIEC |

| Measures of Success | | | | | |
|---------------------|--|--|--|-------------------------------------|-----------------|
| Goal # | Strategic Goal(s) Supported | Initial State | Target Measurement | Measure Completion Date | Owner or Source |
| 5.1 | Identify and encourage the appropriate use of communications resources to facilitate interoperability | Limited development of Regional TICPs which is a gap in understanding the existing interoperable communications throughout the State | Number of Regional TICPs developed | 100% by December 2017 | SIEC, RICs |
| 5.2 | Identify current and potential users of public safety broadband systems and services | Data collection not yet initiated; awaiting spending authorization | Database of users and coverage area compiled | December 2018 | SIEC, RICs |
| 6.2 | Promote annual stakeholder conferences focused on communications outreach and training | Many stakeholders attend on a regular basis | Continue outreach to stakeholders who have no previously attended; Offer additional training and lengthen conference | September 2015; annually thereafter | SIEC |
| 7.1 | Establish sustainable life cycle funding for the construction, operation, administration, and maintenance of SIRN as a line item in the State budget | Identified the funding and resources needed; funding source not identified | Recurring sustainable funding procured | July 2017 | SIEC |

6.3 Management of Success

The Management of Success section describes the iterative, repeatable method West Virginia will follow to add, update and refine the measures of success. The West Virginia SIEC meets monthly as well as hosts an annual interoperability conference for Federal, State, and local agencies to learn about interoperable and emergency communications within the State. During this conference, the SIEC will dedicate a workshop to the review and revision of the West Virginia SCIP as well as discuss the successes and challenges in meeting the SCIP's measures of success.

6.4 Strategic Plan Review

The Strategic Plan Review section outlines the process West Virginia will use to conduct reviews of the SCIP to ensure it is up to date and aligned with the changing internal and external interoperable and emergency communications environment as well as to track and report progress against the defined initiatives and measures of success.

As part of this process, the SWIC will review and revise the initial draft of the revised 2015 SCIP. The document will then be sent to members of the SIEC during a review period to collect input from all applicable stakeholders.

To ensure the SCIP is maintained and up-to-date, West Virginia conducts a review of the SCIP on an annual basis and updates goals and initiatives accordingly to ensure the plan is up to date and aligns with the changing internal and external interoperable and emergency communications environment. In addition, West Virginia will develop the SCIP Snapshot on an annual basis starting in 2014 and prepare for submission by the specified deadline. The SWIC will collect input for the annual Snapshot submission from a broad range of stakeholders.

6. REFERENCE MATERIALS

The Reference Materials section outlines resources that contribute additional background information on the SCIP and interoperable and emergency communications in West Virginia. Table 9 includes the links to these reference materials.

Table 9: SCIP Reference Materials

| Title | Description | Source/Location |
|------------|------------------------------------|---|
| SIRN SOPs | SIRN Standard Operating Procedures | http://www.sirn.wv.gov/governance/sops/Pages/default.aspx |
| SIRN Forms | SIRN Related Forms | http://www.sirn.wv.gov/information/downloads/Pages/default.aspx |

APPENDIX A: LIST OF ACRONYMS

| | |
|----------|--|
| AAR | After Action Report |
| AUXCOMM | Auxiliary Communications |
| BTOP | Broadband Technology Opportunities Program |
| COML | Communications Unit Leader |
| COMT | Communications Unit Technician |
| DHS | U.S. Department of Homeland Security |
| EMA | Emergency Management Agency |
| FCC | Federal Communications Commission |
| FirstNet | First Responder Network Authority |
| FOG | Field Operations Guide |
| IP | Internet Protocol |
| IWG | Interoperability Working Group |
| MHz | Megahertz |
| LMR | Land Mobile Radio |
| MACINAC | Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications |
| MOA | Memorandum of Agreement |
| MOU | Memorandum of Understanding |
| NCSWIC | National Council of Statewide Interoperability Coordinators |
| NECP | National Emergency Communications Plan |
| NG911 | Next Generation 911 |
| NIMS | National Incident Management System |
| NPSBN | Nationwide Public Safety Broadband Network |
| NRF | National Response Framework |
| NTIA | National Telecommunications and Information Administration |
| OEC | Office of Emergency Communications |
| OEMS | Office of Emergency Medical System |
| PIO | Public Information Officer |
| PPD | Presidential Policy Directive |
| PSAP | Public Safety Answering Point |

| | |
|--------|--|
| RECCWG | Regional Emergency Communications Coordination Working Group |
| RIC | Regional Interoperability Council |
| RPC | Regional Planning Committee |
| SAA | State Administering Agency |
| SCIP | Statewide Communication Interoperability Plan |
| SIEC | Statewide Interoperability Executive Committee |
| SIGB | Statewide Interoperability Governing Body |
| SIRN | Statewide Interoperable Radio Network |
| SOP | Standard Operating Procedure |
| SWIC | Statewide Interoperability Coordinator |
| TICP | Tactical Interoperable Communications Plan |
| UHF | Ultra High Frequency |
| VHF | Very High Frequency |