



WASHINGTON STATEWIDE COMMUNICATION INTEROPERABILITY PLAN



November 2023

Developed by the Washington Statewide Interoperability Executive Committee with
Support from the Cybersecurity and Infrastructure Security Agency

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LETTER FROM THE STATEWIDE INTEROPERABILITY COORDINATOR

Greetings,

As the Statewide Interoperability Coordinator (SWIC) for Washington, I am pleased to present to you the 2023 Washington Statewide Communication Interoperability Plan (SCIP). The SCIP represents the state's continued commitment to improving emergency communications interoperability and supporting the public safety practitioners throughout the state. In addition, this update meets the requirement of the current U.S. Department of Homeland Security grant guidelines.

Representatives from the Washington Statewide Interoperability Executive Committee (SIEC) collaborated to update the SCIP with actionable and measurable goals and objectives that have champions identified to ensure completion. These goals and objectives focus on governance, technology and cybersecurity, and funding. They are designed to support our state in planning for emerging technologies and navigating the ever-changing emergency communications landscape. They also incorporate the SAFECOM/National Council of SWICs (NCSWIC) State Interoperability Markers which describe Washington's level of interoperability maturity by measuring progress against 25 markers.

As we continue to enhance interoperability, we must remain dedicated to improving our ability to communicate among disciplines and across jurisdictional boundaries. With help from public safety practitioners statewide, we will work to achieve the goals set forth in the SCIP and become a nationwide model for statewide interoperability.

Sincerely,

A handwritten signature in black ink, appearing to read 'Anton Damm', is written over a horizontal line. The signature is fluid and cursive.

Anton Damm
Washington Statewide Interoperability Coordinator

INTRODUCTION



The SCIP is a one-to-three-year strategic planning document that contains the following components:

- **Introduction** – Provides the context necessary to understand what the SCIP is and how it was developed. It also provides an overview of the current emergency communications landscape.
- **Vision and Mission** – Articulates Washington’s vision and mission for improving emergency and public safety communications interoperability over the next one-to-three-years.
- **Governance** – Describes the current governance mechanisms for communications interoperability within Washington as well as successes, challenges, and priorities for improving it. The SCIP is a guiding document and does not create any authority or direction over any state or local systems or agencies.
- **Technology and Cybersecurity** – Outlines public safety technology and operations needed to maintain and enhance interoperability across the emergency communications ecosystem.
- **Funding** – Describes the funding sources and allocations that support interoperable communications capabilities within Washington along with methods and strategies for funding sustainment and enhancement to meet long-term goals.
- **Implementation Plan** – Describes Washington’s plan to implement, maintain, and update the SCIP to enable continued evolution of and progress toward the state’s interoperability goals.

The Emergency Communications Ecosystem consists of many inter-related components and functions, including communications for incident response operations, notifications and alerts and warnings, requests for assistance and reporting, and public information exchange. The primary functions are depicted in the 2019 National Emergency Communications Plan.¹

The Interoperability Continuum, developed by the Department of Homeland Security’s SAFECOM program and shown in Figure 1, serves as a framework to address challenges and continue improving operable/interoperable and public safety communications.² It is designed to assist public safety agencies and policy makers with planning and implementing interoperability solutions for communications across technologies.

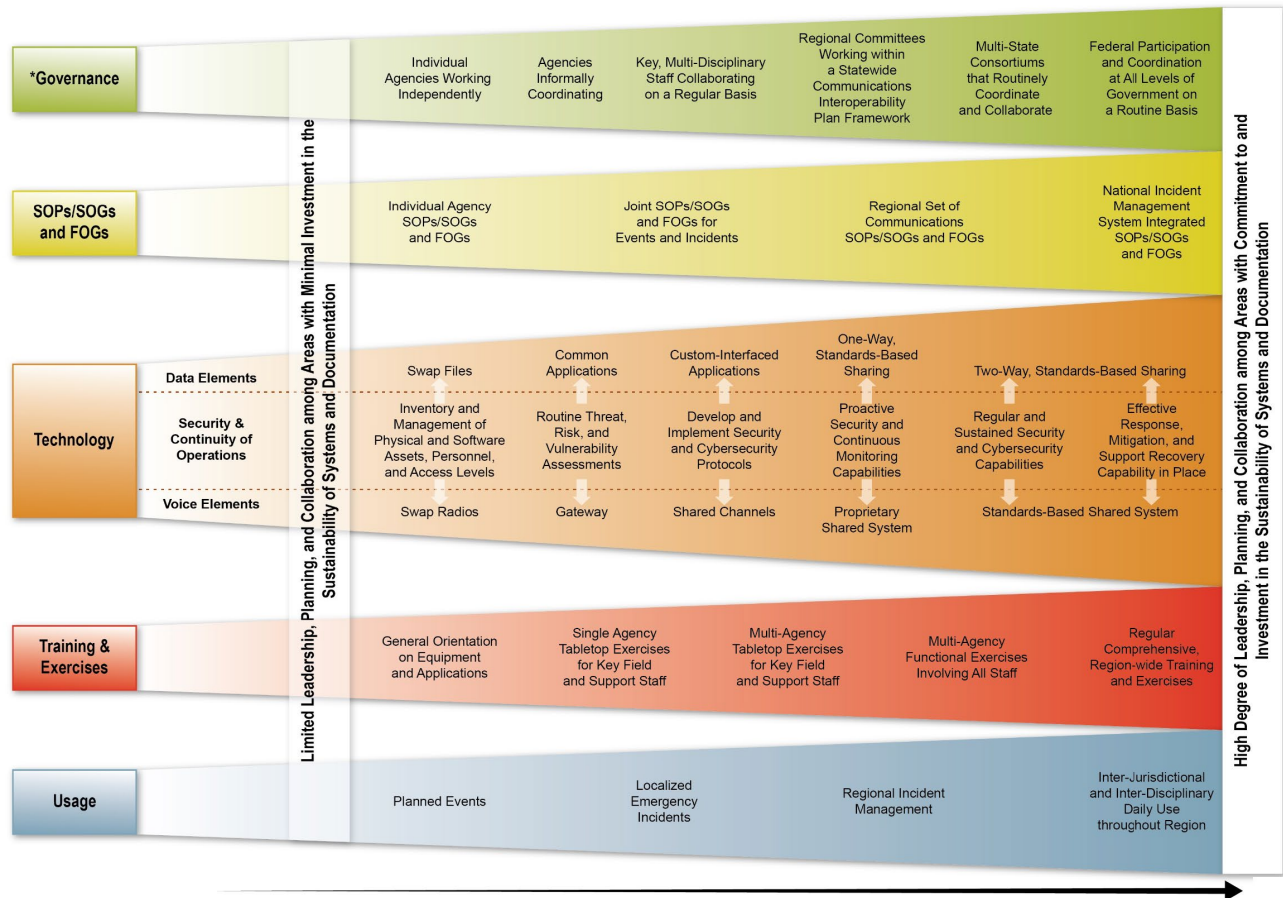


Figure 1: Interoperability Continuum

Interoperability and Emergency Communications Overview

Interoperability is the ability of emergency response providers and relevant government officials to communicate across jurisdictions, disciplines, and levels of government as needed and as authorized. Reliable, timely communications among public safety responders and between public safety agencies and citizens is critical to effectively carry out public safety missions, and in many cases, saving lives.

¹ [2019 National Emergency Communications Plan](#)

² [Interoperability Continuum Brochure](#)

Traditional voice capabilities, such as land mobile radio (LMR) and landline 911 services have long been and continue to be critical tools for communications. However, the advancement of internet protocol-based technologies in public safety has increased the type and amount of information responders receive, the tools they communicate with, and complexity of new and interdependent systems. Emerging technologies increase the need for coordination across public safety disciplines, communications functions, and levels of government to ensure emergency communications capabilities are interoperable, reliable, and secure.

An example of this evolution is the transition of public-safety answering points (PSAPs) to Next Generation 911 (NG911) technology that will enhance sharing of critical information in real-time using multimedia—such as pictures, video, and text — among community members, public safety telecommunicators, dispatch, and field responders. While potential benefits of NG911 are tremendous, implementation challenges remain. Necessary tasks to fully realize these benefits include interfacing disparate systems, developing training and standard operating procedures (SOPs) and ensuring information security.

VISION AND MISSION

This section describes Washington’s vision and mission for improving emergency and public safety communications interoperability:

Vision:

Seamless interoperable and resilient communications

Mission:

Enable a statewide interoperable public safety communications strategy

GOVERNANCE

The interoperable emergency communications governing body for Washington State is the State Interoperability Executive Committee (SIEC). The Washington SIEC is a part of the Office of the Chief Information Officer (CIO) as well as emergency management. Generic composition of the SIEC is set in statute. Additionally, SIEC authority is limited for locals, as the SIEC is mostly focused on state government.

Washington does not have a full time Statewide Interoperability Coordinator (SWIC), rather the SWIC position is filled by the Chair of the SIEC Staff Advisory Working Group (SAW). The SAW is the only working group of the SIEC.

Top priorities for Washington include creation a full-time, fully funded SWIC position, as well as increased SIEC participation. The SIEC is looking to increase interaction between members outside of meetings and promote the SIEC’s role and value through outreach and information sharing. Additionally, the addition of subcommittees and subcommittee structure and representation of the

public utilities commission and the Northwest Open Access Network (NOANET) to the SIEC have been identified as helpful additions to the SIEC.

Washington’s governance structure is depicted in Figure 2.

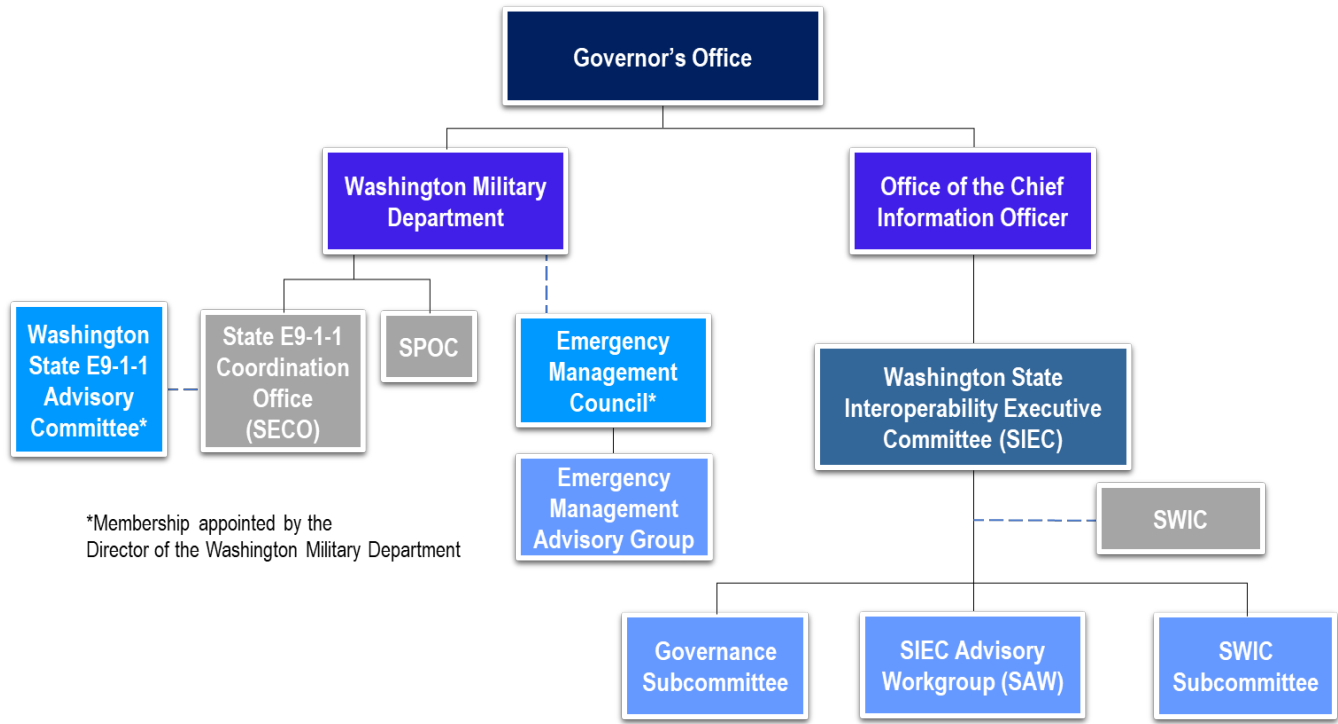


Figure 2: Washington’s Governance Structure

The following table outlines goals and objectives related to Governance:

Governance	
Goal	Objectives
1. Enhance and expand interoperable communications governance throughout the state	1.1 Research and implement opportunities for regional and/or discipline representation (e.g., SIEC work groups including regional working groups)
	1.2 Develop and execute a communications plan to provide information and encourage active participation across the state
	1.3 Identify and establish subcommittees and subcommittee structure to add to the SIEC (ex. cybersecurity)
	1.4 Identify grant opportunities and communicate opportunities to stakeholders
	1.5 Create a full-time, fully-funded SWIC position through identification of roles and responsibilities, sustainable funding stream, and administration staff support.
	1.6 Formalize communication and coordination between the state broadband office and the SIEC
	1.7 Identify the SIEC’s role in alerts and warnings across the state
2. Increase inter/intra state communications coordination planning	2.1 Establish regular lines of communications with international partners, neighboring states, tribal nations, and federal governance

Goal	Objectives
	2.2 Establish methods of interoperability with said partners
	2.3 Hold joint meetings with SIECs of adjoining states and provinces
	2.4 Establish a statewide interoperable LMR channel plan

TECHNOLOGY AND CYBERSECURITY

Land Mobile Radio

The Washington State Department of Transportation (WSDOT) operates and maintains a statewide Project 25 (P25) Phase 2 LMR system, as well as some microwave and 374 rural intelligent transportation systems (ITS). The LMR system is geographically redundant consisting of 136 communications sites, 18 consoles distributed in 6 traffic management centers, with over 4,000 mobile and portable radios. The WSDOT system supports a statewide Phase 2 interoperable talkgroup for state agency communications to the State Emergency Operations Center and Continuity of Operations (COOP) planning. This group is called the State Agency Emergency Network (STAEN). In addition, the WSDOT LMR project installed 39 interoperable repeaters throughout the state operating on National Interoperability Field Operations Guide (NIFOG) Phase 1 channels of 7TAC71, 7TAC72 or 7TAC75.

The Electronic Services Division (ESD) of the Washington State Patrol (WSP) operates and maintains the agency's statewide LMR, microwave, data, and voice (telephone) networks. ESD supports over 2,500 mobile and portable radios, 45 communications consoles at 7 communications centers, network connectivity to 63 offices and 2 data centers, and maintains over 120 communication sites statewide. From 2021-2023, \$7,962,000 from the State Patrol Highway Account was utilized to replace and upgrade the LMR system. This covers four separate areas including LMR System update, communications infrastructure, LMR System Strategic Plan, and LMR Standard Radio Replacement.

Outside of the WSP system, Washington operates a variety of mission critical voice and data communications systems that are managed by various agencies based on their business needs. These disparate systems operate in multiple frequency bands to include Very High Frequency (VHF), Ultra High Frequency (UHF), 7/800 Megahertz (MHz), and data systems.

Seamless LMR interoperability across the state has been identified as an important goal for Washington. In order to do this, LTE will need to be integrated through Washington. This will allow for mutual aid and support throughout the state.

911/Next Generation 911

The Washington State 911 Coordination Office (SECO), which operates under the Emergency Management Division of the Washington Military Department, is overseen by the State 911 Coordinator. Washington State's 911 Program works to ensure the statewide 911 communication system operates effectively and can support Washington's 911 programs. Additionally, the SECO and the 911 Advisory Committee offer a 911 Telecommunicator Training Program.

All 39 counties accept text to 911. Washington has 78 Public Safety Answering Points (PSAPs) which cover all 39 counties of the state. Each PSAP is connected to the State 911 network.

An overarching goal for 911/NG911 in Washington is to create interoperability between communications and emergency radio systems. This can be done through full implementation of SMS, video pilots in PSAPs, and the ability to access Computer-Aided Dispatch (CAD) data between vendor equipment. Additionally, technology that allows for 911 call receivers and dispatchers to work remotely by offering the ability to answer a call, access CAD, and dispatch anywhere throughout the state has been identified as an important target.

Broadband

Washington has developed Washington OneNet in an effort to work with FirstNet to design and develop a plan unique to Washington's public safety broadband needs. In addition, WSP is reaching out to partnering states to capture best lessons learned (examining equipment, processes, challenges and implementation) as well as looking at the utilization of mega range and utilizing net motion to capture coverage through FirstNet.

In order to continue the expansion of Washington's public safety broadband, the state should explore future capabilities of broadband providers and create a statewide coverage map to identify gaps in the coverage.

Alerts and Warnings

In Washington State, the Emergency Alert System (EAS) is housed under the Emergency Management Division. Washington has a State EAS Plan including both county and statewide alerts. Public alerting on earthquakes in the state is called ShakeAlert and is available via Wireless Emergency Alerts (WEA) and cell phones.

Cybersecurity

In 2011, the Legislature created Washington Technology Solutions (WaTech), the government agency legally known as "the consolidated technology services agency" (CTS), to provide state agencies with a centralized provider and procurer of information technology services. WaTech operates the state's core technology services - the central network and data center - and provides strategic and comprehensive information security to protect state networks from growing cyber threats. WaTech serves state agencies, county, city and tribal governments, and public-benefit nonprofits.

Additionally, there is a Cybersecurity Program created within the Emergency Management Division of the Washington State Military Department. The primary goals of the program are to incorporate cybersecurity into statewide emergency planning, training, preparation, and response procedures. WaTech is currently building a risk profile of the National Institute of Standards and Technology (NIST) cybersecurity framework. This will be a standardized risk profile and will include information sharing at any level.

Technology and cybersecurity goals and objectives include the following:

Technology and Cybersecurity	
Goal	Objectives
3. Increase LMR interoperability statewide	3.1 Add LMR technology and usage standards to the communications plan

Goal	Objectives
	3.2 Consult with the state attorney general about potential mandates for local agencies regarding P25 standards
	3.3 Ensure CASM remains updated with interoperable channel information
	3.4 Identify LMR interoperability capabilities across the State, compliance with the Revised Code of Washington, determine interoperability gaps, and identify interoperability solutions
	3.5 Work with LTE and third-party providers and identify opportunities for LTE/LMR integration
	3.6 Review and recommend updates of the Revised Code of Washington and grant guidance to ensure compliance with LMR standards
	3.7 Identify opportunities to increase interoperability between the statewide ESnet and other statewide networks
4. Continue to improve the cybersecurity posture of interoperable systems	4.1 Increase information sharing between the Office of Cybersecurity and the SIEC
	4.2 Provide templates and communicate best practices for cyber security
	4.3 Add the state Chief Information Security Officer (CISO) to the SIEC

FUNDING

Washington is looking to gain a better understanding of what interoperable systems are in the state. The SIEC will sponsor an interoperability assessment to show where there are gaps in the system, and create a map based on this assessment. This will allow for a better understanding of which areas are lacking in funding and would be eligible for grants to enhance interoperability.

Through increasing the efficiency and effectiveness of the SIEC, funding and grant opportunities will become more accessible throughout the state.

TRIBAL

The State of Washington has 29 federally recognized Tribes, along with 5 non-federally recognized Tribes. A 2019 SCIP goal established a Tribal representative as a formal member of the SIEC. Cowlitz Tribe member Dan Meyer, also representing the Affiliated Tribes of Northwest Indians (ANTI), was appointed to that seat. Many (but not all) Tribes in the State are participants in the ATNI, which develops and pursues regional strategies for the development, protection and advancement of the interests of member Tribes and their people in the areas represented by ATNI committees which include cultural affairs, economic development, human and social services, natural resources and environment, Tribal governance, and ad hoc task forces.

The Governor's Office of Indian Affairs serve as liaison between state and tribal governments in an advisory, resource, consultation, and educational capacity. Leaders from 25 Washington tribes met with Commissioner of Public Lands to discuss common concerns and initiatives at the Department of Natural Resources' 2014 Tribal Summit. The National Tribal Emergency Management Council held the first ever national-level exercises fully planned and executive by Tribal Nations (Thunderbird and Whale).

In developing this document, the acting SWIC specifically requested a tribal-focused webinar completed on October 12, 2022.

IMPLEMENTATION PLAN

Each goal and its associated objectives have a timeline with a target completion date, and one or multiple owners that will be responsible for overseeing and coordinating its completion. Accomplishing goals and objectives will require the support and cooperation from numerous individuals, groups, or agencies, and will be added as formal agenda items for review during regular governance body meetings. The Cybersecurity and Infrastructure Security Agency's (CISA) Interoperable Communications Technical Assistance Program (ICTAP) has a catalog³ of technical assistance (TA) available to assist with the implementation of the SCIP. TA requests are to be coordinated through the SWIC.

Washington's implementation plan is shown in the table below.

Goals	Objectives	Owners	Completion Date
1. Enhance and expand Interoperable Communications governance throughout the state	1.1 Research and implement opportunities for regional and/or discipline representation (e.g., SIEC work groups including regional working groups)	SIEC	December 2023
	1.2 Develop and execute a communications plan to provide information and encourage active participation across the state		September 2023
	1.3 Identify and establish subcommittees and subcommittee structure to add to the SIEC (ex. cybersecurity)		June 2023
	1.4 Identify grant opportunities and communicate opportunities to stakeholders		Ongoing
	1.5 Create a full-time, fully-funded SWIC position through identification of roles and responsibilities, sustainable funding stream, and administration staff support		July 2023
	1.6 Formalize communication and coordination between the state broadband office and the SIEC		March 2023
	1.7 Identify the SIEC's role in alerts and warnings across the state		June 2023
2. Increase inter/intra state communications coordination planning	2.1 Establish regular lines of communications with international partners, neighboring states, tribal nations, and federal agencies	SWIC	December 2023
	2.2 Establish methods of interoperability with said partners		Ongoing
	2.3 Hold joint meetings with SIECs of adjoining states and provinces		Ongoing
	2.4 Establish a statewide interoperable LMR channel plan		June 2024

³ [Emergency Communications Technical Assistance Planning Guide](#)

Goals	Objectives	Owners	Completion Date
3. Increase LMR interoperability statewide	3.1 Add LMR technology and usage standards to communications plan	SIEC (working group TBD)	TBD
	3.2 Consult with the state attorney general about potential mandates for local agencies regarding P25 standards	SWIC	June 2023
	3.3 Ensure CASM remains updated with interoperable channel information	SWIC	January 2024, then ongoing
	3.4 Identify LMR interoperability capabilities across the State, compliance with the Revised Code of Washington, determine interoperability gaps, and identify interoperability solutions	SIEC (working group TBD)	June 2023, then ongoing
	3.5 Work with LTE and third-party providers and identify opportunities for LTE/LMR integration	SIEC (working group TBD)	January 2024, then ongoing
	3.6 Review and recommend updates of the Revised Code of Washington and grant guidance to ensure compliance with LMR standards	SWIC	June 2024
	3.7 Identify opportunities to increase interoperability between the statewide ESInet and other statewide networks	SECO	December 2023
4. Continue to improve the cybersecurity posture of interoperable systems	4.1 Increase information sharing between the Office of Cybersecurity and the SIEC	State CISO	Ongoing
	4.2 Provide templates and communicate best practices for cybersecurity	CISO	Ongoing
	4.3 Add the state CISO to the SIEC	SIEC	February 2023

APPENDIX A: STATE MARKERS

In 2019, CISA supported States and Territories in establishing an initial picture of interoperability nationwide by measuring progress against 25 markers. These markers describe a State or Territory's level of interoperability maturity. Below is Washington's assessment of their progress against the markers as of August 2023.

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
1	State-level governing body established (e.g., SIEC, SIGB). Governance framework is in place to sustain all emergency communications	Governing body does not exist, or exists and role has not been formalized by legislative or executive actions	Governing body role established through an executive order	Governing body role established through a state law
2	SIGB/SIEC participation. Statewide governance body is comprised of members who represent all components of the emergency communications ecosystem.	Initial (1-2) Governance body participation includes: <input type="checkbox"/> Communications Champion/SWIC <input type="checkbox"/> LMR <input type="checkbox"/> Broadband/LTE <input type="checkbox"/> 911 <input type="checkbox"/> Alerts, Warnings and Notifications	Defined (3-4) Governance body participation includes: <input type="checkbox"/> Communications Champion/SWIC <input type="checkbox"/> LMR <input type="checkbox"/> Broadband/LTE <input type="checkbox"/> 911 <input type="checkbox"/> Alerts, Warnings and Notifications	Optimized (5) Governance body participation includes: <input checked="" type="checkbox"/> Communications Champion/SWIC <input checked="" type="checkbox"/> LMR <input checked="" type="checkbox"/> Broadband/LTE <input checked="" type="checkbox"/> 911 <input checked="" type="checkbox"/> Alerts, Warnings and Notifications
3	SWIC established. Full-time SWIC is in place to promote broad and sustained participation in emergency communications.	SWIC does not exist	Full-time SWIC with collateral duties	Full-time SWIC established through executive order or state law
4	SWIC Duty Percentage. SWIC spends 100% of time on SWIC-focused job duties	SWIC spends >1, <50% of time on SWIC-focused job duties	SWIC spends >50, <90% of time on SWIC-focused job duties	SWIC spends >90% of time on SWIC-focused job duties
5	SCIP refresh. SCIP is a living document that continues to be executed in a timely manner. Updated SCIPs are reviewed and approved by SIGB/SIEC.	No SCIP OR SCIP older than 3 years	SCIP updated within last 2 years	SCIP updated in last 2 years and progress made on >50% of goals
6	SCIP strategic goal percentage. SCIP goals are primarily strategic to improve long term emergency communications ecosystem (LMR, LTE, 911, A&W) and future technology transitions (5G, IoT, UAS, etc.). (Strategic and non-strategic goals are completely different; strategy -- path from here to the destination; it is unlike tactics which you can "touch"; cannot "touch" strategy)	<50% are strategic goals in SCIP	>50%<90% are strategic goals in SCIP	>90% are strategic goals in SCIP

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
7	Integrated emergency communication grant coordination. Designed to ensure state / territory is tracking and optimizing grant proposals, and there is strategic visibility how grant money is being spent.	No explicit approach or only informal emergency communications grant coordination between localities, agencies, SAA and/or the SWIC within a state / territory	SWIC and/or SIGB provides guidance to agencies and localities for emergency communications grant funding but does not review proposals or make recommendations	SWIC and/or SIGB provides guidance to agencies and localities for emergency communications grant funding and reviews grant proposals for alignment with the SCIP. SWIC and/or SIGB provides recommendations to the SAA
8	Communications Unit process. Communications Unit process present in state / territory to facilitate emergency communications capabilities. Check the boxes of which Communications positions are currently covered within your process: <input checked="" type="checkbox"/> COML <input checked="" type="checkbox"/> COMT <input checked="" type="checkbox"/> ITSL <input checked="" type="checkbox"/> RADO <input checked="" type="checkbox"/> INCM <input checked="" type="checkbox"/> INTD <input checked="" type="checkbox"/> AUXCOM <input checked="" type="checkbox"/> TERT	No Communications Unit process at present	Communications Unit process planned or designed (but not implemented)	Communications Unit process implemented and active
9	Interagency communication. Established and applied interagency communications policies, procedures and guidelines.	Some interoperable communications SOPs/SOGs exist within the area and steps have been taken to institute these interoperability procedures among some agencies	Interoperable communications SOPs/SOGs are formalized and in use by agencies within the area. Despite minor issues, SOPs/SOGs are successfully used during responses and/or exercises	Interoperable communications SOPs/SOGs within the area are formalized and regularly reviewed. Additionally, NIMS procedures are well established among agencies and disciplines. All needed procedures are effectively utilized during responses and/or exercises.
10	TICP (or equivalent) developed. Tactical Interoperable Communications Plans (TICPs) established and periodically updated to include all public safety communications systems available	Regional or statewide TICP in place	Statewide or Regional TICP(s) updated within past 2-5 years	Statewide or Regional TICP(s) updated within past 2 years
11	Field Operations Guides (FOGs) developed. FOGs established for a state or territory and periodically updated to include all public safety communications systems available	Regional or statewide FOG in place	Statewide or Regional FOG(s) updated within past 2-5 years	Statewide or Regional FOG(s) updated within past 2 years

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
12	<p>Alerts & Warnings. State or Territory has Implemented an effective A&W program to include Policy, Procedures and Protocol measured through the following characteristics:</p> <p>(1) Effective documentation process to inform and control message origination and distribution</p> <p>(2) Coordination of alerting plans and procedures with neighboring jurisdictions</p> <p>(3) Operators and alert originators receive periodic training</p> <p>(4) Message origination, distribution, and correction procedures in place</p>	<p><49% of originating authorities have all of the four A&W characteristics</p>	<p>>50%<74% of originating authorities have all of the four A&W characteristics</p>	<p>>75%<100% of originating authorities have all of the four A&W characteristics</p>
13	<p>Radio programming. Radios programmed for National/Federal, SLTT interoperability channels and channel nomenclature consistency across a state / territory.</p>	<p><49% of radios are programed for interoperability and consistency</p>	<p>>50%<74% of radios are programed for interoperability and consistency</p>	<p>>75%<100% of radios are programed for interoperability and consistency</p>
14	<p>Cybersecurity Assessment Awareness. Cybersecurity assessment awareness. (Public safety communications networks are defined as covering: LMR, LTE, 911, and A&W)</p>	<p>Public safety communications network owners are aware of cybersecurity assessment availability and value (check yes or no for each option)</p> <p><input type="checkbox"/> LMR</p> <p><input type="checkbox"/> LTE</p> <p><input type="checkbox"/> 911/CAD</p> <p><input type="checkbox"/> A&W</p>	<p>Initial plus, conducted assessment, conducted risk assessment. (Check yes or no for each option)</p> <p><input checked="" type="checkbox"/> LMR</p> <p><input checked="" type="checkbox"/> LTE</p> <p><input checked="" type="checkbox"/> 911/CAD</p> <p><input checked="" type="checkbox"/> A&W</p>	<p>Defined plus, Availability of Cyber Incident Response Plan (check yes or no for each option)</p> <p><input type="checkbox"/> LMR</p> <p><input type="checkbox"/> LTE</p> <p><input type="checkbox"/> 911/CAD</p> <p><input type="checkbox"/> A&W</p>
15	<p>NG911 implementation. NG911 implementation underway to serve state / territory population.</p>	<p>Working to establish NG911 governance through state/territorial plan.</p> <ul style="list-style-type: none"> Developing GIS to be able to support NG911 call routing. Planning or implementing ESInet and Next Generation Core Services (NGCS). Planning to or have updated PSAP equipment to handle basic NG911 service offerings. 	<p>More than 75% of PSAPs and Population Served have:</p> <ul style="list-style-type: none"> NG911 governance established through state/territorial plan. GIS developed and able to support NG911 call routing. Planning or implementing ESInet and Next Generation Core Services (NGCS). PSAP equipment updated to handle basic NG911 service offerings. 	<p>More than 90% of PSAPs and Population Served have:</p> <ul style="list-style-type: none"> NG911 governance established through state/territorial plan. GIS developed and supporting NG911 call routing. Operational Emergency Services IP Network (ESInet)/Next Generation Core Services (NGCS).

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
				<ul style="list-style-type: none"> PSAP equipment updated and handling basic NG911 service offerings.
16	<p>Data operability / interoperability. Ability of agencies within a region to exchange data on demand, and needed, and as authorized. Examples of systems would be:</p> <ul style="list-style-type: none"> - CAD to CAD - Chat - GIS - Critical Incident Management Tool (- Web EOC) 	Agencies are able to share data only by email. Systems are not touching or talking.	Systems are able to touch but with limited capabilities. One-way information sharing.	Full system to system integration. Able to fully consume and manipulate data.
17	<p>Future Technology/Organizational Learning. SIEC/SIGB is tracking, evaluating, implementing future technology (checklist)</p>	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> LMR to LTE Integration <input checked="" type="checkbox"/> 5G <input checked="" type="checkbox"/> IoT (cameras) <input type="checkbox"/> UAV (Smart Vehicles) <input checked="" type="checkbox"/> UAS (Drones) <input checked="" type="checkbox"/> Body Cameras <input checked="" type="checkbox"/> Public Alerting Software <input checked="" type="checkbox"/> Sensors <input checked="" type="checkbox"/> Autonomous Vehicles <input checked="" type="checkbox"/> MCPTT Apps 	<ul style="list-style-type: none"> <input type="checkbox"/> Wearables <input checked="" type="checkbox"/> Machine Learning/Artificial Intelligence/Analytics <input checked="" type="checkbox"/> Geolocation <input checked="" type="checkbox"/> GIS <input checked="" type="checkbox"/> Situational Awareness Apps-common operating picture applications (i.e., Force Tracking, Chat Applications, Common Operations Applications) 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> HetNets/Mesh Networks/Software Defined Networks <input checked="" type="checkbox"/> Acoustic Signaling (Shot Spotter) <input checked="" type="checkbox"/> ESInet <input type="checkbox"/> 'The Next Narrowbanding' <input checked="" type="checkbox"/> Smart Cities
18	<p>Communications Exercise objectives. Specific emergency communications objectives are incorporated into applicable exercises Federal / state / territory-wide</p>	Regular engagement with State Training and Exercise coordinators	Promote addition of emergency communications objectives in state/county/regional level exercises (target Emergency Management community). Including providing tools, templates, etc.	Initial and Defined plus mechanism in place to incorporate and measure communications objectives into state/county/regional level exercises
19	<p>Trained Communications Unit responders. Communications Unit personnel are listed in a tracking database (e.g., NQS One Responder, CASM, etc.) and available for assignment/response.</p>	<49% of public safety agencies within a state / territory have access to Communications Unit personnel who are listed in a tracking database and available for assignment/response	>50%<74% of public safety agencies within a state / territory have access to Communications Unit personnel who are listed in a tracking database and available for assignment/response	>75%<100% of public safety agencies within a state / territory have access to Communications Unit personnel who are listed in a tracking database and available for assignment/response
20	<p>Communications Usage Best Practices/Lessons Learned. Capability exists within jurisdiction to share best practices/lessons learned (positive and/or</p>	Best practices/lessons learned intake mechanism established. Create Communications AAR template to collect best practices	Initial plus review mechanism established	Defined plus distribution mechanism established

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
	negative) across all lanes of the Interoperability Continuum related to all components of the emergency communications ecosystem			
21	Wireless Priority Service (WPS) subscription. WPS penetration across state / territory compared to maximum potential	<9% subscription rate of potentially eligible participants who signed up WPS across a state / territory	>10%<49% subscription rate of potentially eligible participants who signed up for WPS a state / territory	>50%<100% subscription rate of potentially eligible participants who signed up for WPS across a state / territory
22	Outreach. Outreach mechanisms in place to share information across state	SWIC electronic communication (e.g., SWIC email, newsletter, social media, etc.) distributed to relevant stakeholders on regular basis	Initial plus web presence containing information about emergency communications interoperability, SCIP, trainings, etc.	Defined plus in-person/webinar conference/meeting attendance strategy and resources to execute
23	Sustainment assessment. Identify interoperable component system sustainment needs;(e.g., communications infrastructure, equipment, programs, management) that need sustainment funding. (Component systems are emergency communications elements that are necessary to enable communications, whether owned or leased - state systems only)	< 49% of component systems assessed to identify sustainment needs	>50%<74% of component systems assessed to identify sustainment needs	>75%<100% of component systems assessed to identify sustainment needs
24	Risk identification. Identify risks for emergency communications components. (Component systems are emergency communications elements that are necessary to enable communications, whether owned or leased. Risk Identification and planning is in line with having a communications COOP Plan)	< 49% of component systems have risks assessed through a standard template for all technology components	>50%<74% of component systems have risks assessed through a standard template for all technology components	>75%<100% of component systems have risks assessed through a standard template for all technology components
25	Cross Border / Interstate (State to State) Emergency Communications. Established capabilities to enable emergency communications across all components of the ecosystem.	Initial: Little to no established: <input type="checkbox"/> Governance <input type="checkbox"/> SOPs/MOUs <input type="checkbox"/> Technology <input type="checkbox"/> Training/Exercises <input checked="" type="checkbox"/> Usage	Defined: Documented/established across some lanes of the Continuum: <input type="checkbox"/> Governance <input type="checkbox"/> SOPs/MOUs <input type="checkbox"/> Technology <input type="checkbox"/> Training/Exercises <input type="checkbox"/> Usage	Optimized: Documented/established across all lanes of the Continuum: <input type="checkbox"/> Governance <input type="checkbox"/> SOPs/MOUs <input type="checkbox"/> Technology <input type="checkbox"/> Training/Exercises <input type="checkbox"/> Usage

APPENDIX B: ACRONYMS

Acronym	Definition
AAR	After-Action Report
ATNI	Affiliated Tribes of Northwest Indians
AUXCOMM/AUXC	Auxiliary Emergency Communications
A&W	Alerts and Warnings
CASM	Communication Assets Survey and Mapping
CISA	Cybersecurity and Infrastructure Security Agency
COML	Communications Unit Leader
COMT	Communications Unit Technician
COMU	Communications Unit Program
COOP	Continuity of Operations Plan
CTS	Consolidated Tech Services
DHS	Department of Homeland Security
EAS	Emergency Alert System
ESD	Electronic Services Division
ESInet	Emergency Services Internal Protocol Network
FOG	Field Operations Guide
GIS	Geospatial Information System
ICTAP	Interoperable Communications Technical Assistance Program
INCM	Incident Communications Center Manager
INTD	Incident Tactical Dispatcher
IP	Internet Protocol
ITSL	Information Technology Service Unit Leader
LMR	Land Mobile Radio
MHz	Megahertz
MOU	Memorandum of Understanding
NCSWIC	National Council of SWICs
NECP	National Emergency Communications Plan
NG911	Next Generation 911
PSAP	Public Safety Answering Point
RADO	Radio Operator
SAW	Staff Advisory Working Group
SCIP	Statewide Communication Interoperability Plan
SECO	Statewide E911 Coordination Office
SIEC	Statewide Interoperability Executive Committee
SOP	Standard Operating Procedure
SPOC	Single Point of Contact

Acronym	Definition
SWIC	Statewide Interoperability Coordinator
TA	Technical Assistance
TERT	Telecommunications Emergency Response Team
TICP	Tactical Interoperable Communications Plan
UHF	Ultra-High Frequency
VHF	Very High Frequency
WaTech	Washington Technology Solutions
WPS	Wireless Priority Service
WSP	Washington State Patrol
