WYOMING
STATEWIDE COMMUNICATION INTEROPERABILITY PLAN

October 2023

Developed with support from the Cybersecurity and Infrastructure Security Agency

LETTER FROM THE STATEWIDE INTEROPERABILITY COORDINATOR

Greetings,

As the Statewide Interoperability Coordinator (SWIC) for Wyoming, I am pleased to present to you the 2023 Wyoming 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 across the state 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 Wyoming'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,

Nate Smolinski
Wyoming Statewide Interoperability Coordinator
Wyoming Department of Transportation

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 Wyoming'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 Wyoming 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 Wyoming along with methods and strategies for funding sustainment and enhancement to meet long-term goals.
- **Implementation Plan** – Describes Wyoming'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.

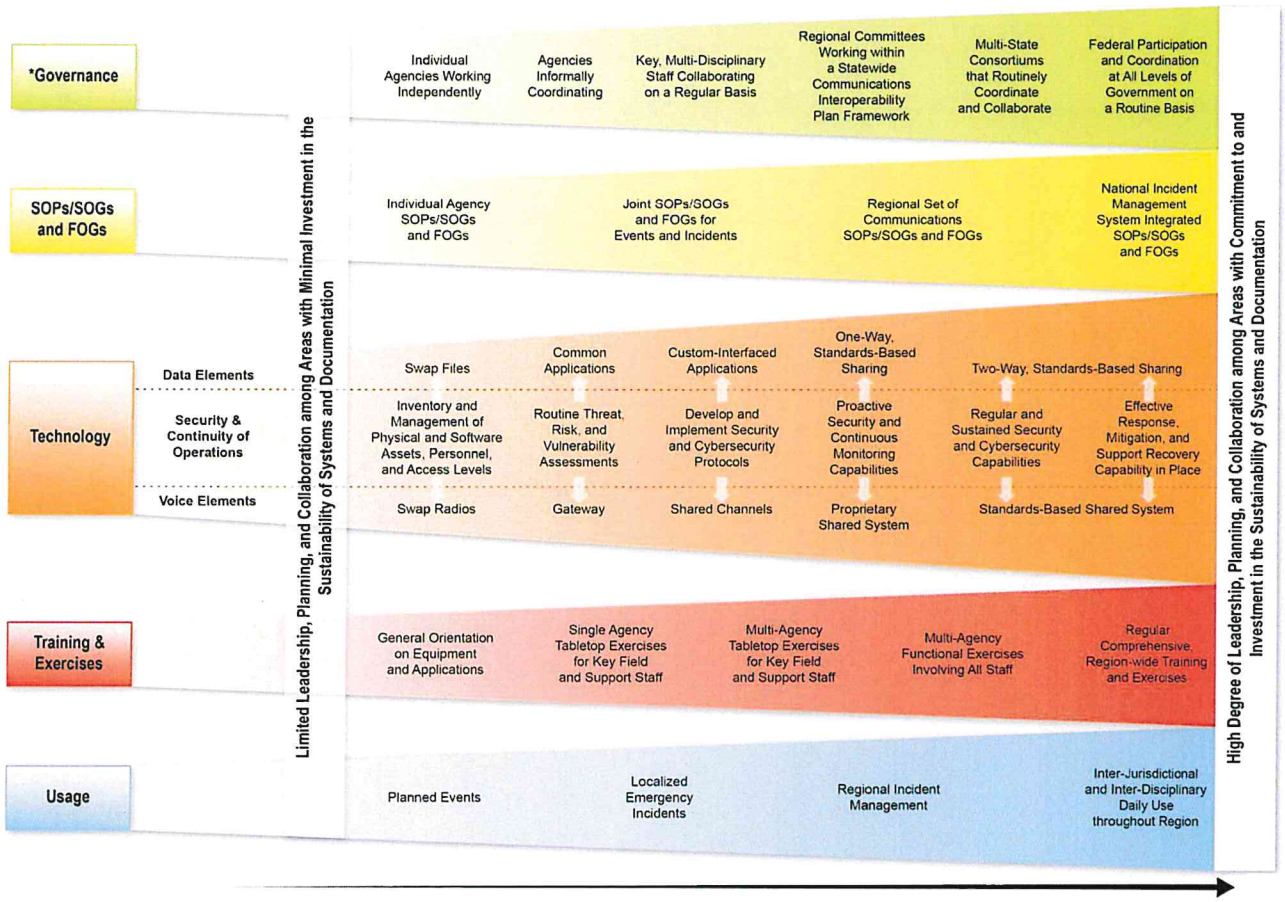


Figure 1: Interoperability Continuum

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.

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

[1] 2019 National Emergency Communications Plan
[2] Interoperability Continuum Brochure

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 citizens, PSAP operators, dispatch, and first 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 Wyoming's vision and mission for improving emergency and public safety communications interoperability:

Vision:

Resilient and reliable operable and interoperable public safety communications for Wyoming.

Mission:

Public safety organizations from all levels of government will work collaboratively to effectively achieve Wyoming's interoperability vision.

GOVERNANCE

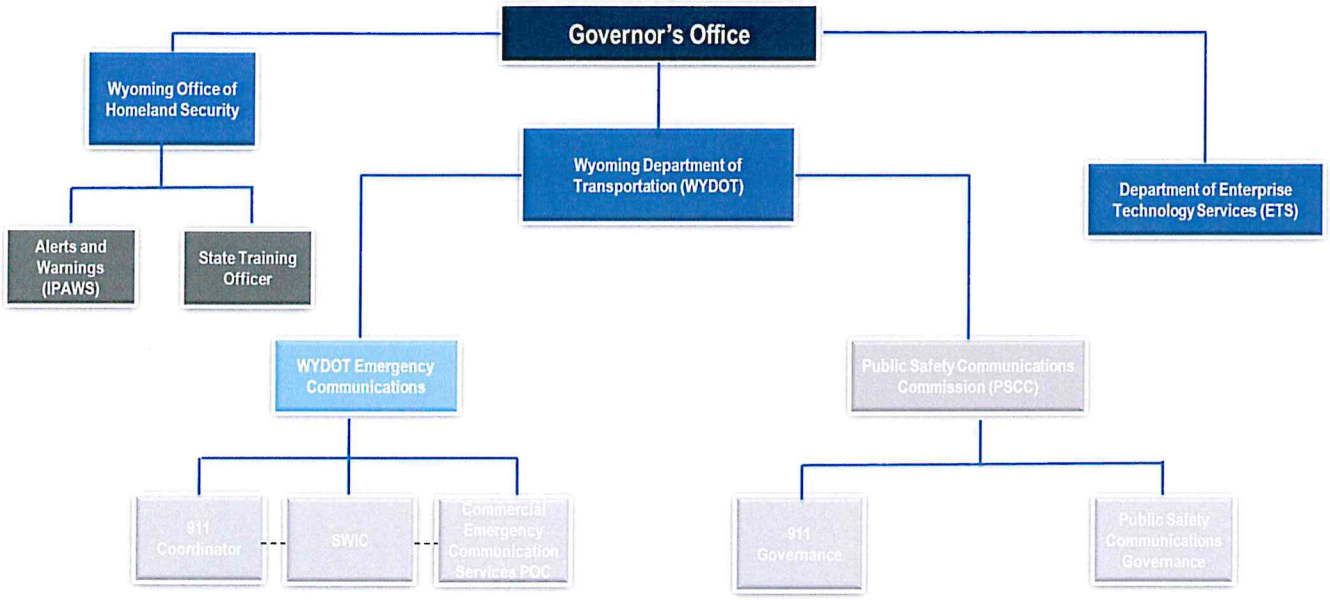
The Wyoming Public Safety Communications Commission (PSCC) is the state's emergency communications governance body and meets quarterly. Currently, the PSCC does not have any working groups, and formalizing working groups for the PSCC is a desired state. Recently, the PSCC added a new commissioner on Tribal Outreach. Wyoming has two federally-recognized tribes, the Northern Arapaho Tribe of the Wind River Reservation, Wyoming, and the Eastern Shoshone Tribe of the Wind River Reservation, Wyoming.

In addition to the PSCC, there are other governance entities across Wyoming involved in emergency communications. The Wyoming Department of Transportation (WYDOT) Emergency Communications is responsible for maintaining the WyoLink system infrastructure, which encompasses all the equipment at the radio sites and the control system. The Wyoming Office of Homeland Security (WOHS) houses a Communications Unit and issues alerts and warnings for the state. WOHS is currently working on a portal to share After-Action Reports (AARs) across the state. The Wyoming Department of Enterprise Technology Services (ETS) manages the state systems against the cyber threat environment.

At the moment, Wyoming does not have a full-time SWIC, deputy SWIC, and State 911 Coordinator, and SCIP workshop participants expressed interested in changing this. Currently, the SWIC also serves as the State 911 Coordinator.

Wyoming's emergency communications governance map is depicted in Figure 2.

Figure 2: Wyoming's Emergency Communications Governance Map



Governance goals and objectives include the following:

Governance	
Goals	**Objectives**
1. Enhance statewide emergency communications governance with input from end users	1.1 Create a Public Safety Communications Commission (PSCC) end users working group to formalize working groups for the PSCC
	1.2 Complete the statewide Tactical Interoperable Communications Plan (TICP) and the Wyoming Field Operations Guide (WYFOG) with input from the local level
	1.3 Create policies and procedures on information sharing on outages from communications providers
	1.4 Establish full-time Statewide Interoperability Coordinator (SWIC) and deputy SWIC positions
	1.5 Create a full-time 911 Coordinator position and a statewide 911 office
2. Conduct outreach and education to state and locals about the Statewide Communications Interoperability Plan (SCIP)	2.1 Determine marketing and messaging strategy to conduct roadshows and presentations to Wyoming public safety stakeholders
	2.2 Engage state legislators to promote the SCIP

Goals	Objectives
3. Develop a Communications Unit Plan and Program	3.1 Request a Cybersecurity and Infrastructure Security Agency (CISA) Technical Assistance (TA) to develop a Communications Unit Plan
	3.2 Set up a training budget for Auxiliary Communicator (AUXCOMM) training, as well as an avenue to get Communications Unit Technician (COMT) and Communications Unit Leader (COML) trained and certified
	3.3 Conduct COML, COMT, and AUXCOMM trainings
	3.4 Develop Communications Unit credentialing guidelines

TECHNOLOGY AND CYBERSECURITY

Land Mobile Radio

The state operates a Project 25 (P25) very high frequency (VHF) digital trunked radio system called WyoLink. WyoLink consists of 105 sites providing approximately 95 percent mobile radio coverage statewide except for Yellowstone National Park. Of the 75 sites, 13 provide local portable radio coverage and eight provide coverage on 800 megahertz (MHz) in three counties - Campbell County/Gillette, Natrona County/Casper, and Laramie County/Cheyenne. The newest site is in the Blair Town, which is the first WYDOT-owned 800 MHz site. In the future, the state looks to expand WyoLink coverage and capacity, especially in mountainous regions, as well as to map general LMR coverage and dead zones across the state.

Recent LMR challenges include a lack of sustainable funding source for LMR equipment upgrades. A large amount of the LMR equipment across Wyoming's local first responder agencies is supported by WOHS grant funding. Other LMR challenges include buildings causing coverage issues in denser areas and system interference and inventory issues with Bi-Directional Amplifiers (BDAs). A new state code requires all new buildings and any remodels over a certain size have BDAs.

911

In Wyoming, 911 is managed differently from county-to-county and city-to-city. In 2022, the state published its NG911 plan. The state has 32 PSAPs across its 23 counties. PSAPs in Wyoming still use legacy copper lines. Participants at the SCIP workshop noted that advancing technology for 911 is outpacing the state's ability to hire and train staff, as well as update policies and procedures, especially at the local level.

SCIP workshop participants expressed desire to increase redundancy for the 911 system for the state, increase cybersecurity training for PSAPs, recommend best practices for 911 at the state level, increase staffing for PSAPs, and create state portal for Geographic Information System (GIS) data.

Broadband

Wyoming's public safety broadband capabilities have greatly improved since the 2018 SCIP. The state is currently testing LMR to Long-Term Evolution (LTE) integration on the WyoLink System. However, the state aims to address the lack of redundancy for critical infrastructure that supports

broadband systems. In addition, the state looks to ensure broadband vendors understand the mission criticality of connecting with the WyoLink system and PSAPs.

Alerts and Warnings

The Federal Emergency Management Agency (FEMA) Integrated Public Alert and Warning System (IPAWS) is used throughout Wyoming. The state pays for each of its counties to have IPAWS access. Monthly IPAWS testing is done for every county in the state, and WOHS keeps track of completion. Besides IPAWS, many counties use subscription-based alerting systems. SCIP workshop participants noted the difficulties of getting the state population to subscribe to opt-in alerting systems.

In addition to completing a new State Emergency Alert System (EAS) plan, Wyoming looks to recommend best practices from the state level on alerts and warnings, but still balance local control, increase alerts and warnings in other languages, increasing training and exercises on IPAWS and Wireless Emergency Alert (WEA) tools, and establish redundancy for IPAWS and alerting tools.

Cybersecurity

For the state of Wyoming, ETS serves as the centralized Information Technology (IT) organization that manages executive branch IT infrastructure, telecommunications, IT services, architecture, and IT procurement.

The Wyoming Governor recently signed an executive order to create the Cyber Assistance Response Effort (CARE) Team to respond to cyber threats for state and local agencies. The CARE Team falls under WOHS and includes ETS. The team meets once a month.

In the future, Wyoming looks to increase cybersecurity awareness, education, and training, expecially at the local level. Wyoming also wants to bring more awareness to the CARE Team and engage CISA cybersecurity resources.

Technology and cybersecurity goals and objectives include the following:

Technology and Cybersecurity	
Goals	**Objectives**
4. Continue maintenance, expansion, and development of a comprehensive statewide interoperable emergency communications system	4.1 Coordinate lifecycle planning for multiple emergency communications systems (land mobile radio [LMR], broadband, cybersecurity, etc.)
	4.2 Increase training for LMR technologies
	4.3 Map dead zones and monitor system usage to expand WyoLink coverage and capacity, especially in mountainous regions
	4.4 Increase the capabilities of LMR over Long-Term Evolution (LTE)
	4.5 Fix system interference and inventory issues with Bi-Directional Amplifiers (BDAs)
	4.6 Identify funding for WyoLink radios at the local level
	4.7 Develop redundancy for critical infrastructure that requires broadband systems

Goals	Objectives
5. Enhance 911 capabilities across the state	5.1 Create a state portal for Geographic Information System (GIS) data
	5.2 Increase cybersecurity and technology training for Public Safety Answering Points (PSAPs)
	5.3 Establish an Emergency Services Internet Protocol Network (ESInet)
	5.4 Share best practices for 911 across the state
	5.5 Increase staffing for PSAPs
	5.6 Ensure vendors and the Wyoming Department of Enterprise Technology Services (ETS) understand mission criticality for connecting with the WyoLink system and PSAPs
	5.7 Identify funding for Next Generation 911 (NG911) implementation and training
6. Enhance alerts and warnings capabilities across the state	6.1 Recommend best practices from the state level on alerts and warnings, but still balance local control (ex. state templates)
	6.2 Complete the statewide Emergency Alert System (EAS) plan
	6.3 Increase alerts and warnings in other languages
	6.4 Increase training and exercises on the Integrated Public Alert and Warning System (IPAWS) and Wireless Emergency Alert (WEA) tools
	6.5 Establish redundancy for IPAWS and alerting tools
	6.6 Identify more information on data casting for Wyoming
7. Promote the integration of cybersecurity into the emergency communications ecosystem	7.1 Increase cybersecurity awareness and training at the local level
	7.2 Engage CISA resources (ex. Cybersecurity Advisors and Protective Security Advisors, cybersecurity TAs)
	7.3 Bring more awareness to the Cyber Assistance Response Effort (CARE) Team

FUNDING

The issue of funding touches every part of the emergency communications ecosystem. Specifically in Wyoming, increased funding is needed for WyoLink radios at the local level, a training budget for AUXCOMM training as well as an avenue to get COMT and COML trained and certified, radio system infrastructure, and NG911 implementation. In the future, Wyoming wants to coordinate lifecycle planning for all its communications systems, including LMR, broadband, 911, and IT.

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 catalog[3] of technical assistance (TA) available to assist with the implementation of the SCIP. TA requests are to be coordinated through the SWIC.

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

Goals	Objectives	Owners	Completion Dates
1. Enhance statewide emergency communications governance with input from end users	1.1 Create a Public Safety Communications Commission (PSCC) end users working group to formalize working groups for the PSCC	SWIC	July 2024
	1.2 Complete the statewide Tactical Interoperable Communications Plan (TICP) and the Wyoming Field Operations Guide (WYFOG) with input from the local level	SWIC	July 2024
	1.3 Create policies and procedures on information sharing on outages from communications providers	PSCC	July 2024
	1.4 Establish full-time Statewide Interoperability Coordinator (SWIC) and deputy SWIC positions	SWIC	July 2025
	1.5 Create a full-time 911 Coordinator position and a statewide 911 office	911 Coordinator	July 2025
2. Conduct outreach and education to state and locals about the Statewide Communications Interoperability Plan (SCIP)	2.1 Determine marketing and messaging strategy to conduct roadshows and presentations to Wyoming public safety stakeholders	SWIC, PSCC	July 2024
	2.2 Engage state legislators to promote the SCIP		
3. Develop a Communications Unit Plan and Program	3.1 Request a Cybersecurity and Infrastructure Security Agency (CISA) Technical Assistance (TA) to develop a Communications Unit Plan	CISA, SWIC	August 2023
	3.2 Set up a training budget for Auxiliary Communicator (AUXCOMM) training, as well as an avenue to get Communications Unit Technician (COMT) and Communications Unit Leader (COML) trained and certified	Wyoming Office of Homeland Security (WOHS)	TBD

[3] Emergency Communications Technical Assistance Planning Guide

Goals	Objectives	Owners	Completion Dates
	3.3 Conduct COML, COMT, and AUXCOMM trainings	WOHS, state training officer	TBD
	3.4 Develop Communications Unit credentialing guidelines	WOHS	TBD
4. Continue maintenance, expansion, and development of a comprehensive statewide interoperable emergency communications system	4.1 Coordinate lifecycle planning for multiple emergency communications systems (land mobile radio [LMR], broadband, cybersecurity, etc.)	WyoLink manager, local agencies	July 2025
	4.2 Increase training for LMR technologies	PSCC working groups	Ongoing
	4.3 Map dead zones and monitor system usage to expand WyoLink coverage and capacity, especially in mountainous regions	WYDOT, WyoLink manager	Ongoing
	4.4 Increase the capabilities of LMR over Long-Term Evolution (LTE)	WyoLink manager	Ongoing
	4.5 Fix system interference and inventory issues with Bi-Directional Amplifiers (BDAs)	WYDOT, local agencies	Ongoing
	4.6 Identify funding for WyoLink radios at the local level	WOHS, PSCC	Ongoing
	4.7 Develop redundancy for critical infrastructure that requires broadband systems	TBD	TBD
5. Enhance 911 capabilities across the state	5.1 Create a state portal for Geographic Information System (GIS) data	911 coordinator, PSCC	July 2025
	5.2 Increase cybersecurity and technology training for Public Safety Answering Points (PSAPs)	CISA, 911 coordinator	July 2026
	5.3 Establish an Emergency Services Internet Protocol Network (ESInet)	911 coordinator, WYDOT	July 2026
	5.4 Share best practices for 911 across the state	911 coordinator	Ongoing
	5.5 Increase staffing for PSAPs	Local agencies	Ongoing
	5.6 Ensure vendors and the Wyoming Department of Enterprise Technology Services (ETS) understand mission criticality for connecting with the WyoLink system and PSAPs	911 coordinator, PSCC	Ongoing
	5.7 Identify funding for Next Generation 911 (NG911) implementation and training	911 coordinator, PSCC	Ongoing
6. Enhance alerts and warnings capabilities across the state	6.1 Recommend best practices from the state level on alerts and warnings, but still balance local control (ex. state templates)	WOHS	TBD

Goals	Objectives	Owners	Completion Dates
	6.2 Complete the statewide Emergency Alert System (EAS) plan		
	6.3 Increase alerts and warnings in other languages		
	6.4 Increase training and exercises on the Integrated Public Alert and Warning System (IPAWS) and Wireless Emergency Alert (WEA) tools		
	6.5 Establish redundancy for IPAWS and alerting tools		
	6.6 Identify more information on data casting for Wyoming		
7. Promote the integration of cybersecurity into the emergency communications ecosystem	7.1 Increase cybersecurity awareness and training at the local level	CISA, SWIC, WOHS, emergency management	Ongoing
	7.2 Engage CISA resources (ex. Cybersecurity Advisors and Protective Security Advisors, cybersecurity TAs)	CISA, SWIC	Ongoing
	7.3 Bring more awareness to the Cyber Assistance Response Effort (CARE) Team	WOHS	TBD

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 Wyoming's assessment of their progress against the markers as of 7/27/23.

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: ☐ Communications Champion/SWIC ☐ LMR ☐ Broadband/LTE ☐ 911 ☐ Alerts, Warnings and Notifications	Defined (3-4) Governance body participation includes: ☒ Communications Champion/SWIC ☒ LMR ☐ Broadband/LTE ☒ 911 ☒ Alerts, Warnings and Notifications	Optimized (5) Governance body participation includes: ☐ Communications Champion/SWIC ☐ LMR ☐ Broadband/LTE ☐ 911 ☐ 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
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

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
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: ☒ COML ☒ COMT ☐ ITSL ☒ RADO ☐ INCM ☐ INTD ☒ AUXCOM ☐ 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
12	**Alerts & Warnings.** State or Territory has Implemented an effective A&W program to include Policy, Procedures and Protocol measured through the following characteristics: (1) Effective documentation process to inform and control message origination and distribution (2) Coordination of alerting plans and procedures with neighboring jurisdictions (3) Operators and alert originators receive periodic training (4) Message origination, distribution, and correction procedures in place	<49% of originating authorities have all of the four A&W characteristics	>50%<74% of originating authorities have all of the four A&W characteristics	>75%<100% of originating authorities have all of the four A&W characteristics
13	**Radio programming.** Radios programmed for National/Federal, SLTT interoperability channels and	<49% of radios are programed for interoperability and consistency	>50%<74% of radios are programed for interoperability and consistency	>75%<100% of radios are programed for interoperability and consistency

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
	channel nomenclature consistency across a state / territory.			
14	**Cybersecurity Assessment Awareness.** Cybersecurity assessment awareness. (Public safety communications networks are defined as covering: LMR, LTE, 911, and A&W)	Public safety communications network owners are aware of cybersecurity assessment availability and value (check yes or no for each option) ☐ LMR ☐ LTE ☒ 911/CAD ☐ A&W	Initial plus, conducted assessment, conducted risk assessment. (Check yes or no for each option) ☐ LMR ☐ LTE ☐ 911/CAD ☐ A&W	Defined plus, Availability of Cyber Incident Response Plan (check yes or no for each option) ☐ LMR ☐ LTE ☐ 911/CAD ☐ A&W
15	**NG911 implementation.** NG911 implementation underway to serve state / territory population.	Working to establish NG911 governance through state/territorial plan. • 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.	More than 75% of PSAPs and Population Served have: • 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.	More than 90% of PSAPs and Population Served have: • 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). • PSAP equipment updated and handling basic NG911 service offerings.
16	**Data operability / interoperability.** Ability of agencies within a region to exchange data on demand, and needed, and as authorized. Examples of systems would be 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	**Future Technology/Organizational Learning.** SIEC/SIGB is tracking, evaluating, implementing future technology (checklist)	☒ 5G ☒ Acoustic Signaling ☒ Autonomous Vehicles ☒ Body Cameras ☒ ESInets ☒ GIS ☒ Geolocation	☒ HetNets/Mesh Networks ☒ LMR to LTE Integration ☒ MCPTT Apps ☒ Machine Learning/AI ☒ Public Alerting Software ☒ Sensors ☒ Situational Awareness Apps	☒ Smart Cities ☒ The Next Narrowbanding ☒ UAS (Drones) ☒ UAV (Smart Vehicle) ☒ Wearables ☒ IoT (Cameras)
18	**Communications Exercise objectives.** Specific emergency communications objectives are incorporated into applicable exercises Federal / state / territory-wide	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	**Trained Communications Unit responders.** Communications Unit personnel are listed in a	<49% of public safety agencies within a state / territory have access to Communications Unit personnel	>50%<74% of public safety agencies within a state / territory have access to Communications Unit personnel	>75%<100% of public safety agencies within a state / territory have access to Communications Unit

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
	tracking database (e.g., NQS One Responder, CASM, etc.) and available for assignment/response.	who are listed in a tracking database and available for assignment/response	who are listed in a tracking database and available for assignment/response	personnel who are listed in a tracking database and available for assignment/response
20	**Communications Usage Best Practices/Lessons Learned.** Capability exists within jurisdiction to share best practices/lessons learned (positive and/or negative) across all lanes of the Interoperability Continuum related to all components of the emergency communications ecosystem	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
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: ☐ Governance ☐ SOPs/MOUs ☐ Technology ☐ Training/Exercises ☐ Usage	Defined: Documented/established across some lanes of the Continuum: ☒ Governance ☒ SOPs/MOUs ☒ Technology ☒ Training/Exercises ☒ Usage	Optimized: Documented/established across all lanes of the Continuum: ☐ Governance ☐ SOPs/MOUs ☐ Technology ☐ Training/Exercises ☐ Usage

APPENDIX B: ACRONYMS

Acronym	Definition
AAR	After-Action Report
AUXCOMM/AUXC	Auxiliary Emergency Communications
A&W	Alerts and Warnings
BDA	Bi-Directional Amplifier
CARE	Cyber Assistance Response Effort
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
DHS	Department of Homeland Security
EAS	Emergency Alert System
ESInet	Emergency Services Internal Protocol Network
ETS	Wyoming Department of Enterprise Technology Services
FEMA	Federal Emergency Management Agency
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
IPAWS	Integrated Public Alert and Warning System
IT	Information Technology
ITSL	Information Technology Service Unit Leader
LMR	Land Mobile Radio
LTE	Long-Term Evolution
MHz	Megahertz
MOU	Memorandum of Understanding
NCSWIC	National Council of Statewide Interoperability Coordinators
NECP	National Emergency Communications Plan
NG911	Next Generation 911
PSAP	Public Safety Answering Point
PSCC	Public Safety Communications Commission
P25	Project 25
RADO	Radio Operator

Acronym	Definition
SCIP	Statewide Communication Interoperability Plan
SOP	Standard Operating Procedure
SWIC	Statewide Interoperability Coordinator
TA	Technical Assistance
TERT	Telecommunications Emergency Response Team
TICP	Tactical Interoperable Communications Plan
VHF	Very High Frequency
WEA	Wireless Emergency Alert
WOHS	Wyoming Office of Homeland Security
WPS	Wireless Priority Service
WYDOT	Wyoming Department of Transportation
WYFOG	Wyoming Field Operations Guide