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LETTER FROM THE STATEWIDE INTEROPERABILITY COORDINATOR

Greetings,

As the Statewide Interoperability Coordinator (SWIC) for the State of Oregon, I am pleased to present to you the 2020 Oregon Statewide Communication Interoperability Plan (SCIP). This SCIP represents Oregon'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 (DHS) grant guidelines and the SIEC's mandate under Oregon Revised Statute 403.455.

Representatives from Oregon's State Interoperability Executive Council (SIEC) and its subcommittees collaborated with public safety and emergency communications stakeholders from across the state 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 funding sustainability, and are designed to support our state in planning for new technologies and to assist with navigation of the ever-changing emergency communications ecosystem. They also incorporate the newly established State Interoperability Markers which describe Oregon's level of interoperability maturity by measuring the state's progress against 25 markers.

As we continue to enhance interoperability and embrace new technologies, we must remain dedicated to improving our ability to communicate among disciplines and across jurisdictional boundaries for the good of all Oregonians. With help from public safety practitioners, emergency communications stakeholders, and our private sector partners statewide, we will work to achieve the goals set forth in this SCIP and become a nationwide model for statewide interoperability.

Sincerely,

Ulillian Cheepman

William Chapman, ENP Oregon SWIC

INTRODUCTION



The Oregon 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 Oregon'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 Oregon 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** Outlines public safety technology and operations needed to maintain and enhance interoperability across the emergency communications ecosystem.
- **Funding Sustainability** Describes the funding sources and allocations that support interoperable communications capabilities within Oregon along with methods and strategies for funding sustainment and enhancement to meet long-term goals.
- **Implementation Plan** Describes Oregon's plan to implement, maintain, and update the SCIP to enable continued evolution of and progress toward the Oregon's interoperability goals.

The Emergency Communications Ecosystem (shown in Figure 1) consists of many interrelated 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 newly released 2019 National Emergency Communications Plan (NECP)¹.



Figure 1: Emergency Communications Ecosystem

The Interoperability Continuum², developed by the Department of Homeland Security's SAFECOM program and shown in Figure 2, serves as a framework to address challenges and continue improving operable/interoperable and public safety communications. It is designed to assist public safety agencies and policy makers with planning and implementing interoperability solutions for communications across technologies.



Figure 2: Interoperability Continuum

¹ The 2019 National Emergency Communications Plan is available here:

https://www.cisa.gov/sites/default/files/publications/19_0924_CISA_ECD-NECP-2019_0.pdf.

² The Interoperability Continuum Brochure is available here:

https://www.cisa.gov/sites/default/files/publications/interoperability_continuum_brochure_2_1.pdf.

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 9-1-1 services have long been and continue to be critical tools for communications. However, the advancement of internet protocol (IP) 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. New 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 First Responder Network Authority's (FirstNet) implementation of the Nationwide Public Safety Broadband Network (NPSBN). Similarly, the transition of public-safety answering points (PSAPs) to Next Generation 9-1-1 (NG9-1-1) technology 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 NG9-1-1 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 Oregon's vision and mission for improving emergency and public safety communications interoperability:

Vision:

Seamless interoperable emergency communications

Mission:

Strengthen partnerships, while leveraging resources and capital improvements, to maximize voice, data, 9-1-1, and public alerts interoperability

GOVERNANCE

State Interoperability Executive Council

The SIEC is established by the Oregon Revised Statutes (ORS) 403.450 under the State Chief Information Officer to be the statewide interoperability governing body serving as the primary steering group for the Oregon SCIP³. The membership of the Council consists of two members of the Legislative Assembly and representatives from the following agencies, organizations, and the public

- Department of State Police
- Office of Emergency Management
- Department of Forestry
- Department of Corrections
- Department of Transportation
- Office of the State Chief Information
 Officer
- Oregon Health Authority
- Oregon Military Department
- Department of Public Safety Standards and Training
- Broadband Advisory Council
- Tribal representative
- Public representative
- Fire Chief's Association
- Association of Chiefs of Police

- State Sheriffs Association
- Association of Oregon Counties
- League of Oregon Cities
- Special Districts Association of Oregon
- Technology officer of an Oregon city
- Technology officer of an Oregon county
- Representative of a nonprofit professional organization interested in the enhancement of public safety communications
- A member of the public who works or resides in Federal Communications Commission (FCC) Region 35

The SIEC consists of the following committees: Executive, Broadband, Partnership, Strategic Planning, and Technical. Each of the committees are chartered individually in their role and membership, and are representative of state, local, and tribal entities. The table below outlines the purpose of each committee.

Executive Committee	Comprised of the SIEC Chair and Vice-Chair along with the Chairs of all the other committees, the Executive Committee performs all functions and does all acts, between meetings, which the SIEC might do during regular meetings except for amending the SIEC Charter or SCIP
Broadband Committee	Assist in identifying the common interoperable framework to provide recommendations on, and help Oregon leverage, subsequent broadband assets and relationships
Partnership Committee	Maximize resource sharing and interoperability of communications
Strategic Planning Committee	Develop the framework of the SCIP, and monitor and report on the implementation of the Council's goals and objectives as well as assisting other committees in developing charters, goals, and objectives in support of the SCIP

³ The duties of the SIEC are outlined in ORS 403.455 here: <u>https://www.oregonlaws.org/ors/403.455</u>

Technical Committee Serve as the technical research and advisory resource for the Council and ensure that all government agencies have the opportunity to participate in technical discussions and in formulating recommendations for the SIEC

Below is the organizational structure of the SIEC.



Figure 3: SIEC Organizational Structure



	Governance
Goal	Objectives
1. Conduct outreach and education across various levels of	1.1 Complete onboarding and outreach and education for new and existing SIEC members
government	1.2 Identify and conduct outreach and education with executives and elected officials in support of increased engagement, funding, and expanded authority
	 1.3 Conduct outreach and education to emergency communications stakeholders in support of interoperability best practices 1.4 Increase Government Emergency Telecommunications Service (GETS)/Wireless

Goal	Objectives
	Priority Service (WPS) subscriptions by 15% statewide 1.5 Advocate for Regional Interoperability Working Groups
2. Advocate for statewide efforts to develop and adopt NG-911 in Oregon	 2.1 Establish an NG9-1-1 Strategic Planning Subcommittee under the Strategic Planning Committee with PSAP and State 9-1-1 Program representatives 2.2 Support efforts to develop a Strategic NG9-1-1 Plan 2.3 Advocate for statewide efforts to seek and sustain 9- 1-1 funding

TECHNOLOGY

Current State

Land Mobile Radio

The State of Oregon has adopted a system of systems approach to interoperability. Local and regional radio systems have joined cooperatively to develop an interoperable radio network offering wide-area interoperability.

Mobile Broadband

The Governor of the State of Oregon opted into the buildout of the NPSBN (FirstNet). Local, state, and tribal agencies are now evaluating the coverage and capabilities of FirstNet to see if it meets their agency needs. As of June 2020, 178 agencies have adopted FirstNet.

9-1-1/Next Generation 9-1-1

The State 9-1-1 Program is managed by the Oregon Office of Emergency Management (OEM) and its purpose is to ensure the seamless operation of statewide Enhanced 9-1-1 communications systems. There are 43 PSAPs across 36 counties within the State. The 9-1-1 Advisory Committee was established under the 9-1-1 Program and is responsible for guiding planning and administration of PSAPs, and related PSAP emergency communications issues.⁴

Currently, 9-1-1 is funded in part through the Emergency Communications Tax and has a sunset date of December 31, 2021. However, current revenue is not sufficient to maintain current Enhanced 9-1-1 funding demands and upgrades necessary to achieve NG 9-1-1 capability. Additionally, the State Chief Information Officer (CIO) has recommended that OEM develop and implement a Strategic NG9-1-1 Plan.

⁴ Additional information on the 9-1-1 Advisory Committee is available here: <u>https://www.oregon.gov/OEM/911/Pages/911-Advisory-Committee.aspx</u>

Alerts and Warnings

The Oregon State Police (OSP) are responsible for disseminating Amber Alerts while OEM facilitates the dissemination of statewide emergency alerts. The Oregon State Emergency Alert System Plan⁵ outlines the organization and implementation of the State of Oregon Emergency Alert System (EAS) and is administrated by the Oregon State Emergency Communications Committee (SECC). In addition, there are 23 state and local organizations that have Integrated Public Alert and Warning System (IPAWS) authority.



Technology

	Goal	Objectives
3.	Promote awareness of public safety personnel about the exercise and use of LMR, public safety broadband, 9-1-1/NG9-1-1, and alerts and warnings guiding documents	 3.1 Update Field Operations Guide (FOG) and conduct end user training 3.2 Support statewide efforts to adopt recommendations for an alerts and warnings strategy * 3.3 Develop a white paper on FirstNet's proposed push- to-talk solutions to include a cost benefit analysis, reliability, and interoperability potential 3.4 Coordinate with the Cybersecurity and Infrastructure Security Agency (CISA) to present cybersecurity best practices for public safety agencies 3.5 Promote the development of the State of Oregon whole Community Cyber Disruption Plan.*
4.	Identify critical stakeholders within the realm of LMR and provide recommendations and best practices*	 4.1 Identify border states communications issues 4.2 Develop a roaming strategy for Inter-RF Subsystem Interface (ISSI) implementation 4.3 Develop a plan for the use of federal and non-federal interoperability channels 4.4 Develop plan for the use of federal interoperability encryption keys

⁵ The Oregon EAS Plan is available here: <u>https://www.fcc.gov/files/oreasplan2017docx</u>.

	Goal	Objectives
5.	Assess the emergency communications radio systems in Oregon	 5.1 Coordinate and support the Federal Emergency Management Agency (FEMA) in the development of a statewide LMR assessment 5.2 Develop process for 700 megahertz (MHz) interoperable frequency license approval process 5.3 Assess alternate Emergency Operations Center (EOC)-to-EOC communications

*Supports a State Marker

TRAINING AND EXERCISES

Oregon is prioritizing the need to develop a strategy for tracking, maintaining, and utilizing communications unit resources throughout the state. It is also critically important that these trained personnel have the opportunity to practice their skills in a real-world setting and complete their position task books which is typically a credentialing requirement.



Goal	Objectives
 Establish a Communications Unit (COMU) program* 	 6.1 Establish a COMU working group 6.2 Establish guiding documentation 6.3 Begin identifying and training personnel 6.4 Begin recognition of personnel 6.5 Develop long-term program maintenance strategy

*Supports a State Marker

FUNDING AND SUSTAINABILITY

Current State of Funding

The Office of the State Chief Information Officer's (OSCIO) operational budget includes funding for the SWIC and an administrative support position as well as technical, project, and conference support for the SIEC.



*Supports a State Marker

IMPLEMENTATION PLAN

Each goal has a timeline with a target completion date, and one or multiple champions 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. These SCIP goals and objectives will be added as formal agenda items and reviewed during regular SIEC meetings. Additionally, the following table will be updated on an annual basis with the results of that year's progress. CISA has a catalog of technical assistance service offerings available to assist in implementation of the SCIP. Requests for assistance are to be coordinated through the SWIC.

	Goal	Objectives	Champions	Start Date	End Date	Comments
1.	Conduct outreach and education across various levels of government	1.1 Complete onboarding and outreach and education for new and existing SIEC members	Executive Committee, SWIC	August 2020	Ongoing, Within 3 months of appointment	Provide onboarding materials in advance of official appointment
		1.2 Identify and conduct outreach and education with executives and elected officials in support of increased engagement, funding, and expanded authority	Partnership Committee, SWIC	August 2020	Ongoing	
		1.3 Conduct outreach and education to emergency communications stakeholders in support of interoperability best practices	Partnership Committee, SWIC	August 2020	Ongoing	Develop an annual schedule for conducting outreach and education
		1.4 Increase GETS/WPS subscriptions by 15% statewide	Partnership Committee, SWIC, Priority Telecommunications Services (PTS) Area Representative, State Resilience Officer	August 2020	August 2021	As of 08/03/20, there were 6839 GETS users, and 2638 WPS users.
		1.5 Advocate for Regional Interoperability Working Groups	Partnership Committee, SWIC	August 2020	August 2023	Requires assistance from all the SIEC Committee Chairs

	Goal	Objectives	Champions	Start Date	End Date	Comments
2.	Advocate for statewide efforts to develop and adopt NG-911 in Oregon	2.1 Establish an NG9-1-1 Strategic Planning Subcommittee under the Strategic Planning Committee with PSAP and State 9-1-1 Program representatives	Strategic Planning Committee, SWIC, 9-1-1 Advisory Committee, State 911 Program	August 2020	January 2021	
		2.2 Support efforts to develop a Strategic NG9-1-1 Plan	Strategic Planning Committee, SWIC, 9-1-1 Advisory Committee, State 911 Program	August 2020	June 30, 2022	Enterprise Information Services Strategic Framework ⁶ assigns a June 30, 2022 deadline for developing the Plan
		2.3 Advocate for statewide efforts to seek and sustain 9-1-1 funding	Strategic Planning Committee, SWIC, 9-1-1 Advisory Committee, State 911 Program	August 2020	Ongoing	
3.	Promote awareness of public safety	3.1 Update FOG and conduct end user training	Technical Committee, SWIC	August 2020	December 2020	
	personnel about the exercise and use of LMR, public safety broadband, 9-1-1/NG9- 1-1, and alerts and warnings guiding	3.2 Support statewide efforts to adopt recommendations for an alerts and warnings strategy	OSP, OEM, Alerts and Warnings Working Group, SWIC	August 2020	August 2021	Fire Chief Roger Johnson will establish and lead an Alerts and Warnings Working Group
	documents	3.3 Develop a white paper on FirstNet's proposed push-to- talk solutions to include a cost benefit analysis, reliability, and interoperability potential	Technical Committee, SWIC, Single Point of Contact (SPOC), Broadband Committee	August 2020	June 2021	

⁶ The Enterprise Information Services Strategic Framework 2020-2023 is available here: <u>https://www.oregon.gov/das/OSCIO/Documents/EIS-Strategic-Framework-2020.pdf</u>.

Goal	Objectives	Champions	Start Date	End Date	Comments
	3.4 Coordinate with CISA to present cybersecurity best practices for public safety agencies	SWIC, CISA Cybersecurity Advisor (CSA), Cyber Security Services (CSS)	Ongoing	Ongoing	
	3.5 Promote the development of the State of Oregon whole Community Cyber Disruption Plan.	State CIO, CSS, Oregon TITAN Fusion Center, CISA CSA	August 2020	November 2021	
4. Identify critical stakeholders within	4.1 Identify border states communications issues	Technical Committee	August 2020	Ongoing	
the realm of LMR and provide recommendations and	4.2 Develop a roaming strategy for ISSI implementation	Technical Committee	August 2020	June 2021	
best practices	4.3 Develop a plan for the use of federal and non-federal interoperability channels	Technical Committee, SWIC	August 2020	December 2020	
	4.4 Develop plan for the use of federal interoperability encryption keys	Technical Committee	Ongoing	December 2020	
5. Assess the emergency communications radio systems in Oregon	5.1 Coordinate and support FEMA in the development of a statewide LMR assessment	FEMA, SWIC	August 2020	August 2021	
	5.2 Develop process for 700 MHz interoperable frequency license approval process	Executive Committee, Technical Committee, SWIC	August 2020	October 2020	
	5.3 Assess alternate EOC-to- EOC communications	OEM	August 2020	August 2022	
6. Establish a COMU program	6.1 Establish a COMU working group	SWIC, Executive Committee	August 2020	September 2020	
	6.2 Establish guiding documentation	COMU Working Group	Ongoing	December 2020	

	Goal	Objectives	Champions	Start Date	End Date	Comments
		6.3 Begin identifying and training personnel	COMU Working Group	November 2020	Ongoing	
		6.4 Begin recognition of personnel	COMU Working Group	November 2020	Ongoing	
		6.5 Develop long-term program maintenance strategy	COMU Working Group, Executive Committee	December 2020	June 2021	
7.	Advocate for continued funding of the SIEC	7.1 Document and showcase successes	Executive Committee	August 2020	Ongoing	
		7.2 Develop a six-year strategic funding plan	Executive Committee, Strategic Planning Committee	December 2020	June 2022	
8.	Maintain grant funding requirements as outlined in Appendix B	8.1 Establish minimum technology standards document based on SAFECOM Grants Guidance	Technical Committee	August 2020	October 30, 2020	

*Supports a State Marker

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 Oregon's assessment of their progress against the markers.

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
	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:	Defined (3-4) Governance body participation includes:	Optimized (5) Governance body participation includes:
2		 Communications Champion/SWIC LMR Broadband/LTE 9-1-1 	 □ Communications Champion/SWIC □ LMR □ Broadband/LTE □ 9-1-1 	 ☑ Communications Champion/SWIC ☑ LMR ☑ Broadband/LTE ☑ 9-1-1
		Alerts, Warnings and Notifications	□ Alerts, Warnings and Notifications	 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,	<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
	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)			
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:	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

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
				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 channel nomenclature consistency across a state / territory.	<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
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	Initial plus, conducted assessment, conducted risk assessment. (check yes or no for each option) LMR LTE 9-1-1/CAD	Defined plus, Availability of Cyber Incident Response Plan (check yes or no for each option) LMR LTE 9-1-1/CAD

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
		□ 9-1-1/CAD □ A&W	□ A&W	□ 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)	 ☑ LMR to LTE Integration ☑ 5G ☑ IoT (cameras) ☑ UAV (Smart Vehicles) ☑ UAS (Drones) ☑ Body Cameras 	 Wearables Machine Learning/Artificial Intelligence/Analytics Geolocation GIS Situational Awareness Apps- common operating picture 	 ☑ HetNets/Mesh Networks/Software Defined Networks □ Acoustic Signaling (Shot Spotter) ☑ ESInet □ 'The Next Narrowbanding'

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
		 Public Alerting Software Sensors Autonomous Vehicles MCPTT Apps 	applications (i.e. Force Tracking, Chat Applications, Common Operations Applications)	⊠ Smart Cities
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 tracking database (e.g. NQS One Responder, CASM, etc.) and available for assignment/response.	<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	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	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

Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized
23	Sustainment assessment. Identify interoperable component system sustainment needs;(e.g. communications infrastructure, equipment, programs, management) that need sustainment funding.	< 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
	(Component systems are emergency communications elements that are necessary to enable communications, whether owned or leased - state systems only)			
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: TECHNOLOGY REQUIREMENTS FOR GRANTS

Page reserved for inclusion of Technology Requirements for Grants

APPENDIX C: 2017 ORS 403.455

The State Interoperability Executive Council created under ORS 403.450 (State Interoperability Executive Council) shall:

- (1) Develop, annually update and monitor implementation of the Oregon Statewide Communication Interoperability Plan, the goal of which is to achieve statewide interoperability of public safety communications systems. To the maximum extent possible, the Oregon Statewide Communication Interoperability Plan shall align with and support the Enterprise Information Resources Management Strategy described in ORS 276A.203 (State Chief Information Officer). As part of the executive council's duties under this subsection, the executive council shall:
 - (a) Recommend strategies to improve public safety communications interoperability among state, local, tribal and federal public safety agencies;
 - (b) Develop standards to promote consistent design and development of public safety communications infrastructures and recommend changes in existing public safety infrastructures that are necessary or appropriate for implementation of the interoperability plan;
 - (c) Identify immediate short-term technological and policy solutions to tie existing public safety communications infrastructures together into an interoperable communications system;
 - (d) Develop long-term technological and policy recommendations to establish a statewide public safety communications system to improve emergency response and day-to-day public safety operations; and
 - (e) Develop recommendations for legislation and for the development of state and local policies that promote public safety communications interoperability in this state.
- (2) Recommend to the Governor, for inclusion in the Governor's budget, investments by the State of Oregon in public safety communications systems.
- (3) Coordinate state, local and, as appropriate, tribal and federal activities related to obtaining federal grants for support of interoperability and request technical assistance related to interoperability.
- (4) Conduct and submit an annual update of the interoperability plan to the United States Department of Homeland Security, Office of Emergency Communications, aligning the update with standards established in the National Emergency Communications Plan and by the federal office.
- (5) Coordinate statewide interoperability activities among state, local and, as appropriate, tribal and federal agencies.

- (6) Advise the State Chief Information Officer, the Governor and the Legislative Assembly on implementation of the interoperability plan.
- (7) Serve as the Governor's Public Safety Broadband Advisory Group.
- (8) Report to the Joint Committee on Ways and Means or to the Joint Interim Committee on Ways and Means, and to the Joint Legislative Committee on Information Management and Technology, on or before February 1 of each odd-numbered year, on the development of the interoperability plan and the executive council's other activities.
- (9) Adopt rules necessary to carry out the executive council's duties and powers. [Formerly 401.872; 2010 c.107 §60; 2014 c.87 §6; 2015 c.807 §49; 2016 c.117 §61]

APPENDIX D: ACRONYMS

Acronym	Definition
COMU	Communications Unit
CIO	Chief Information Officer
CISA	Cybersecurity and Infrastructure Security Agency
CSA	Cybersecurity Advisor
CSS	Cyber Security Services
DHS	United States Department of Homeland Security
EAS	Emergency Alert System
EOC	Emergency Operations Center
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FirstNet	First Responder Network Authority
GETS	Government Emergency Telecommunications Service
IP	Internet Protocol
FOG	Field Operations Guide
IPAWS	Integrated Public Alert & Warning System
ISSI	Inter-RF Subsystem Interface
LMR	Land Mobile Radio
MHz	Megahertz
NECP	National Emergency Communications Plan
NENA	National Emergency Number Association
NG9-1-1	Next Generation 9-1-1
NPSBN	National Public Safety Broadband Network
OEM	Office of Emergency Management
ORS	Oregon Revised Statutes
OSCIO	Office of the State Chief Information Officer
OSP	Oregon State Police
PSAP	Public Safety Answering Point
PTS	Priority Telecommunications Services
SCIP	Statewide Communication Interoperability Plan
SECC	State Emergency Communications Commission
SIEC	State Interoperability Executive Council
SOP	Standard Operating Procedure

Acronym	Definition
SPOC	Single Point of Contact
SWIC	Statewide Interoperability Coordinator
WPS	Wireless Priority Service