RHODE ISLAND
STATEWIDE COMMUNICATION INTEROPERABILITY PLAN

MARCH 2020

Developed with Support from the
Cybersecurity and Infrastructure Security Agency, Emergency Communications Division

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LETTER OF PROMULGATION

Greetings,

I am pleased to provide to you the 2020 Rhode Island Statewide Communication Interoperability Plan (SCIP). This SCIP represents Rhode Island's continuous commitment to improving emergency communications interoperability and supporting our public safety practitioners throughout the state as well as across state borders. In addition, this update meets the requirement of the recently released Fiscal Year 2020 Department of Homeland Security (DHS) grant guidelines.

Stakeholders from across the state, representing a wide variety of disciplines and organizations, collaborated to update the SCIP and develop actionable and measurable goals with objectives. An owner was assigned to each goal along with an estimated timeline for completion. The goals and objectives focus on the areas of governance, technology, and funding and are designed to support the state of Rhode Island in planning for emerging technologies, while navigating the ever-changing landscape of emergency communications.

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

Sincerely,

Marc R. Pappas 12/22/20

Marc R. Pappas, Director
Rhode Island Emergency Management Agency

12/22/2020

Thomas Guthlein
Rhode Island Statewide Interoperability Coordinator

RECORD OF CHANGE

Change Number	Section	Date of Change	Individual Making Change	Description of Change
1	Entire Plan	12/22/2020	SWIC	Full update and revision to 2014 plan
2				

RECORD OF DISTRIBUTION

Date of Delivery	Number of Copies Delivered	Method of Delivery	Name, Title, and Agency/Organization of Receiver
1/19/2021	36	.pdf/email	Interoperable Communications Committee (ICC) Members Distribution List
1/19/2021	56	.pdf/email	Local Emergency Management Director Distribution List
1/19/2021	69	.pdf/email	Fire Chiefs Distribution List

TABLE OF CONTENTS

INTRODUCTION

The Rhode Island Statewide Communications Interoperability Plan (SCIP) is a stakeholder-driven, multi-jurisdictional, and multi-disciplinary strategic plan to enhance interoperable and emergency communications over the next one-to-three years. This document contains the following planning components:

- Introduction – Provides the context necessary to understand what the SCIP is and how it was developed.
- Interoperable and Emergency Communications Overview – Provides an overview of Rhode Island's current and future emergency communications environment.
- Vision and Mission – Articulates Rhode Island's one-to-three-year vision and mission for improving emergency communications operability, interoperability, and continuity of communications at all levels of government.
- Goals and Objectives – Outlines the goals and objectives aligned with the vision and mission of the SCIP as they pertain to Governance, Technology and Funding.
- Implementation Plan – Describes Rhode Island's plan to implement, maintain, and update the SCIP and enable continued evolution of and progress toward Rhode Island'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 (NECP)[1]. The 2019 update to the NECP can be found at the link below.

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

[1] The 2019 NECP is available here

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. More information on the Interoperability Continuum is available in the Interoperability Continuum brochure.[2]

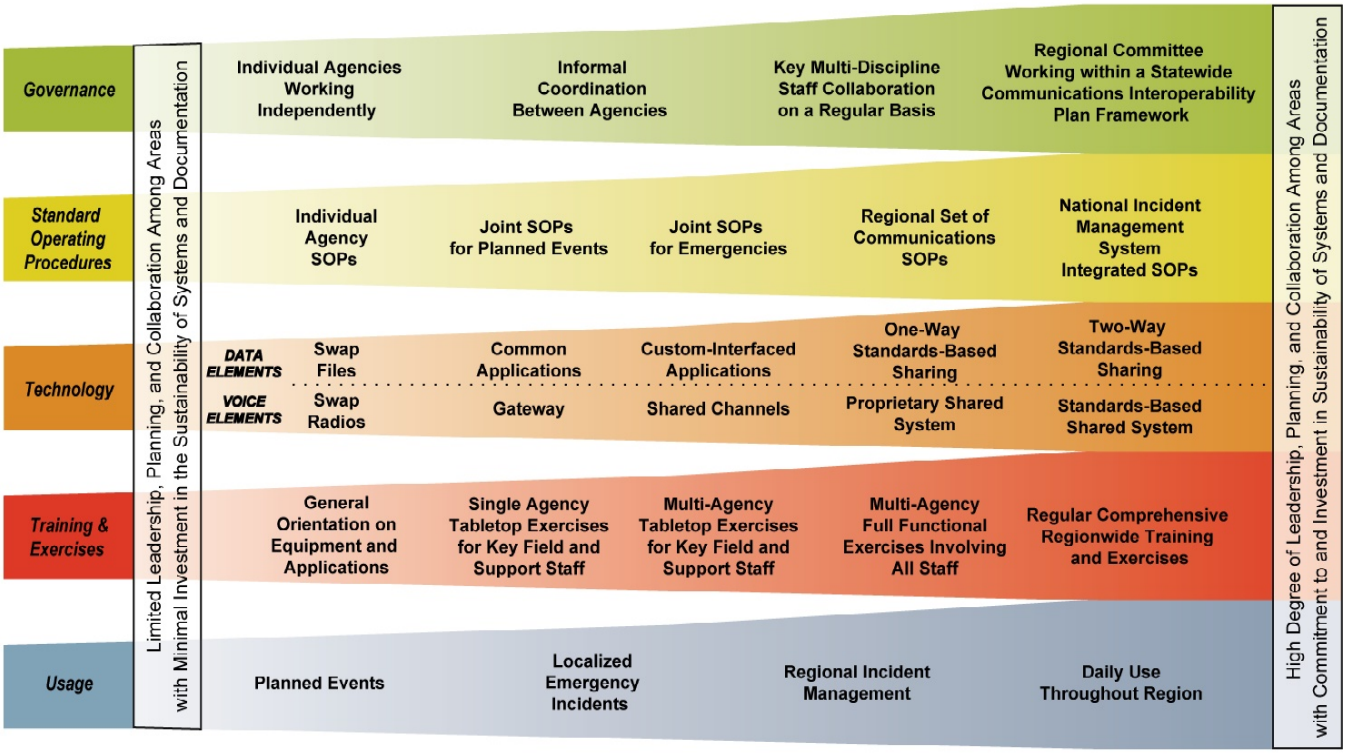

Figure 1: SAFECOM Interoperability Continuum

INTEROPERABLE AND EMERGENCY COMMUNICATIONS OVERVIEW

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). All 56 states and territories, including the state of Rhode Island, have opted into FirstNet. With this new

[2] The Interoperability Continuum brochure is available here

system, agencies can supplement existing LMR capabilities with improved spectrum, broadband capabilities, and the means to move and transfer data as never before. Its adoption and implementation will entail close coordination with dispatch supervisors, LMR systems managers and managers of alert and warning systems to ensure interoperability and cybersecurity are not sacrificed as agencies begin adopting wireless cellular devices for daily operations.

VISION AND MISSION

This section describes Rhode Island's vision and mission for improving emergency communications operability, interoperability, and continuity of communications statewide:

Vision:

Rhode Island public safety-first responders and applicable private partners, will be able to communicate using compatible systems, in real time, across all disciplines and jurisdictions, to respond more effectively during day to day operations and major emergency situations.

Mission:

To pursue and promote interoperable policies, standards, and goals which will ensure effective, fail safe communications, in accordance with Rhode Island General Law, Chapter 30-15.

GOVERNANCE

Rhode Island Interoperable Communications Committee (ICC)

The Governance section of the SCIP outlines the future direction of the Rhode Island governance structure for interoperable and emergency communications.

Rhode Island General Law, Chapter 30-15[3], created the Interoperable Communications Committee (ICC) within the Rhode Island Emergency Management Agency (RIEMA). Section 42 of the Rhode Island General Law, Chapter 30-15, outlines the membership of the Committee and advises its purpose is to address the challenges associated with the statewide communications interoperability. Figure 2 outlines the membership of the ICC and Figure 3 provides a look at the various subcommittees that make up the ICC.

The ICC currently has 22 members representing the various agencies and groups described in Figure 2 below however, there is a desire by the ICC to involve more information technology subject matter experts (SME) as emergency communications continues to pursue endeavors surrounding emerging technologies and the need for cybersecurity. There is also a desire to see more federal partners involved at the ICC level to ensure all stakeholder voices, throughout the state of Rhode Island, can participate, gather and provide information that will help create interoperability.

Figure 2: ICC Membership

[3] Rhode Island General Law Chapter 30 regarding Emergency Management is available here

Figure 3: Rhode Island ICC Governance Structure

The following table outlines goals and objectives related to Governance:

Governance	
Goals	**Objectives**
1. Continue to refine the subcommittees of the ICC to ensure structure and process in order to achieve the goals of the SCIP	1.1 Ensure focus on emerging technologies. Focus on more than just land mobile radio (LMR)
	1.2 Develop and implement strategy for state interoperability for the future (e.g., cybersecurity)
2. Coordinate/orchestrate public safety broadband activities between the ICC as applicable	2.1 Continue to engage ICC stakeholders by establishing subcommittee working groups to focus on public safety broadband and emerging technologies
	2.2 Continue to conduct informational meetings with stakeholders to provide information on public safety broadband and emerging technologies and the upcoming steps that will be taken
	2.3 Continued participation in consultation process in updating and enhancing State Plan as needed
	2.4 Develop best practices for emerging technology implementation

3. Continue outreach planning to support education on SCIP initiatives, resources, and technologies	3.1 Define topics for outreach and education; link them to requirements and user needs
	3.2 Determine funding stream for executing plans
	3.3 Develop informational plan about the SCIP to inform peers, cross border partners, federal partners, the General Assembly, Governor's Office, and various state agencies

TECHNOLOGY

Land Mobile Radio

Currently, the state of Rhode Island operates a statewide Project 25 (P25) 800-Megahertz (MHz) trunked radio system as well as a statewide 700 MHz data system. Information concerning the statewide system is maintained by the ICC and vetted through the membership. Maritime resources, to include access provided to the U.S. Coast Guard, also utilizes the statewide system and have noted they maintain great coverage. The system is a closed system to avoid instances of cyberattack and helps keep the system secure by having the ICC membership discuss each new user that wants to be linked to the system.

The issue arises when trying to create interoperability between the statewide system and users of other systems that are not linked to the statewide 800 system. The goal of the ICC is to create a communications system that can be interoperable with what local communities are using so that they may focus on other local issues. The state does not require users to utilize the statewide system but wants first responders and stakeholders to be able to interoperate with the statewide system when necessary and with ease. Funding for an Inter-RF Subsystem Interface (ISSI) gateway would also help enhance interoperable communications with neighboring states.

Mobile Broadband

Although the majority of Rhode Island utilizes Verizon for public safety broadband needs, the state is moving towards more of a 50/50 split between Verizon and FirstNet users. This creates an impact on efforts towards interoperability and first responder preemption. All broadband vendors are always invited to attend an ICC meeting to discuss their systems with the state and provide information regarding better capabilities for public safety.

Rhode Island is continuously seeking a better understanding of current and emerging technologies and their broadband capabilities that can be utilized for interoperable communications. There is a strong need for better visibility and creation of best practices over the broadband vendor community to ensure agencies and departments are receiving what they need to be able to perform their duties, to be able to interoperate with others, what level of security these devices and applications have to ensure protection of the data, and at the best cost.

9-1-1

Rhode Island has a centralized 9-1-1 system through the state Department of Public Safety (DPS) and it is run as a state agency. There are multiple individual public safety communications centers throughout the state for local communities. The state is currently in the process of transitioning to Next Generation 9-1-1 (NG9-1-1). The state is also working towards a standardized computer aided dispatch (CAD) system that should be completed within the next 2-3 years.

Issues remain regarding the 9-1-1 Fund and some of that funding being deferred to other state programs and resources. There is also a desire to see unified and standardized training programs for dispatchers throughout the state. Funding appears to be a key concern for the state for the communication centers s, dispatcher training, and for lifecycle of equipment.

Alerts and Warnings

Currently, Rhode Island is utilizing “Code Red” for alerts and warnings services and all municipalities as well as tribal users have access to the system. It uses reverse 9-1-1 data as well as registered users. A few towns throughout the state use their own alerts and warnings systems, but there are few in the state.

With alerts and warnings, there is a strong desire in the state to create a standardized messaging format for locals to use that can make alerting to citizens and residents smoother, easy to understand, and fast to be able to disseminate. There is a need for standardized listing of companies outside of the residents of the state (e.g., bus lines) that need to be added in alerts and warnings to be sure everyone in the state that needs to know about a situation can be made properly aware.

The following table outlines goals and objectives related to Technology:

Technology	
Goals	**Objectives**
4. Address radio interoperability between responders	4.1 Continue development of recommendations of emerging technologies on radio interoperability and its impact with the State Emergency Operations Center (SEOC).
	4.2 Develop a recommendation for radio interoperability between public safety, public service, and public institutions across the state
	4.3 Develop standard interoperability communications plan that meets all-hazards planning
	4.4 Establish a centralized Clearinghouse for accessibility to communications plans and sharing of A-bank information

	4.5 Establish protocols for updating those communications plans
	4.6 Develop coordination plan with Emergency Support Function (ESF) #2
	4.7 Provide training on radio interoperability
	4.8 Update Field Operations Guide (FOG) to match guidance
5. Develop and promote electronic training for operable and interoperable communications for all radio users	5.1 Develop course participant tracking procedures
	5.2 Conduct outreach to elected officials regarding program
	5.3 Validate through exercise program
	5.4 Establish full-scale drill to exercise radio communications
	5.5 Ensure after action reporting (AAR) development
6. Develop a timeline and roadmap/direction for current and emerging technologies	6.1 Engage vendors to identify current and emerging technologies
	6.2 Engage users of systems with consumer report of vendors
	6.3 Engage users of systems to validate information collected from vendors
	6.4 Cross reference identification with federal requirements (e.g., radio channel labeling, First Responder Network Authority [FirstNet])
	6.5 Explore and document opportunities for coordination and partnerships among jurisdictions
	6.6 Establish a process to sort and refine the roadmap regularly
	6.7 Link all systems to SEOC
	6.8 Integrate Port Security Camera Network/other camera systems (e.g., Department of Transportation, Turnpike and Bridge Authority) and make more widely available through the state

7. Continue to incorporate comprehensive communications planning "up-front" into exercises	7.1 Implement policy with local and state public safety agencies to incorporate communications into plans, drills, and exercises
	7.2 Implement policy through the State's training academies (i.e., Police, Fire) and other Rhode Island Statewide Communications Network (RISCON) user training centers
	7.3 Create a standard exercise evaluation guide (EEG) for communication interoperability during drills and exercises
	7.4 Conduct exercises based on real incidents and lessons learned, utilizing the Homeland Security Exercise and Evaluation Program (HSEEP)
	7.5 Develop and distribute case studies from real incidents
8. Continue to develop and implement communications training	8.1 Make web-based training available
	8.2 Expand training to additional users (e.g., Red Cross)
	8.3 Develop "Train-the-Trainer" education program through consideration of Task Force model (i.e., cooperative agreement)
	8.4 Promote awareness of available training
	8.5 Request technical assistance for Communications Unit Exercise (COMMEX) development (training and exercise plan)

SUSTAINABILITY FUNDING

Stakeholders in Rhode Island are eager to secure sustainable funding to support new, on-going, and future efforts across the state's entire communications ecosystem. The ICC currently has an annual budget process and creates an annual narrative to describe efforts the membership is currently involved in and future items membership is looking to implement into emergency communications.

Throughout the 2020 SCIP workshop, there was a tremendous desire for training of radio users within the state as well as collaborative efforts to be funded to enhance cross border communications with the ISSI gateway. This training discussion was heavy with the need to be able to fund the training, fund the ability to have in-state instructors to facilitate courses regularly, and funding for personnel to be able to attend training while funding the backfill needed in their place. Alongside discussion of funding for training, the first responders of Rhode Island wish to see funding for backup infrastructure (microwave systems) and resiliency and more discussion pertaining to the lifecycle of equipment and training on grant writing to

access these funding opportunities. Continued support and education on funding abilities and opportunities are a huge component for Rhode Island as well as any other state or territory for emergency communications and interoperability.

The following table outlines goals and objectives related to Sustainability Funding:

Sustainability Funding	
Goals	**Objectives**
9. Identify the problems, issues, needs, and recommendations for sustainable funding of interoperable and emergency communications priorities	9.1 Develop a series of decision briefs that incorporate problem analyses associated with system usage (e.g., VHF, RISCON) and life-cycle funding
	9.2 Analyze funding requirements and funding justifications
	9.3 Establish an understanding of revenue generating models for potential consideration
	9.4 Identify and execute on low- or no-cost solutions
	9.5 Continue to research and publish funding opportunities information

IMPLEMENTATION PLAN

The Statewide Interoperability Coordinator (SWIC) will be the central point of coordination for implementing the SCIP goals and objectives. These SCIP goals and objectives are intended to support the dissemination of best practices across Rhode Island and can be amended as relevant stakeholders see fit. The Emergency Communications Division (ECD) 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, Thomas Guthlein.

Goals	Objectives	Owners	Timeline
1. Continue to refine the subcommittees of the ICC to ensure structure and process in order to achieve the goals of the SCIP	1.1 Ensure focus on emerging technologies. Focus on more than just land mobile radio (LMR)	ICC	July 2020 (formation of Cybersecurity Subcommittee); Ongoing
	1.2 Develop and implement strategy for state interoperability for the future (e.g., cybersecurity)		
2. Coordinate/orchestrate public safety broadband activities between the ICC as applicable	2.1 Continue to engage ICC stakeholders by establishing subcommittee working groups to focus on public safety broadband and emerging technologies	ICC Subcommittees Commercial partners Occupational Safety and Health Administration (OSHA)	Ongoing
	2.2 Continue to conduct informational meetings with stakeholders to provide information on public safety broadband and emerging technologies and the upcoming steps that will be taken		
	2.3 Continued participation in consultation process in updating and enhancing State Plan as needed		
	2.4 Develop best practices for emerging technology implementation		

3. Continue outreach planning to support education on SCIP initiatives, resources, and technologies	3.1 Define topics for outreach and education; link them to requirements and user needs	RIEMA Preparedness SWIC	March 2021
	3.2 Determine funding stream for executing plans		
	3.3 Develop informational plan about the SCIP to inform peers, cross border partners, federal partners, the General Assembly, Governor's Office, and various state agencies		
4. Address radio interoperability between responders	4.1 Continue development of recommendations of emerging technologies on radio interoperability and its impact with the State Emergency Operations Center (SEOC).	ICC Local Agencies	Ongoing
	4.2 Develop a recommendation for radio interoperability between public safety, public service, and public institutions across the state		
	4.3 Develop standard interoperability communications plan that meets all-hazards planning		
	4.4 Establish a centralized Clearinghouse for accessibility to communications plans and sharing of A-bank information		
	4.5 Establish protocols for updating those communications plans		
	4.6 Develop coordination plan with Emergency Support Function (ESF) #2		
	4.7 Provide training on radio interoperability		

	4.8 Update Field Operations Guide (FOG) to match guidance		
5. Develop and promote electronic training for operable and interoperable communications for all radio users	5.1 Develop course participant tracking procedures	ICC Training and Education Subcommittee Local Agencies Fire and Police Associations Academia RIEMA Preparedness HARI	March 2021; Ongoing
	5.2 Conduct outreach to elected officials regarding program		
	5.3 Validate through exercise program		
	5.4 Establish full-scale drill to exercise radio communications		
	5.5 Ensure after action reporting (AAR) development		
6. Develop a timeline and roadmap/direction for current and emerging technologies	6.1 Engage vendors to identify current and emerging technologies	ICC Technical Subcommittee	March 2021; Ongoing
	6.2 Engage users of systems with consumer report of vendors		
	6.3 Engage users of systems to validate information collected from vendors		
	6.4 Cross reference identification with federal requirements (e.g., radio channel labeling, First Responder Network Authority [FirstNet])		
	6.5 Explore and document opportunities for coordination and partnerships among jurisdictions		
	6.6 Establish a process to sort and refine the roadmap regularly		
	6.7 Link all systems to SEOC		

	6.8 Integrate Port Security Camera Network/other camera systems (e.g., Department of Transportation, Turnpike and Bridge Authority) and make more widely available through the state		
7. Continue to incorporate comprehensive communications planning "up-front" into exercises	7.1 Implement policy with local and state public safety agencies to incorporate communications into plans, drills, and exercises	RIEMA Preparedness ICC Training and Education Subcommittee	December 2020
	7.2 Implement policy through the State's training academies (i.e., Police, Fire) and other state RISCON user training centers		
	7.3 Create a standard exercise evaluation guide (EEG) for communication interoperability during drills and exercises		
	7.4 Conduct exercises based on real incidents and lessons learned, utilizing the Homeland Security Exercise and Evaluation Program (HSEEP)		
	7.5 Develop and distribute case studies from real incidents		
8. Continue to develop and implement communications training	8.1 Make web-based training available	ICC Training and Education Subcommittee Cybersecurity and Infrastructure Security Agency (CISA)	March 2023
	8.2 Expand training to additional users (e.g., Red Cross)		
	8.3 Develop "Train-the-Trainer" education program through consideration of Task Force model (i.e., cooperative agreement)		
	8.4 Promote awareness of available training		

	8.5 Request technical assistance for COMMEX development (training and exercise plan)		
9. Identify the problems, issues, needs, and recommendations for sustainable funding of interoperable and emergency communications priorities	9.1 Develop a series of decision briefs that incorporate problem analyses associated with system usage (e.g., VHF, RISCON) and life-cycle funding	Police and Fire Associations ICC Budget and Capital Subcommittee RIEMA Director	March 2021; Ongoing
	9.2 Analyze funding requirements and funding justifications		
	9.3 Establish an understanding of revenue generating models for potential consideration		
	9.4 Identify and execute on low- or no-cost solutions		
	9.5 Continue to research and publish funding opportunities information		

APPENDIX A: RHODE ISLAND INTEROPERABILITY MARKERS

Interoperability Continuum	Marker #	Best Practices / Performance Markers	Initial	Defined	Optimized	Comment
Governance	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 ☐9-1-1 ☐Alerts, Warnings and Notifications	Defined (3-4) Governance body participation includes: ☒Communications Champion/SWIC ☒LMR ☐Broadband/LTE ☐9-1-1 ☒Alerts, Warnings and Notifications	Optimized (5) Governance body participation includes: ☐Communications Champion/SWIC ☐LMR ☐Broadband/LTE ☐9-1-1 ☐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	Filling roles outside public safety. Exec admin, ops officer, and prep chief
	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	Scheduled SCIP for fall
	6	**SCIP strategic goal percentage.** SCIP goals are primarily strategic to improve long term emergency communications ecosystem (LMR, LTE, 911, A&W) and future	<50% are strategic goals in SCIP	>50%<90% are strategic goals in SCIP	>90% are strategic goals in SCIP	

		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: ☒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	
SOP/SOGs	**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	Interoperable communications SOPs/SOGs are formalized and in use by agencies within the area. Despite	Interoperable communications SOPs/SOGs within the area are formalized and regularly reviewed. Additionally,	

			these interoperability procedures among some agencies	minor issues, SOPs/SOGs are successfully used during responses and/or exercises	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	Will be updated after next SCIP
	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	Just had workshop and FEMA evaluation on A&W system
Technology	**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	Just did upgrade require touch every radio in state. Local systems too.

						They ride on our system.
	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 ☐9-1-1/CAD ☐A&W	Initial plus, conducted assessment, conducted risk assessment. (check yes or no for each option) ☒LMR ☐LTE ☐9-1-1/CAD ☒A&W	Defined plus, Availability of Cyber Incident Response Plan (check yes or no for each option) ☐LMR ☐LTE ☐9-1-1/CAD ☐A&W	Have a plan. LMR-closed system. No statewide CAD. A&W provides plan for how they protect sites.
	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.	Mark presented a slide with definitions. Request definitions.

	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.	Still need to work on CAD to CAD data sharing. All others met. State GIS enterprise.
	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 ☒Public Alerting Software ☒Sensors ☒Autonomous Vehicles ☐MCPTT Apps ☒Wearables ☐Machine Learning/Artificial Intelligence/Analytics ☒Geolocation ☒GIS ☒Situational Awareness Apps-common operating picture applications (i.e. Force Tracking, Chat Applications, Common Operations Applications) ☒HetNets/Mesh Networks/Software Defined Networks ☐Acoustic Signaling (Shot Spotter) ☐ESInet ☐'The Next Narrowbanding' ☒Smart Cities			
Training & Exercises	**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	Initial and Defined plus mechanism in place to incorporate and measure communications objectives into state/county/regional level exercises	

				community). Including providing tools, templates, etc.		
	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	Capture info in state training tool as well as CASM
Usage	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	We have AAR tool to track every incident and training. Only push out issues vs. best practices
Outreach	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 GETS 883-5.57% WPS 211-1.33%	>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	

Lifecycle	**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	State system is reviewed annually. Locals are not reviewed at all.
	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	
All Lanes	**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	Operational interoperability. States need ISSI gateway to connect both border state LMR systems to create seamless interoperability. Once have technical capability, will create appropriate SOPs/MOUs

APPENDIX B: LIST OF ACRONYMS

AAR	After Action Report
CAD	Computer Aided Dispatch
CISA	Cybersecurity and Infrastructure Security Agency
COMMEX	Communications Unit Exercise
DHS	United States Department of Homeland Security
DoIT	Rhode Island Department of Information Technology
DPS	Department of Public Safety
ECD	Emergency Communications Division
EEG	Exercise Evaluation Guide
ESF	Emergency Support Function
FirstNet	First Responder Network Authority
FOG	Field Operations Guide
HARI	Hospital Association of Rhode Island
HSEEP	Homeland Security Exercise and Evaluation Program
ICC	Interoperable Communications Committee
IP	Internet Protocol
ISSI	Inter-RF Subsystem Interface Gateway
LMR	Land Mobile Radio
MHz	Megahertz
NECP	National Emergency Communications Plan
NG9-1-1	Next Generation 9-1-1
NPSBN	National Public Safety Broadband Network
OSHA	Occupational Safety and Health Administration
P25	Project 25
PSAP	Public Safety Answering Point
RIEMA	Rhode Island Emergency Management Agency
RISCON	Rhode Island Statewide Communications Network
SCIP	Statewide Communication Interoperability Plan
SEOC	State Emergency Operations Center
SME	Subject Matter Expert
SWIC	Statewide Interoperability Coordinator
UHF	Ultra High Frequency
VHF	Very High Frequency