VERMONT

STATEWIDE COMMUNICATION INTEROPERABILITY PLAN

MAY 2020

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

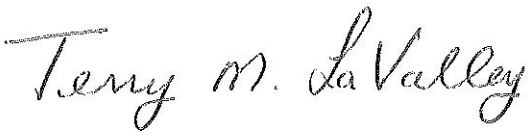
LETTER FROM THE STATEWIDE INTEROPERABILITY COORDINATOR

Greetings,

As the Statewide Interoperability Coordinator (SWIC) for the State of Vermont, I am pleased to provide this 2020 Statewide Communications Interoperability Plan (SCIP). This SCIP represents Vermont's continuous commitment to improving emergency communication interoperability and provide support for our public safety practitioners throughout the state. In addition, this update meets the requirement of the Fiscal Year 2020 Department of Homeland Security (DHS) grant guidelines.

This plan provides an overview and progress report on work underway through the Vermont Department of Public Safety (DPS) to support and enhance interoperable communications. 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 this SCIP.

Sincerely,



Terry LaValley
Vermont Statewide Interoperability Coordinator

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INTRODUCTION

The Vermont Statewide Communications Interoperability Plan (SCIP) is a 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 Vermont's current and future emergency communications environment.
- Vision and Mission – Articulates Vermont'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 and technology.
- Implementation Plan – Describes Vermont's plan to implement, maintain, and update the SCIP and enable continued evolution of and progress toward Vermont'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 continue improving operable/interoperable and public safety communications. It is designed to assist public safety agencies and policy makers with planning and implementing

[1] The 2019 NECP is available here and at https://www.cisa.gov/sites/default/files/publications/19_0924_CISA_ECD-NECP-2019_0.pdf

interoperability solutions for communications across technologies. More information on the Interoperability Continuum is available in the Interoperability Continuum brochure.[2]

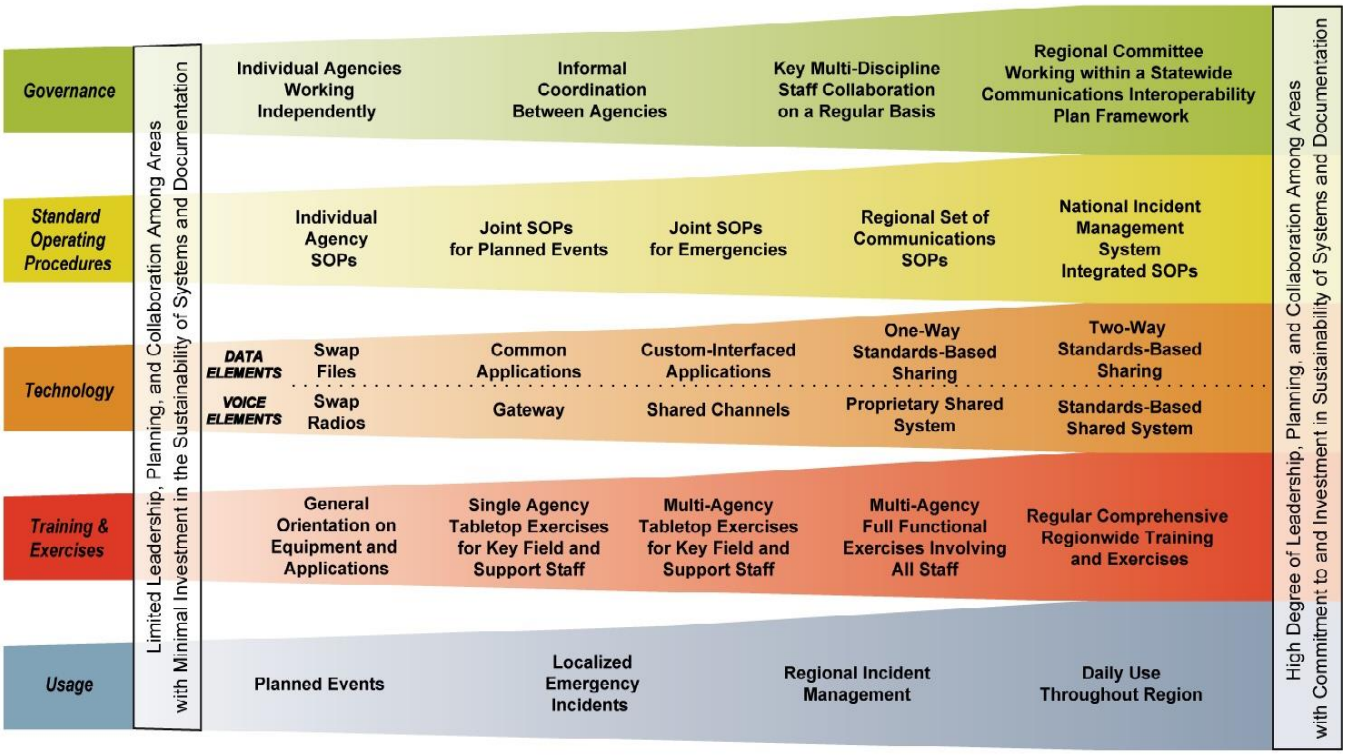


Figure 1: SAFECOM Interoperability Continuum

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 Vermont, have opted into FirstNet. With this new system and the promised new coverage to come, agencies can supplement existing LMR capabilities with improved spectrum, broadband capabilities, and the means to move and transfer data as

[2] The Interoperability Continuum brochure is available here and at https://www.cisa.gov/sites/default/files/publications/interoperability_continuum_brochure_2_1.pdf

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.

While the enhancement of current capabilities and the potential for integration of emerging technologies is tremendous, interfacing systems along with governance, standard operating procedures and training are necessary to fully realize these benefits and ensure the security of information are all key elements to successful implementation.

VISION AND MISSION

This section describes Vermont's vision and mission for improving emergency communications operability, interoperability, and continuity of communications statewide. These are key to the success of the SCIP are the working partnerships the Department of Public Safety (DPS) has with other state agencies and the broader Vermont public safety community. The Department of Public Service is the primary planning agency in Vermont for advancing telecommunication networks that serve all sectors of the state, including public safety. It is envisioned that the goals of the SCIP will work in tandem with the broader goals espoused within the Vermont Telecommunications Plan. The current 10-year plan commits the support of the Department of Public Service to working cooperatively with the Department of Public Safety to ensure broadband networks such as FirstNet are fully built in Vermont to expand needed coverage.

Vision:

To achieve interoperable communications within all areas of the emergency communications ecosystem.

Mission:

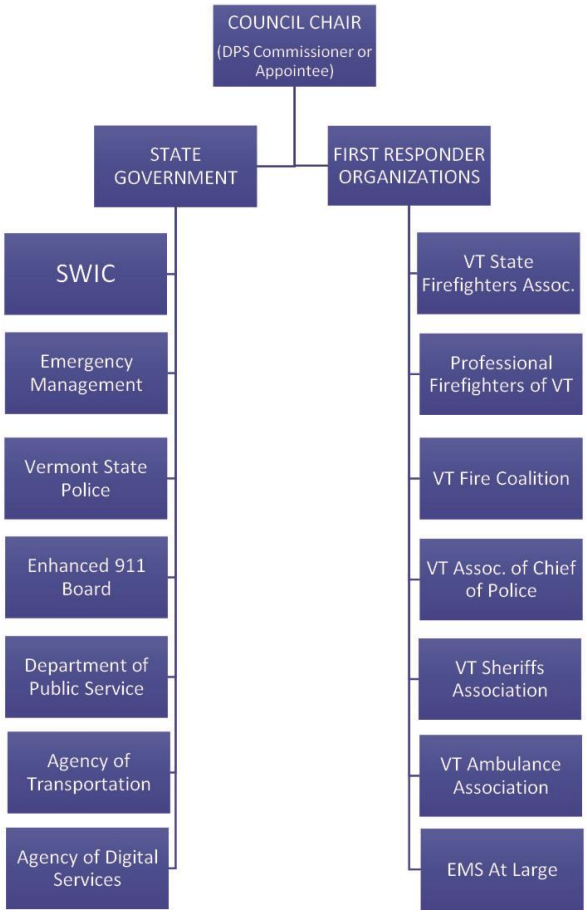
Implement and strengthen systems and communication among public safety stakeholders to enhance and sustain all elements of the emergency communications ecosystem.

GOVERNANCE

Vermont has no governance body in place for emergency communications. Instead, the Governor created the Emergency Communications Advisory Council (ECAC) to provide guidance and recommendations to the administration and to the Department of Public Safety. The SWIC is a key member of that council. In an advisory role, the members:

- Advise the Governor on issues related to the Nationwide Public Safety Broadband Network (also known as FirstNet) and on emergency communications, generally, in Vermont;
- Advise on the needs of Vermont's public safety community as it relates to FirstNet and the need for an interoperable, robust, reliable and affordable cellular broadband network, including advice on the placement of fixed network assets and deployables;
- Advise on protocols and policies related to the NPSBN and, as needed, on emergency communications generally; and
- Advise on planning activities needed to prepare Vermont's public safety community for emergency communications technology transitions.

DPS also will seek input from the advisory council for ongoing feedback on the implementation of the 2020 SCIP and the goal of maintaining interoperable communications within all areas of the emergency communications ecosystem. The council consists of 15 members appointed by the Governor with representatives from both state and local public safety and service areas having ties to emergency communications in Vermont.



The following table outlines goals and objectives related to governance.

Governance	
Goals	**Objectives**
1. Establish an emergency communications and interoperability group to provide guidance to the Vermont Department of Public Safety and advise on matters related to the Statewide Communication Interoperability Plan (SCIP).	1.1 Convene the first meeting of the Emergency Communications Advisory Council (ECAC).
	1.2 Provide briefing materials to ECAC members to enable a common base of understanding on emergency communications and interoperability.
	1.3 Create a work plan and related agenda building to facilitate feedback from both individual ECAC members and their representative stakeholder groups.
	1.4 Determine governance needs for operations and staffing.

TECHNOLOGY

Land Mobile Radio & Mobile Broadband

In 2017, the Vermont Department of Public Safety appointed a Statewide Interoperability Coordinator based within the Radio Technology Services (RTS) unit of DPS. It is this operational unit that has responsibility for the telecommunication systems and equipment for the department including the Land Mobile Radio (LMR) system, the Vermont Microwave Network, telephone systems and project oversight of FirstNet. Among the departments served by RTS are the Vermont State Police, Emergency Management, Fire Safety, Criminal Justice Services, Agency of Transportation, Department of Fish and Wildlife, Department of Corrections and many municipal police, fire and emergency medical services. RTS systems comprise the backbone of emergency communications within the entire state. As such, it is a benefit to have the SWIC located within this unit to provide a strong operational link to facilitate the implementation of needed LMR enhancements. In addition, RTS provides the administrative oversight in Vermont for the buildout of the FirstNet Authority managed Nationwide Public Safety Broadband Network.

It is anticipated that the SWIC's close operational ties and membership in ECAC will facilitate the strong stakeholder relationships needed to enhance interoperable communication in Vermont.

9-1-1

The Enhanced 911 (E911) Board has statutory responsibility for the design, installation and operation of Vermont's 911 system. The Executive Director for the E911 Board is a member of Vermont's ECAC. It is anticipated that as an ECAC member the advisory relationship for interoperability questions related to the 911 system will be strengthened.

More than 70 percent of all 911 calls in Vermont come from non-wireline devices (cellular). Vermont was one of the first states to implement a Next Generation 911 (NG911) system statewide. In 2007, Vermont put into operation a statewide Emergency Services IP network (ESInet) that connected all of the state's regional public safety answering points (PSAPs) to each other. This interconnectedness ensures 911 calls are automatically routed to other PSAPs should one PSAP be unable to answer a call. Enhanced 911 capabilities are constantly being upgraded in Vermont and in other states. E911 capable systems automatically provide dispatchers with the location of a call. However, when it comes to wireless calls, identifying the precise location of a caller can be challenging without adequate broadband coverage. In March 2019, the Enhanced 911 Board announced that it had entered into a contract with INdigital for the state's next NG911 system. The INdigital solution is a fully hosted NG911 system which aligns with national standards and recommendations for statewide NG911 deployments. The solution will provide all equipment and functionality necessary to process 911 calls and text messages in Vermont. After a period of system build-out, testing and certification the new system will "go-live" in October 2020.

Alerts and Warnings

VT-ALERT is used by the state and local responders to notify the public of emergency situations. Within DPS, it is the Emergency Management Division that manages this system. The Director of Emergency Management is a member of the ECAC. Alerts transmitted through VT-ALERT include, evacuation information; chemical spills; shelter-in-place alerts; severe weather advisories; boil water advisories, and roadway interruptions. Alerts may be tailored to specific locations, types of alerts and on which devices they will be notified. Vermont Emergency Management launched VT-ALERT in 2013 as a means of reaching Vermonters directly with emergency information via their cell phones, email, or home phones. The system allows users to choose which alerts they receive, how they receive them, and for which specific geographic area.

The following table outlines goals and objectives related to technology.

Technology	
Goals	**Objectives**
2. Enhance the Vermont Communication System (VCOMM) as an interoperable hailing system that is an alternate operability solution for first responders.	2.1 Conduct outreach to increase awareness of the VCOMM system and functionality.
	2.2 Provide training for first responders on the VCOMM system, including how VCOMM provides common very high frequency (VHF) and ultra-high frequency (UHF) channels for hailing.
	2.3 Conduct VCOMM field exercise training with first responders.

3. Establish Project 25 (P25) as the operational standard in Vermont and migrate users to the new standard.	3.1 Promote P25 standards.
	3.2 Guide and encourage the process of securing P25 capable radios across law enforcement entities in Vermont.
	3.3 Conduct outreach to the public safety community on the P25 changeover.
4. Identify and plan for transitional public safety applications, software & databases between LMR systems & broadband-based systems.	4.1 Identify broadband applications Vermont first responders could use to enhance interoperable communication.
	4.2 Facilitate the distribution of training materials on broadband applications.
	4.3 Conduct outreach to the public safety community on how P25 technology facilitates use of broadband applications, including demonstrations of several software systems.
5. Encourage use of interoperable communications for operations.	5.1 Ensure communication personnel are included in planning, exercises, and major events.
	5.2 Encourage interoperable resources to be used for routine events and exercises to ensure familiarity with these systems.
	5.3 Educate command and executive personnel on the value of interoperable communications.
6. Assess means to establish a Communications Unit (COMU) program in Vermont.	6.1 Consult with the ECAC on the need and scope of a COMU program in Vermont.
	6.2 Administer statewide online survey of first responders to assess interest in participating in COMU training.
	6.3 Create a plan for implementing a COMU program in Vermont.
7. Attend conferences and SWIC meetings to learn about other interoperable state systems.	7.1 Attend bi-annual SWIC meetings.
	7.2 Monitor conferences on interoperability, broadband and emergency communications and send staff for training.
	7.3 Communicate information from meetings and conferences with the greater public safety community.

SUSTAINABILITY FUNDING

Current State of Funding

The State of Vermont budgetary constraints and securing sustainable funding remains an issue. In corporation with municipal, federal, and state entities, the State should identify and establish sustainable funding. Funding is necessary to maintain the Infrastructure, technical

support, and administrative staff required to ensure operational availability. A full-time SWIC and administrative staff is recommended to support all interoperability efforts within Vermont.

The following table outlines goals and objectives related to sustainability funding.

Sustainability Funding	
Goals	**Objectives**
8. Identify alternative funding solutions for interoperable communication systems.	8.1 Explore Federal and State funding opportunities to develop and expand interoperable technologies in the state.
	8.2 Identify realistic and sustainable funding plans for the full life cycle of interoperable communication equipment.

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 Vermont 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.

Goal	Objectives	Owner(s)	Completion Date
1. Establish an emergency communications and interoperability group to provide guidance to the Vermont Department of Public Safety and advise on matters related to the Statewide Communication Interoperability Plan (SCIP).	1.1 Convene the first meeting of the Emergency Communications Advisory Council (ECAC).	DPS, RTS	August 1, 2020
	1.2 Provide briefing materials to ECAC members to enable a common base of understanding on emergency communications and interoperability.	DPS, RTS	July 1, 2020
	1.3 Create a work plan and related agenda building to facilitate feedback from both individual ECAC members and their representative stakeholder groups.	DPS, RTS	Ongoing
	1.4 Determine governance needs for operations and staffing.	ECAC	Ongoing
2. Establish the Vermont Communication System (VCOMM) as an interoperable hailing system that is an alternate operability solution for first responders where their primary LMR is not working.	2.1 Conduct outreach to increase awareness of the VCOMM system and functionality.	RTS	Ongoing
	2.2 Provide training for first responders on the VCOMM system, including how VCOMM provides common VHF and UHF channels for hailing.	RTS	Ongoing
	2.3 Conduct VCOMM field exercise training with first responders.	RTS	Ongoing

3. Establish P25 as the operational standard in Vermont and migrate users to the new standard.	3.1 Promote P25 standards and create a timeline for the next radio refresh.	RTS	July 1, 2021
	3.2 Guide and encourage the process of securing P25 capable radios across law enforcement entities in Vermont.	RTS	Ongoing
	3.3 Conduct outreach to the public safety community on the P25 changeover.	RTS	Ongoing
4. Identify and plan for transitional public safety applications, software & databases between LMR systems & broadband-based systems.	4.1 Identify broadband applications Vermont first responders could use in interoperable communication.	RTS	Ongoing
	4.2 Facilitate the distribution of training materials on broadband applications.	RTS	Ongoing
	4.3 Conduct outreach to the public safety community on how P25 technology facilitates use of broadband applications, including demonstrations of several software systems.	RTS	Ongoing
5. Encourage use of interoperable communications for operations.	5.1 Ensure communication personnel are included in planning, exercises and major events.	RTS, EM	Ongoing
	5.2 Encourage interoperable resources to be used for routine events and exercises to institutionalize daily use.	RTS, EM	Ongoing
	5.3 Educate command and executive personnel on the value of interoperable communications.	RTS, EM	Ongoing
6. Assess means to establish a Communications Unit (COMU) program in Vermont.	6.1 Consult with the ECAC on need and scope of a COMU program in Vermont.	RTS	Ongoing
	6.2 Administer statewide online survey of first responders to assess interest in participating in COMU training.	RTS	Ongoing
	6.3 Create a plan for implementing a COMU program in Vermont.	RTS	Ongoing

7. Attend conferences and SWIC meetings to learn about other interoperable state systems.	7.1 Attend bi-annual SWIC meetings.	RTS	Ongoing
	7.2 Monitor conferences on interoperability, broadband and emergency communications and send staff for training.	RTS	Ongoing
	7.3 Communicate information from meetings and conferences with the greater public safety community.	RTS	Ongoing
8. Identify alternative funding solutions for interoperable communication systems.	8.1 Explore State and Federal funding opportunities to expand interoperable technologies in the state.	RTS, ECAC	Ongoing
	8.2 Identify realistic and sustainable funding plans for the full life cycle of interoperable communication equipment.	RTS, ECAC	Ongoing

APPENDIX A: VERMONT 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	
	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.).	<50% are strategic goals in SCIP	>50%<90% are strategic goals in SCIP	>90% are strategic goals in SCIP	

		(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 these interoperability	Interoperable communications SOPs/SOGs are formalized and in use by agencies within the area. Despite minor issues, SOPs/SOGs are	Interoperable communications SOPs/SOGs within the area are formalized and regularly reviewed. Additionally, NIMS procedures are well established	

			procedures among some agencies	successfully used during responses and/or exercises	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	No TICP in Vermont.
	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	No FOG in place.
	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	
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	

	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	
	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	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.	

		- Critical Incident Management Tool (- Web EOC)				
	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 community).	Initial and Defined plus mechanism in place to incorporate and measure communications objectives into state/county/regional level exercises	

				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	
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	
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	>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	
	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	

APPENDIX B: LIST OF ACRONYMS

COMU	Communications Unit
CISA	Cybersecurity and Infrastructure Security Agency
DHS	United States Department of Homeland Security
DPS	Department of Public Safety
E911	Enhanced 911 Board
ECAC	Emergency Communications Advisory Council
ECD	Emergency Communications Division
ESInet	Emergency Services IP Network
FirstNet	First Responder Network Authority
IP	Internet Protocol
LMR	Land Mobile Network
LTE	Long-Term Evolution
NECP	National Emergency Communications Plan
NG911	Next Generation 911
NPSBN	Nationwide Public Safety Broadband Network
P25	Project 25
PSAP	Public Safety Answering Point
RTS	Radio Technology Services
SCIP	Statewide Communication Interoperability Plan
SWIC	Statewide Interoperability Coordinator
TICP	Tactical Interoperable Communications Plan
UHF	Ultra-High Frequency
VCOMM	Vermont Communications System
VHF	Very High Frequency
VT-ALERT	Vermont Alert System
WPS	Wireless Priority Service