MICHIGAN
STATEWIDE COMMUNICATION
INTEROPERABILITY PLAN

April 2023

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LETTER FROM THE STATEWIDE INTEROPERABILITY COORDINATOR

As the Statewide Interoperability Coordinator (SWIC) for Michigan, I am pleased to present to you the 2023 Michigan Statewide Communication Interoperability Plan (SCIP). The SCIP represents the State's continued commitment to improving emergency communications interoperability and supporting the public safety practitioners throughout the State. In addition, this update meets the requirement of the current U.S. Department of Homeland Security grant guidelines. The SCIP is Michigan's strategic plan focused on the pillars that define the emergency communications ecosystem. This plan ensures that Michigan is focused on State respective goals and objectives that may also directly adhere to goals and objectives from the National Emergency Communications Plan (NECP).

Representatives from the Michigan Public Safety Communications Interoperability Board (MPSCIB) collaborated to update the SCIP with actionable and measurable goals and objectives that have champions identified to ensure completion. These goals and objectives focus on the six workgroups of the MPSCIB, as well as governance. They are designed to support our State in planning for emerging technologies and navigating the ever-changing emergency communications landscape. They also incorporate the SAFECOM/National Council of SWICs (NCSWIC) State Interoperability Markers which describe Michigan's level of interoperability maturity by measuring progress against 25 markers.

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

Sincerely,

Brad Stoddard
Michigan Statewide Interoperability Coordinator

INTRODUCTION

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

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

The Emergency Communications Ecosystem consists of many inter-related components and functions, including communications for incident response operations, notifications and alerts and

warnings, requests for assistance and reporting, and public information exchange. The primary functions are depicted in the 2019 National Emergency Communications Plan.[1]

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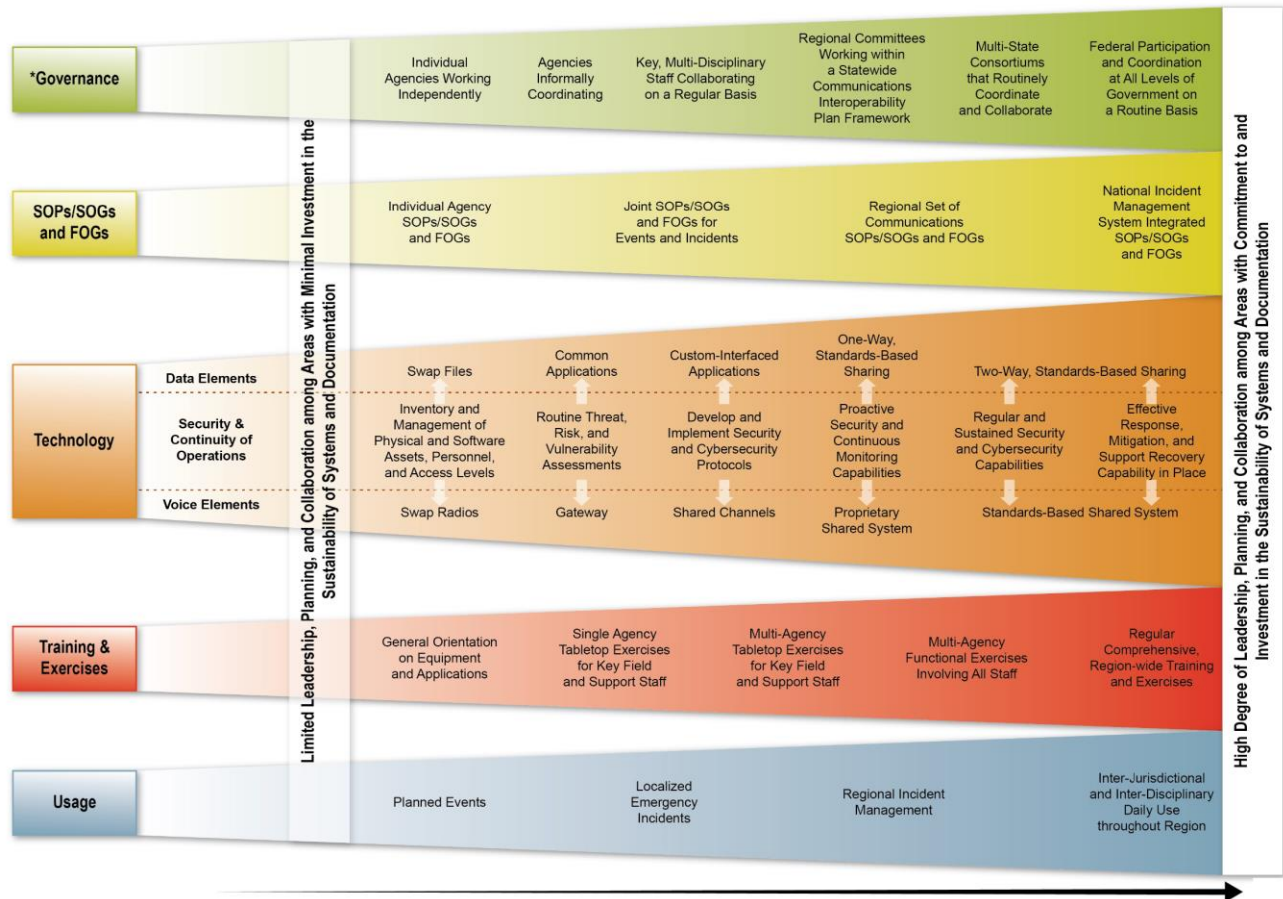
Figure 1: Interoperability Continuum

Interoperability and Emergency Communications Overview

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

Traditional voice capabilities, such as land mobile radio (LMR) and landline 9-1-1 services have long been and continue to be critical tools for communications. However, the advancement of internet protocol-based technologies in public safety has increased the type and amount of

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

information responders receive, the tools they communicate with, and complexity of new and interdependent systems. Emerging technologies increase the need for coordination across public safety disciplines, communications functions, and levels of government to ensure emergency communications capabilities are interoperable, reliable, and secure.

An example of this evolution is the transition of public-safety answering points (PSAPs) to Next Generation 9-1-1 (NG9-1-1) technology that will enhance sharing of critical information in real-time using multimedia—such as pictures, video, and text — among citizens, PSAP operators, dispatch, and first responders. While potential benefits of 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 Michigan's vision and mission for improving emergency and public safety communications interoperability:

Vision:

Sustain, expand, and secure interoperable communications solutions and practices for first responders of local, state, tribal, and federal public safety agencies, as well as government and private organizations that fall within the emergency communications ecosystem.

Mission:

Provide strategic direction and a unified multi-disciplinary, multi-jurisdictional, all hazards communications approach that includes:

- *Reliable, standards-based, shared, and secure communications infrastructure.*
- *Governance and outreach.*
- *Comprehensive communications planning, training, and exercises.*
- *Integration through sharing existing infrastructure and emerging technologies with sustainable funding solutions.*
- *Create partnerships with governmental and non-governmental entities.*
- *Establishment and use of best practices and applicable standards.*

GOVERNANCE

The main governance bodies/state entities in Michigan for emergency communications is the MPSCIB, the State 9-1-1 Committee (SNC), the Michigan State Police – Emergency Management and Homeland Security Division (MSP-EMHSD), and the Michigan Public Service Commission (MPSC). The MPSICB, the statewide interoperability governance body, has six workgroups focused on auxiliary communications (AUXCOMM), the Communications Unit, encryption, fire paging, public alerting, and security.

Michigan's SCIP will establish an official mechanism for collaboration between these different entities, create a defined approach to cybersecurity and physical security plans, and formally establish the emergency communications ecosystem as critical infrastructure. Coordinated planning and support from the stakeholders will also raise awareness, establish, and coordinate standard training and professional development for users of the technology of the emergency communications ecosystem.

TECHNOLOGY AND CYBERSECURITY

Land Mobile Radio

The Michigan's Public Safety Communications System (MPSCS) is a 7/800-Megahertz (MHz) Project 25 (P25) radio telecommunications network. The MPSCS provides statewide interoperability to all 83 counties for local, state, federal, tribal, and private partners. The system spans 59,415 square miles with 279 radio towers and over 108,000 radios.

The SCIP goals will increase the systems technical capabilities through paging and encryption plans as well as increase interoperability through training & exercise of the communications unit

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

In Michigan, the SNC consists of 21 members that represent local public safety, private industry, elected officials, and state services. Michigan began its internet protocol (IP)-based NG9-1-1 program in 2016.

Michigan's SCIP will establish an official mechanism for collaboration between different emergency communications governing bodies, including the State 9-1-1 Administrator.

Broadband

As of April 2022, the majority of Michigan has FirstNet coverage, including Allegan County, Battle Creek, Benton Harbor, Cass County, Detroit, Flint, Grand Rapids, Jackson, Kalamazoo County, Lansing, Muskegon County, Saginaw County, Bay County, Midland County, and Tuscola Counties. The state of Michigan also has robust partnerships with other broadband providers such as Verizon and T-Mobile.

Alerts and Warnings

Local public alerting authority for Emergency Alert System (EAS) messages in Michigan resides with the county governments. The MSP is the only alerting authority within Michigan that is allowed to issue Child Abduction Emergency (CAE) or AMBER Alerts, as well as Blue Alerts (BLU). National Weather Service (NWS) personnel issues all Weather Watches and Warnings that are disseminated to the public. Michigan's EAS is fully automated, forwarding messages statewide via over-the-air broadcasting through radio and television stations.

Alerting authorities also have the ability to issue Wireless Emergency Alerts (WEA) and National Oceanic and Atmospheric Administration (NOAA) Weather Radio alerts. All of these alerts are typically issued through the Federal Emergency Management Agency's (FEMA) Integrated Public Alert Warning System (IPAWS).

The overall goal in Michigan is to increase the number of IPAWS alerting authorities, along with periodic updates of state and local EAS/IPAWS plans.

Cybersecurity

The Michigan Cyber Command Center (MC3) coordinates combined efforts of any cyber emergency response during a critical cyber incident in Michigan. Michigan Cyber Partners (MCP) consists of a group of various divisions within Michigan, to include Michigan Cyber Security and MSP. It also has statewide local public entities that strengthen and improve cybersecurity resources and best practices.

Developing and reviewing cybersecurity and technology policies, obtaining and sustaining a healthy cyber hygiene, and performing a cybersecurity assessment of current systems are all priorities to increase the cybersecurity posture of the emergency communications ecosystem in Michigan.

FUNDING

Like many states across the country, lifecycle planning has become a number one priority in the emergency communications ecosystem. According to participants at the SCIP workshop, funding in the state tends to be more reactionary than proactive, and there is a lack of available sustainment funding at the state and local levels. Michigan would like to include employee retention and recruitment as well as equipment, infrastructure, and technology enhancements to its lifecycle planning, and conduct outreach and education to support these efforts. Participants at the SCIP workshop also discussed the need to identify legislative champions for emergency communications, simplify grant applications programs, and support adequate funding for the emergency communications ecosystem services statewide.

IMPLEMENTATION PLAN

Each goal and its associated objectives have a timeline with a target completion date, and one or multiple owners that will be responsible for overseeing and coordinating its completion. Accomplishing goals and objectives will require the support and cooperation from numerous individuals, groups, or agencies, and will be added as formal agenda items for review during regular governance body meetings. The Cybersecurity and Infrastructure Security Agency's (CISA) Interoperable Communications Technical Assistance Program (ICTAP) has a catalog[3] of technical assistance (TA) available to assist with the implementation of the SCIP. TA requests are to be coordinated through the SWIC.

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

Goals	Objectives	Measures of Success	Owners	Completion Date
AUXCOMM Workgroup				
1. Increase the awareness, development, training, and implementation of AUXCOMM to support public safety agencies throughout Michigan	1.1 Develop and implement an ongoing communication plan to promote AUXCOMM in the emergency management community	• County AUXCOMM Emergency Coordinator (EC) meets with county Emergency Management Coordinator (EMC) quarterly	AUXCOMM workgroup	December 2023, then ongoing
	1.2 Increase the number of knowledgeable emergency response Auxiliary Communicators (AUXC) across the state	• Train a total of 300 AUXC students • 50% of all AUXCOMM workshop graduates to initiate the AUXC position task book • 100% of task books initiated are completed within 24 months • 30 state-recognized AUXCs across the state	AUXCOMM workgroup	December 2025
	1.3 Increase the number of AUXCOMM instructors statewide	• Train and maintain a total of 6 qualified AUXC instructors	AUXCOMM and Communications Unit workgroups	December 2024
Communications Unit Workgroup				
2. Maintain the Communications Unit Program	2.1 Promote the Communications Unit through outreach and education at statewide, regional, local, and association meetings, workshops, and forums	• Hold at least one full-day, in-person meeting to review strategic goals and objectives	AUXCOMM and Communications Unit workgroups	Ongoing
	2.2 Serve as facilitator for new communication and technology needs as required, especially new data initiatives	• Hold COMU conference calls at least 6 times per year	Communications Unit workgroup	Ongoing

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[3] Emergency Communications Technical Assistance Planning Guide

Goals	Objectives	Measures of Success	Owners	Completion Date
	2.3 Evaluate new revisions of Position Task Books (PTBs) as they become available	• Recommendation to MPSCIB to adopt new PTB versions	AUXCOMM and Communications Unit workgroups	Ongoing
	2.4 Maintain the Communications Unit recognition program to ensure professional credibility and training standards for all Communications Unit positions	• Evaluate the Michigan COMU Positions Guide to State Recognition at least once per year • Recommend changes to MPSCIB as needed	Communications Unit workgroup	Ongoing
	2.5 Develop and deploy a repository for compiling communications data using the Incident Communications Activity Report (ICAR) form	• Integrate the new ICAR form into the Michigan COMU Positions Guide to State Recognition	Communications Unit workgroup	November 2024
	2.6 Maintain a current and validated database of communications personnel available as a communications resource	• Encourage state recognized personnel to e-mail their certifications for upload into D4H.org • Scrub D4H personnel once each year	Communications Unit workgroup	November 2024, then ongoing
	2.7 Complete publishing of the Michigan Electronic Field Operations Guide (MI eFOG) / Michigan FOG and establish/maintain an annual process to gather revisions, updates and new technologies in the MI eFOG / Michigan FOG	• Announce the need to review and recommend changes to the MI eFOG at the Michigan's annual Interoperable Communications Conference • Compile changes and submit as needed	Communications Unit workgroup	January 2023, then annually
3. Develop training and exercise programs for local, tribal, regional, and state agencies that includes nongovernmental and private sector companies	3.1 Recommend an annual Communications Unit training and exercise plan that addresses new technologies and continuity of communications	• Gauge the need for courses • Plan courses far enough in advance to allow agencies to budget for training	Communications Unit workgroup	November 2024
	3.2 Assess funding needs to sustain Communications Unit Position training needs	• Work with the state training officer, exercise officer and MPSCS to identify funding opportunities for COMU sponsored training and exercises		November 2023, then annually
	3.3 Exercise Communications Unit Positions	• Implement 'COMMEXs' at planned events • Identify new opportunities to assist trainees with completing PTBs		November 2024, then ongoing

Goals	Objectives	Measures of Success	Owners	Completion Date
	3.4 Support CISA State-Sponsored certification, course instruction, and attendance: • New instructors pursuing Michigan State-Sponsored certification • Existing instructors to instruct CISA State-Sponsored courses in Michigan • Support students' ability to attend State-Sponsored courses in Michigan	• Identify COMU positions needed for state sponsored instructors • Create the roadmap to state-sponsored certification • Communicate the need and roadmap for state-sponsorship to targeted groups		Ongoing
4. Increase number of course attendees to initiate and complete PTBs, and state-recognition	4.1 Provide opportunities for students to complete their PTBs through: • Providing Communications Unit Exercises (COMMEXs) • Identifying local, planned events like Bridge Walk, Cherry Fest and Electric Forest that can (with the framework and adjusted MSEL) allow Communications Unit candidates to complete their PTBs	• Develop MSELs for different events and positions • Host at least one COMMEX (or equivalent) for each COMU position every two years	Communications Unit and AUXCOMM workgroups	Ongoing
5. Increased utilization of state standard asset survey and mapping management tools for emergency communications	5.1 Continuation of CASM utilization and tracking of Michigan's communications assets	• Develop and host training program for new Michigan CASM users • Develop targeted areas to bring data current	Communications Unit and AUXCOMM workgroups	Ongoing
	5.2 Promote development of Regional or County level Tactical Interoperable Communications Plans (TICPs) with CASM data management	• Work with new CASM users to clean up the data used by CASM's generation of TICPs	Communications Unit workgroup	

Goals	Objectives	Measures of Success	Owners	Completion Date
Encryption Workgroup				
6. Establish an efficient and effective encryption management plan	6.1 Promote a consistent approach to maintaining primary P, E, F911s talkgroups unencrypted and assisting agencies with alternative paths for day-to-day encryption while maintaining interoperability		Encryption workgroup	Ongoing
	6.2 Educate on recommendations to move to a common patch key			Ongoing
	6.3 Define a road map and timelines to AES encryption as MPSCS standard			December 2024
	6.4 Multi Key standard with all three algorithms as a system standard			Ongoing
	6.5 Encryption key deconfliction with old legacy keys			Ongoing
	6.6 Provide assistance to any agency or community working through encryption issues			Ongoing
Fire Paging Workgroup				
7. Establish a Michigan Public Safety Communications System (MPSCS) pager implementation plan	7.1 Document and post online an MPSCS pager implementation plan to guide agencies in the transition from analog to Project 25 (P25) paging		Fire Paging workgroup	November 2023
	7.2 Disseminate pre-deployment or pre-decision coverage testing best practices			November 2023
	7.3 Provide user training guidelines and pager user tests			November 2023
	7.4 Disseminate pager programming best practices, including implementing password protection for programming control			November 2023

Goals	Objectives	Measures of Success	Owners	Completion Date
	7.5 Address in-building coverage issues by: • Educating users on building materials that block public safety radio transmissions • Developing mitigation techniques to facilitate in-building public safety communication • Using pager coverage to identify locations that need different radio operations plan when responding to that location			Ongoing
	7.6 Address firmware testing issues			Ongoing
	7.7 Provide pager training or training documentation to Communications Unit groups to grow the base of users that understand MPSCS paging			Ongoing
	7.8 Assess alternate P25 paging solutions as they evolve, and their relational ties to the MPSCS paging system			Ongoing
Public Alerting Workgroup				
8. Ensure Michigan emergency management programs and broadcast partners are prepared to alert the public effectively and efficiently during crisis situations	8.1 Increase the number of alerting authorities (AA) with access to the Integrated Public Alert and Warning System (IPAWS)	• All Public Act (PA) 390 programs become Integrated Public Alert and Warning System (IPAWS) alerting authorities or have a Memorandum of Understanding (MOU) with a county PA 390 program to provide alerting services on their behalf	Public Alerting workgroup	December 2024
	8.2 Increase the number of Public Act (PA) 390 programs with IPAWS messaging incorporated in their Emergency Operations Plan (EOP)	• All PA 390 programs have IPAWS message origination, distribution, and correction documented in their plans and procedures		December 2025

Goals	Objectives	Measures of Success	Owners	Completion Date
	8.3 Augment public alerting education for alerting authorities	• Training information via various webinars and presentations, shared regularly on the Public Alerting Workgroup webpage	Public Alerting workgroup	December 2023, then ongoing
	8.4 Promote State Emergency Communication Committee (SECC)/Local Emergency Communication Committee (LECC) area meeting participation	• Create and regularly provide public alerting in Michigan training seminars for new and advanced AA • Michigan Association of Broadcasters (MAB) to coordinate annual SECC and LECC meetings with all stakeholders to enhance partnerships and effectiveness in alerting		December 2023, then annually
	8.5 Update State and Local Area Emergency Alert System (EAS) plans	• Annually review and update state and local EAS plans to maintain relevance and awareness		December 2023, then annually
Security Workgroup				
9. Increase awareness of security surrounding interoperability in the emergency communications ecosystem	9.1 Disseminate best practices on cybersecurity and physical security across the emergency communications ecosystem		Security workgroup	January 2023, then annually
	9.2 Encourage sign-up with MS-ISAC and other public safety specific ISAOs			Ongoing
	9.3 Security workgroup will remain engaged with the Cyber Disruption Response Team, MP3, MSP, DTMB and the MIOC to help ensure our interoperability structure remains safe and secure			Ongoing
	9.4 Security workgroup and its members will be actively engaged in workshops, presentations, and the overall promotion of interoperability safety and security within the state of Michigan			Ongoing

Goals	Objectives	Measures of Success	Owners	Completion Date
		Governance		
10. Establish an official mechanism for collaboration between different emergency communications governing bodies	10.1 Identifying leadership and workgroup cross-pollination on the MPSCIB		MPSCIB, SNC, SWIC, State 9-1-1 Administrator, MSP EMHSD Commander	Ongoing
	10.2 Review and update roles and responsibilities of important leadership positions to include collaboration with different disciplines		MPSCIB, SNC, SWIC, State 9-1-1 Administrator, MSP EMHSD Commander	
	10.3 Continual education and outreach of the current governance body efforts		MPSCIB, SNC, SWIC, State 9-1-1 Administrator, MSP EMHSD Commander	

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 Michigan 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
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, 9-1-1, A&W) and future technology transitions (5G, IoT, UAS, etc.). (Strategic and non-strategic goals are completely different; strategy -- path from here to the destination; it is unlike tactics which you can "touch"; cannot "touch" strategy)	<50% are strategic goals in SCIP	>50%<90% are strategic goals in SCIP	>90% are strategic goals in SCIP

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

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
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, 9-1-1, 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	**NG9-1-1 implementation.** NG9-1-1 implementation underway to serve state / territory population.	Working to establish NG9-1-1 governance through state/territorial plan. • Developing GIS to be able to support NG9-1-1 call routing. • Planning or implementing ESInet and Next Generation Core Services (NGCS). • Planning to or have updated PSAP equipment to handle basic NG9-1-1 service offerings.	More than 75% of PSAPs and Population Served have: • NG9-1-1 governance established through state/territorial plan. • GIS developed and able to support NG9-1-1 call routing. • Planning or implementing ESInet and Next Generation Core Services (NGCS). • PSAP equipment updated to handle basic NG9-1-1 service offerings.	More than 90% of PSAPs and Population Served have: • NG9-1-1 governance established through state/territorial plan. • GIS developed and supporting NG9-1-1 call routing. • Operational Emergency Services IP Network (ESInet)/Next Generation Core Services (NGCS). • PSAP equipment updated and handling basic NG9-1-1 service offerings.

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
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 ☒ 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
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

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

APPENDIX B: ACRONYMS

Acronym	Definition
AAR	After-Action Report
AMBER	America's Missing: Broadcast Emergency Response
AUXC	Auxiliary Communicator
AUXCOMM	Auxiliary Communications
A&W	Alerts and Warnings
CASM	Communication Assets Survey and Mapping
CISA	Cybersecurity and Infrastructure Security Agency
COML	Communications Unit Leader
COMMEX	Communications Unit Exercises
COMT	Communications Unit Technician
COMU	Communications Unit Program
COOP	Continuity of Operations Plan
DHS	Department of Homeland Security
EAS	Emergency Alert System
EMC	Emergency Management Coordinator
EMHSD	Emergency Management and Homeland Security Division
EOP	Emergency Operations Plan
ESInet	Emergency Services Internal Protocol Network
FEMA	Federal Emergency Management Agency
FOG	Field Operations Guide
GIS	Geospatial Information System
ICAR	Incident Communications Activity Report
ICTAP	Interoperable Communications Technical Assistance Program
INCM	Incident Communications Center Manager
INTD	Incident Tactical Dispatcher
IP	Internet Protocol
IPAWS	Integrated Public Alert Warning System
ITSL	Information Technology Service Unit Leader
LECC	Local Emergency Communication Committee
LMR	Land Mobile Radio
MCP	Michigan Cyber Partners
MC3	Michigan Cyber Command Center
MHz	Megahertz
MOU	Memorandum of Understanding
MPSCIB	Michigan Public Safety Communications Interoperability Board
MPSCS	Michigan's Public Safety Communications System

Acronym	Definition
MSP	Michigan State Police
NCSWIC	National Council of Statewide Interoperability Coordinators
NECP	National Emergency Communications Plan
NG9-1-1	Next Generation 9-1-1
NOAA	National Oceanic and Atmospheric Administration
PSAP	Public Safety Answering Point
PTB	Position Task Book
P25	Project 25
RADO	Radio Operator
SCIP	Statewide Communication Interoperability Plan
SECC	State Emergency Communication Committee
SNC	State 9-1-1 Committee
SOP	Standard Operating Procedure
SWIC	Statewide Interoperability Coordinator
TA	Technical Assistance
TERT	Telecommunications Emergency Response Team
TICP	Tactical Interoperable Communications Plan
WEA	Wireless Emergency Alerts
WPS	Wireless Priority Service