



# LOUISIANA STATEWIDE COMMUNICATION INTEROPERABILITY PLAN



September 2023

Developed by the Louisiana Governor's Office of Homeland Security and Emergency Preparedness with support from the Cybersecurity and Infrastructure Security Agency

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## LETTER FROM THE STATEWIDE INTEROPERABILITY COORDINATOR

Greetings,

As the Statewide Interoperability Coordinator (SWIC) for Louisiana, I am pleased to present to you the 2023 Louisiana Statewide Communication Interoperability Plan (SCIP). The SCIP represents the state's continued commitment to improving emergency communications interoperability and supporting the public safety practitioners throughout the state. In addition, this update meets the requirement of the current U.S. Department of Homeland Security grant guidelines.

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

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

Sincerely,



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Jake Chatfield  
Louisiana Statewide Interoperability Coordinator  
Louisiana Governor's Office of Homeland Security and Emergency Preparedness

## 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 Louisiana’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 Louisiana 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 Louisiana along with methods and strategies for funding sustainment and enhancement to meet long-term goals.
- **Implementation Plan** – Describes Louisiana’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.<sup>1</sup>

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.<sup>2</sup> It is designed to assist public safety agencies and policy makers with planning and implementing interoperability solutions for communications across technologies.

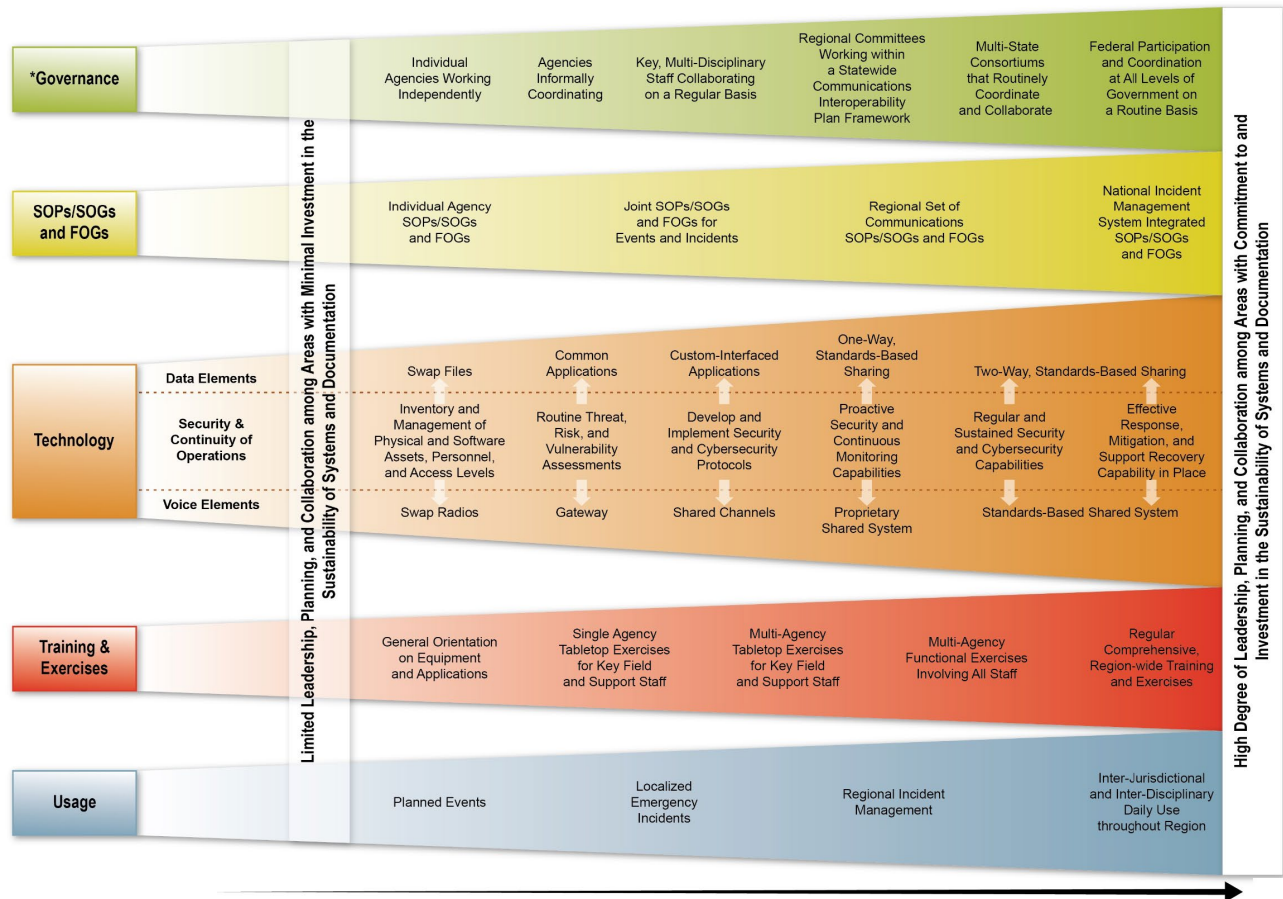


Figure 1: Interoperability Continuum

## Interoperability and Emergency Communications Overview

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

Traditional voice capabilities, such as land mobile radio (LMR) and landline 911 services have long been and continue to be critical tools for communications. However, the advancement of internet protocol-based technologies in public safety has increased the type and amount of information

<sup>1</sup> [2019 National Emergency Communications Plan](#)

<sup>2</sup> [Interoperability Continuum Brochure](#)

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

An example of this evolution is the transition of public-safety answering points (PSAPs) to Next Generation 911 (NG911) technology that will enhance sharing of critical information in real-time using multimedia—such as pictures, video, and text — among citizens, PSAP operators, dispatch, and first responders. While potential benefits of NG911 are tremendous, implementation challenges remain. Necessary tasks to fully realize these benefits include interfacing disparate systems, developing training and standard operating procedures (SOPs) and ensuring information security.

## VISION AND MISSION

This section describes Louisiana’s vision and mission for improving emergency and public safety communications interoperability:

### **Vision:**

*Louisiana implements and maintains public safety communications systems and infrastructure that provides seamless interoperability among local, state, tribal, and federal entities; is consistent with the National Emergency Communications Plan; and is capable of the transmission of voice, data, and critical imagery.*

### **Mission:**

*To provide, through a statewide collaborative effort, interoperable public safety wireless networks of voice and data, using a common architecture that provides seamless communications, by securing funding and sustaining scalable networks.*

## GOVERNANCE

In 2008, the Louisiana Statewide Interoperability Executive Committee (SIEC) was codified into law as the body that oversees the state’s interoperable and emergency communications efforts. The SIEC is located under the State’s Unified Command Group (UCG), a strategic decision-making body for emergency and disaster response in the state with the Governor serving as the unified commander. The SIEC also manages the Louisiana Wireless Information Network (LWIN).

As part of the Louisiana Emergency Operations Plan, there are three primary agencies for ESF-2: the Louisiana State Police (LSP), the Louisiana National Guard (LANG), and the Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP). The Governor appoints the GOHSEP director as the Homeland Security Advisor and acts on behalf of the Governor in the event of an emergency or disaster. The SWIC and the SIEC fall under GOHSEP. The state is organized into nine

Homeland Security regions where additional resources are available at the local levels of government.

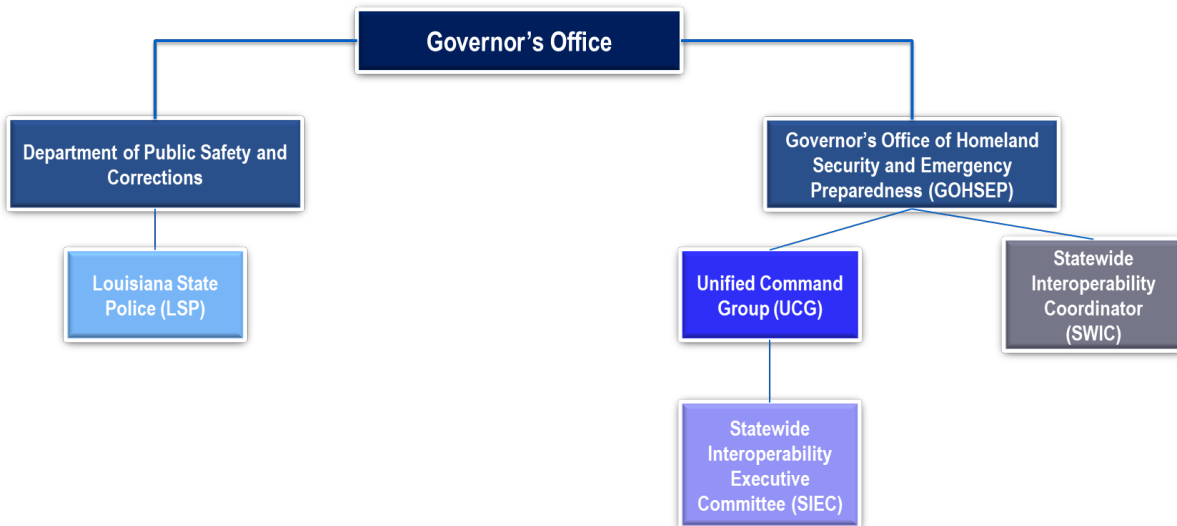
In the past year, Louisiana has updated many of its emergency communications planning and procedures documents, including the Louisiana Tactical Interoperable Communications Plan (TICP), the Louisiana Field Operations Guide (FOG), and the Louisiana Emergency Support Function 2 (ESF-2) SOP.

The state is looking to enhance its emergency communications governance positions, including establishing a full-time deputy SWIC position, as well as a state alerts and warnings office and coordinator. Currently, the SWIC serves as the state alerts and warnings coordinator. The state would also like to create a Legislative Subcommittee under the SIEC to enhance relations between the emergency communications community and the legislators of Louisiana, and to re-establish the Regional Interoperability Committees (RICs) across the state.

Louisiana is also working on establishing a cadre of certified Communications Unit Leader (COML) and Communications Unit Technician (COMT) instructors across the state.

Louisiana’s emergency communications governance map is depicted in Figure 2.

Figure 2: Louisiana’s Emergency Communications Governance Map



Governance goals and objectives include the following:

Governance	
Goals	Objectives
1. Re-establish the Regional Interoperability Committees (RICs)	1.1 Contact RICs’ Chairs and schedule annual meeting
	1.2 Determine the specific information to present to the RICs
	1.3 Attend meetings with RICs
	1.4 Compile the meeting summary and present at the next Statewide Interoperability Executive Committee (SIEC) meeting
2. Enhance and expand interoperable communications governance statewide	2.1 Create a legislative subcommittee on the SIEC
	2.2 Identify funding for a deputy SWIC position and SWIC office staff



Goals	Objectives
	2.3 Create an interstate governance body with Louisiana’s neighboring states
	2.4 Conduct outreach to state legislators on the importance of emergency communications funding
	2.5 Increase coordination between the SIEC broadband subcommittee and the Broadband for Everyone in Louisiana (BEL) Commission
<b>3. Establish a cadre of certified Communications Unit Leader (COML) and Communications Unit Technician (COMT) instructors for statewide training</b>	3.1 Complete the Cybersecurity and Infrastructure Security Agency (CISA) Communications Unit Planning and Procedures Technical Assistance (TA)
	3.2 Determine how many COMLs/COMTs are needed in Louisiana
	3.3 Develop training plan
	3.4 Research and secure funding opportunities
	3.5 Update training materials with lessons learned
	3.6 Schedule annual COML/COMT training

## TECHNOLOGY AND CYBERSECURITY

### Land Mobile Radio

LWIN is the state’s internet protocol (IP) network-based, Project 25 (P25) compliant trunked system. LWIN operates primarily in the 700 Megahertz (MHz) and 800 MHz bands and provides daily voice communications to more than 122,000 user devices at the federal, state, local, tribal, and non-governmental levels. Of those 122,00 users, more than 70 percent are from local jurisdictions. LWIN provides better than 95 percent in-building coverage to the 9 largest metropolitan areas in the state. As of July 2023, there were an average of over 13 million push-to-talk (PTT) transmissions over LWIN per month. The system is fully maintained by the state and charges no fees to its users. In addition to LWIN, ultra-high frequency (UHF) and very-high frequency (VHF) systems are primarily in use by small rural jurisdictions that are mostly concentrated in the northern part of the state.

Recent LWIN issues include a lack of redundancy, tower sites going down, back up trailers being used as permanent sites, and system maintenance and coverage. Louisiana looks to address these challenges, as well as the funding challenges to purchase new radios.

LWIN can currently patch into Texas radio systems as well as the Mississippi Wireless Information Network (MSWIN) and would like to establish a Memorandum of Understanding (MOU) for these patches and have the ability to patch into the Arkansas Wireless Information Network (AWIN).

### 911

911 efforts in Louisiana are parish-based and led. The state has 120 PSAPs. While GOHSEP does not govern 911 in the state, it supports the implementation of NG911 across Louisiana. GOHSEP’s goal for 911 in Louisiana is to increase the availability of Telecommunicator Emergency Response Taskforce (TERT) teams statewide.

## Broadband

In August 2019, the Governor created the Broadband for Everyone in Louisiana (BEL) Commission to provide universal access to broadband service with minimum committed speed of 25 Megabits per second (Mbps) download and 3 Mbps upload, scalable to up to 100 Mbps download and 100 Mbps upload, for all Louisianans by 2029.

Louisiana will work to increase coordination between the BEL Commission and the SIEC Broadband Subcommittee. In the future, the state would like to have better integration between LMR and Long-Term Evolution (LTE) and an increased effectiveness of broadband systems during storms.

## Alerts and Warnings

As stated in the governance section, Louisiana does not have a dedicated alerts and warnings coordinator, rather the SWIC serves in that position. The state looks to create that dedicated alerts and warnings coordinator as well as an alerts and warnings office.

## Cybersecurity

In December 2017, the Governor created the Louisiana Cybersecurity Commission to coordinate cybersecurity efforts among state agencies, local and tribal governments, private companies, and academic institutions. In 2019, the ESF-17 team was developed and has responded to over 130 cyber incidents for public and private critical infrastructure.

Louisiana will work on improving the cybersecurity posture and maturity of its public safety communications networks. To do this, they will focus on the creation of statewide and local public safety-focused cybersecurity response plans, including Continuity of Operations (COOP) plans, while promoting the National Institute of Standards and Technology (NIST) cybersecurity framework across the state. The state also looks to increase information sharing about the ESF-17 team, the Louisiana State Analytical and Fusion Exchange (LA SAFE), deploy Endpoint Detection and Response (EDR) / and Managed Detection and Response (MDR) solutions on public safety networks, and coordinate LMR encryption statewide.

Technology and cybersecurity goals and objectives include the following:

Technology and Cybersecurity	
Goals	Objectives
4. Execute a cyclical Louisiana Wireless Information Network (LWIN) gap analysis process	4.1 Gather monthly LWIN utilization statistics and forward them to SIEC
	4.2 Present findings at quarterly SIEC meetings
	4.3 Identify and validate gaps
	4.4 Develop proposed solution to gaps
	4.5 Implement the solution
	4.6 Determines funding opportunities
5. Continue to improve LWIN capabilities, redundancy, and resiliency	5.1 Establish a Memorandum of Understanding (MOU) for patches between LWIN, Texas systems, the Arkansas Wireless Information Network (AWIN), and the Mississippi Wireless Information Network (MSWIN)
	5.2 Develop a baseline LWIN user guide

Goals	Objectives
	5.3 Acquire and install infrastructure and backup/redundancy equipment for the expansion of LWIN to include repeaters, backhaul (e.g., microwaves, satellites), and zone redundancy 5.4 Acquire new tower trailers for redundancy 5.5 Implement a master site solution in the northern part of the state 5.6 Increase LWIN in-building coverage 5.7 Enhance integration between LMR and Long-Term Evolution (LTE)
<b>6. Increase the availability of Telecommunicator Emergency Response Taskforce (TERT) teams statewide</b>	6.1 Continue TERT coordination between the 911 communications districts and the Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP) 6.2 Provide TERT training opportunities
<b>7. Create a dedicated statewide alerts and warnings coordination office</b>	7.1 Identify funding to create the office 7.2 Define the responsibilities of a statewide alerts and warnings coordinator
<b>8. Improve the cybersecurity posture and maturity of public safety communications networks</b>	8.1 Create state and local public safety-focused cybersecurity response plans in accordance with the National Institute of Standards and Technology (NIST) cybersecurity framework across the state 8.2 Increase information sharing about state and federal cybersecurity resources, including CISA, the Louisiana Cyber Assurance Program, the Louisiana State Analytical and Fusion Exchange (LA SAFE), and the Emergency Support Function 17 (ESF-17) team 8.3 Coordinate land mobile radio (LMR) encryption statewide 8.4 Deploy Endpoint Detection and Response (EDR) / and Managed Detection and Response (MDR) solutions on public safety networks

## FUNDING

Funding for the emergency communications ecosystem in Louisiana comes from different places. The state provides the RAVE alert and warning software to each of the 64 parishes for free. LWIN is fully maintained by the state and charges no fees to its users. Funding of 911 systems is primarily through the imposition of an emergency telephone service fee on each telephone subscriber, the fee is on the subscriber's phone bill and is collected by the service provider who remits the fee to the Communication District.

To address funding needs, Louisiana looks to identify sustainable dedicated funding sources for public safety communications systems. Current funding needs include funding for a deputy SWIC position and staff in the SWIC office, a state alerts and warnings coordinator and office, infrastructure for in-building coverage, public safety cybersecurity challenges, training and exercises, and LMR equipment.

Funding goals and objectives include the following:

<b>Funding</b>	
<b>Goals</b>	<b>Objectives</b>
<b>9. Identify sustainable dedicated funding sources for public safety communications systems</b>	9.1 Research funding streams to sustain and refresh public safety communications systems
	9.2 Identify potential funding streams and submit for approval to legislature
	9.3 Find potential grant opportunities for interoperable and emergency communications
	9.4 Identify funding for: <ul style="list-style-type: none"> <li>• Infrastructure for in-building coverage</li> <li>• Public safety cybersecurity challenges</li> <li>• Training and exercises</li> <li>• Radio equipment</li> <li>• Emergency communications infrastructure</li> </ul>

## 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<sup>3</sup> of technical assistance (TA) available to assist with the implementation of the SCIP. TA requests are to be coordinated through the SWIC.

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

Goals	Objectives	Owners	Completion Dates
<b>1. Re-establish the Regional Interoperability Committees (RICs)</b>	1.1 Contact RICs' Chairs and schedule annual meeting	Statewide Interoperability Coordinator (SWIC), SIEC, RICs	Q1 2024
	1.2 Determine the specific information to present to the RICs		Ongoing
	1.3 Attend meetings with RICs		
	1.4 Compile the meeting summary and present at the next Statewide Interoperability Executive Committee (SIEC) meeting		
<b>2. Enhance and expand interoperable communications governance statewide</b>	2.1 Create a legislative subcommittee on the SIEC	SIEC	February 2024
	2.2 Identify funding for a deputy SWIC position and SWIC office staff	SWIC	July 2024
	2.3 Create an interstate governance body with Louisiana's neighboring states	SWIC, SIEC	July 2025
	2.4 Conduct outreach to state legislators on the importance of emergency communications funding	SIEC	Ongoing
	2.5 Increase coordination between the SIEC broadband subcommittee and the Broadband for Everyone in Louisiana (BEL) Commission	SIEC, BEL Commission	
<b>3. Establish a cadre of certified Communications Unit Leader (COML) and Communications Unit Technician (COMT) instructors for statewide training</b>	3.1 Complete the Cybersecurity and Infrastructure Security Agency (CISA) Communications Unit Planning and Procedures Technical Assistance (TA)	CISA, SWIC	February 2024
	3.2 Determine how many COMLs/COMTs are needed in Louisiana	SWIC	
	3.3 Develop training plan	SIEC, SWIC	July 2024
	3.4 Research and secure funding opportunities		Ongoing
	3.5 Update training materials with lessons learned		

<sup>3</sup> [Emergency Communications Technical Assistance Planning Guide](#)

Goals	Objectives	Owners	Completion Dates
	3.6 Schedule annual COML/COMT training		
4. Execute a cyclical Louisiana Wireless Information Network (LWIN) gap analysis process	4.1 Gather monthly LWIN utilization statistics and forward them to SIEC	Department of Public Safety (DPS)	Monthly
	4.2 Present findings at quarterly SIEC meetings	SWIC	Quarterly
	4.3 Identify and validate gaps	DPS, SWIC, SIEC	Annually
	4.4 Develop proposed solution to gaps		
	4.5 Implement the solution		
	4.6 Determines funding opportunities	SIEC	Ongoing
5. Continue to improve LWIN capabilities, redundancy, and resiliency	5.1 Establish a Memorandum of Understanding (MOU) for patches between LWIN, Texas systems, the Arkansas Wireless Information Network (AWIN), and the Mississippi Wireless Information Network (MSWIN)	SIEC	July 2024
	5.2 Develop a baseline LWIN user guide		July 2025
	5.3 Acquire and install infrastructure and backup/redundancy equipment for the expansion of LWIN to include repeaters, backhaul (e.g., microwaves, satellites), and zone redundancy		
	5.4 Acquire new tower trailers for redundancy		
	5.5 Implement a master site solution in the northern part of the state		
	5.6 Increase LWIN in-building coverage		
	5.7 Enhance integration between LMR and Long-Term Evolution (LTE)		Ongoing
6. Increase the availability of Telecommunicator Emergency Response Taskforce (TERT) teams statewide	6.1 Continue TERT coordination between the 911 communications districts and the Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP)	GOHSEP, National Emergency Number Association (NENA), Association of Public Safety Communications Officers (APCO)	Ongoing
	6.2 Provide TERT training opportunities	GOHSEP	
	7.1 Identify funding to create the office	GOHSEP	July 2024

Goals	Objectives	Owners	Completion Dates
7. Create a dedicated statewide alerts and warnings coordination office	7.2 Define the responsibilities of a statewide alerts and warnings coordinator	SWIC	
8. Improve the cybersecurity posture and maturity of public safety communications networks	8.1 Create state and local public safety-focused cybersecurity response plans in accordance with the National Institute of Standards and Technology (NIST) cybersecurity framework across the state	GOHSEP	July 2024
	8.2 Increase information sharing about state and federal cybersecurity resources, including CISA, the Louisiana Cyber Assurance Program, the Louisiana State Analytical and Fusion Exchange (LA SAFE), and the Emergency Support Function 17 (ESF-17) team		Ongoing
	8.3 Coordinate land mobile radio (LMR) encryption statewide		TBD
	8.4 Deploy Endpoint Detection and Response (EDR) / and Managed Detection and Response (MDR) solutions on public safety networks		
9. Identify sustainable dedicated funding sources for public safety communications systems	9.1 Research funding streams to sustain and refresh public safety communications systems	SIEC	Ongoing
	9.2 Identify potential funding streams and submit for approval to legislature		
	9.3 Find potential grant opportunities for interoperable and emergency communications		
	9.4 Identify funding for: <ul style="list-style-type: none"> <li>• Infrastructure for in-building coverage</li> <li>• Public safety cybersecurity challenges</li> <li>• Training and exercises</li> <li>• Radio equipment</li> <li>• Emergency communications infrastructure</li> </ul>	SIEC, GOHSEP	

## 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 Louisiana's assessment of their progress against the markers as of 8/10/23.

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
1	<b>State-level governing body established (e.g., SIEC, SIGB).</b> 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	<b>SIGB/SIEC participation.</b> Statewide governance body is comprised of members who represent all components of the emergency communications ecosystem.	Initial (1-2) Governance body participation includes: <input type="checkbox"/> Communications Champion/SWIC <input type="checkbox"/> LMR <input type="checkbox"/> Broadband/LTE <input type="checkbox"/> 911 <input type="checkbox"/> Alerts, Warnings and Notifications	Defined (3-4) Governance body participation includes: <input type="checkbox"/> Communications Champion/SWIC <input type="checkbox"/> LMR <input type="checkbox"/> Broadband/LTE <input type="checkbox"/> 911 <input type="checkbox"/> Alerts, Warnings and Notifications	Optimized (5) Governance body participation includes: <input checked="" type="checkbox"/> Communications Champion/SWIC <input checked="" type="checkbox"/> LMR <input checked="" type="checkbox"/> Broadband/LTE <input checked="" type="checkbox"/> 911 <input checked="" type="checkbox"/> Alerts, Warnings and Notifications
3	<b>SWIC established.</b> 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	<b>SWIC Duty Percentage.</b> 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	<b>SCIP refresh.</b> 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	<b>SCIP strategic goal percentage.</b> SCIP goals are primarily strategic to improve long term emergency communications ecosystem (LMR, LTE, 911, A&W) and future technology transitions (5G, IoT, UAS, etc.). (Strategic and non-strategic goals are completely different; strategy – path from here to the destination; it is unlike tactics which you can "touch"; cannot "touch" strategy)	<50% are strategic goals in SCIP	>50%<90% are strategic goals in SCIP	>90% are strategic goals in SCIP
7	<b>Integrated emergency communication grant coordination.</b> Designed to ensure state / territory is tracking and optimizing grant proposals, and there is strategic visibility how grant money is being spent.	No explicit approach or only informal emergency communications grant coordination between localities, agencies, SAA and/or the SWIC within a state / territory	SWIC and/or SIGB provides guidance to agencies and localities for emergency communications grant funding but does not review proposals or make recommendations	SWIC and/or SIGB provides guidance to agencies and localities for emergency communications grant funding and reviews grant proposals for alignment with the SCIP. SWIC and/or SIGB provides recommendations to the SAA



Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
8	<p><b>Communications Unit process.</b> 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:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> COML</li> <li><input checked="" type="checkbox"/> COMT</li> <li><input checked="" type="checkbox"/> ITSL</li> <li><input type="checkbox"/> RADO</li> <li><input type="checkbox"/> INCM</li> <li><input type="checkbox"/> INTD</li> <li><input checked="" type="checkbox"/> AUXCOM</li> <li><input checked="" type="checkbox"/> TERT</li> </ul>	No Communications Unit process at present	Communications Unit process planned or designed (but not implemented)	Communications Unit process implemented and active
9	<p><b>Interagency communication.</b> Established and applied interagency communications policies, procedures and guidelines.</p>	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	<p><b>TICP (or equivalent) developed.</b> Tactical Interoperable Communications Plans (TICPs) established and periodically updated to include all public safety communications systems available</p>	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	<p><b>Field Operations Guides (FOGs) developed.</b> FOGs established for a state or territory and periodically updated to include all public safety communications systems available</p>	Regional or statewide FOG in place	Statewide or Regional FOG(s) updated within past 2-5 years	Statewide or Regional FOG(s) updated within past 2 years
12	<p><b>Alerts &amp; Warnings.</b> State or Territory has Implemented an effective A&amp;W program to include Policy, Procedures and Protocol measured through the following characteristics:</p> <ul style="list-style-type: none"> <li>(1) Effective documentation process to inform and control message origination and distribution</li> <li>(2) Coordination of alerting plans and procedures with neighboring jurisdictions</li> <li>(3) Operators and alert originators receive periodic training</li> <li>(4) Message origination, distribution, and correction procedures in place</li> </ul>	<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

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
13	<b>Radio programming.</b> Radios programmed for National/Federal, SLTT interoperability channels and channel nomenclature consistency across a state / territory.	<49% of radios are prograded for interoperability and consistency	>50%<74% of radios are prograded for interoperability and consistency	>75%<100% of radios are prograded for interoperability and consistency
14	<b>Cybersecurity Assessment Awareness.</b> 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) <input type="checkbox"/> LMR <input type="checkbox"/> LTE <input type="checkbox"/> 911/CAD <input type="checkbox"/> A&W	Initial plus, conducted assessment, conducted risk assessment. (Check yes or no for each option) <input checked="" type="checkbox"/> LMR <input checked="" type="checkbox"/> LTE <input checked="" type="checkbox"/> 911/CAD <input checked="" type="checkbox"/> A&W	Defined plus, Availability of Cyber Incident Response Plan (check yes or no for each option) <input type="checkbox"/> LMR <input type="checkbox"/> LTE <input type="checkbox"/> 911/CAD <input type="checkbox"/> A&W
15	<b>NG911 implementation.</b> NG911 implementation underway to serve state / territory population.	Working to establish NG911 governance through state/territorial plan. <ul style="list-style-type: none"><li>Developing GIS to be able to support NG911 call routing.</li><li>Planning or implementing ESInet and Next Generation Core Services (NGCS).</li><li>Planning to or have updated PSAP equipment to handle basic NG911 service offerings.</li></ul>	More than 75% of PSAPs and Population Served have: <ul style="list-style-type: none"><li>NG911 governance established through state/territorial plan.</li><li>GIS developed and able to support NG911 call routing.</li><li>Planning or implementing ESInet and Next Generation Core Services (NGCS).</li><li>PSAP equipment updated to handle basic NG911 service offerings.</li></ul>	More than 90% of PSAPs and Population Served have: <ul style="list-style-type: none"><li>NG911 governance established through state/territorial plan.</li><li>GIS developed and supporting NG911 call routing.</li><li>Operational Emergency Services IP Network (ESInet)/Next Generation Core Services (NGCS).</li><li>PSAP equipment updated and handling basic NG911 service offerings.</li></ul>
16	<b>Data operability / interoperability.</b> 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	<b>Future Technology/Organizational Learning.</b> SIEC/SIGB is tracking, evaluating, implementing future technology (checklist)	<input type="checkbox"/> 5G <input type="checkbox"/> Acoustic Signaling <input type="checkbox"/> Autonomous Vehicles <input type="checkbox"/> Body Cameras <input type="checkbox"/> ESInets <input type="checkbox"/> GIS <input type="checkbox"/> Geolocation	<input type="checkbox"/> HetNets/Mesh Networks <input type="checkbox"/> LMR to LTE Integration <input type="checkbox"/> MCPTT Apps <input type="checkbox"/> Machine Learning/AI <input type="checkbox"/> Public Alerting Software <input type="checkbox"/> Sensors <input type="checkbox"/> Situational Awareness Apps	<input type="checkbox"/> Smart Cities <input type="checkbox"/> The Next Narrowbanding <input type="checkbox"/> UAS (Drones) <input type="checkbox"/> UAV (Smart Vehicle) <input type="checkbox"/> Wearables <input type="checkbox"/> IoT (Cameras)
18	<b>Communications Exercise objectives.</b> 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

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
19	<b>Trained Communications Unit responders.</b> 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	<b>Communications Usage Best Practices/Lessons Learned.</b> Capability exists within jurisdiction to share best practices/lessons learned (positive and/or negative) across all lanes of the Interoperability Continuum related to all components of the emergency communications ecosystem	Best practices/lessons learned intake mechanism established. Create Communications AAR template to collect best practices	Initial plus review mechanism established	Defined plus distribution mechanism established
21	<b>Wireless Priority Service (WPS) subscription.</b> 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	<b>Outreach.</b> 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	<b>Sustainment assessment.</b> 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	<b>Risk identification.</b> 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	<b>Cross Border / Interstate (State to State) Emergency Communications.</b> Established capabilities to enable emergency communications across all components of the ecosystem.	Initial: Little to no established: <input type="checkbox"/> Governance <input type="checkbox"/> SOPs/MOUs <input type="checkbox"/> Technology <input type="checkbox"/> Training/Exercises <input type="checkbox"/> Usage	Defined: Documented/established across some lanes of the Continuum: <input checked="" type="checkbox"/> Governance <input checked="" type="checkbox"/> SOPs/MOUs <input checked="" type="checkbox"/> Technology <input checked="" type="checkbox"/> Training/Exercises <input checked="" type="checkbox"/> Usage	Optimized: Documented/established across all lanes of the Continuum: <input type="checkbox"/> Governance <input type="checkbox"/> SOPs/MOUs <input type="checkbox"/> Technology <input type="checkbox"/> Training/Exercises <input type="checkbox"/> Usage

## APPENDIX B: ACRONYMS

Acronym	Definition
AAR	After-Action Report
AUXCOMM/AUXC	Auxiliary Emergency Communications
AWIN	Arkansas Wireless Information Network
A&W	Alerts and Warnings
BEL	Broadband for Everyone in Louisiana
CASM	Communication Assets Survey and Mapping
CISA	Cybersecurity and Infrastructure Security Agency
COML	Communications Unit Leader
COMT	Communications Unit Technician
COMU	Communications Unit Program
COOP	Continuity of Operations Plan
DHS	Department of Homeland Security
EDR	Endpoint Detection and Response
ESF-2	Emergency Support Function 2
ESF-17	Emergency Support Function 17
ESInet	Emergency Services Internal Protocol Network
FOG	Field Operations Guide
GIS	Geospatial Information System
GOHSEP	Governor's Office of Homeland Security and Emergency Preparedness
ICTAP	Interoperable Communications Technical Assistance Program
INCM	Incident Communications Center Manager
INTD	Incident Tactical Dispatcher
IP	Internet Protocol
ITSL	Information Technology Service Unit Leader
LMR	Land Mobile Radio
LTE	Long-Term Evolution
LWIN	Louisiana Wireless Information Network
Mbps	Megabits per second
MDR	Managed Detection and Response
MHz	Megahertz
MOU	Memorandum of Understanding
MSWIN	Mississippi Wireless Information Network
NCSWIC	National Council of Statewide Interoperability Coordinators
NECP	National Emergency Communications Plan
NG911	Next Generation 911
NIST	National Institute of Standards and Technology

Acronym	Definition
PSAP	Public Safety Answering Point
PTT	Push-To-Talk
P25	Project 25
RADO	Radio Operator
RIC	Regional Interoperability Committee
SCIP	Statewide Communication Interoperability Plan
SIEC	Statewide Interoperability Executive Committee
SOP	Standard Operating Procedure
SWIC	Statewide Interoperability Coordinator
TA	Technical Assistance
TERT	Telecommunications Emergency Response Team
TICP	Tactical Interoperable Communications Plan
UCG	Unified Command Group
UHF	Ultra-High Frequency
VHF	Very High Frequency
WPS	Wireless Priority Service