



NEW YORK STATEWIDE COMMUNICATION INTEROPERABILITY PLAN



January 2024

Developed by the Statewide Interoperable and Emergency Communications Board 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 New York, I am pleased to present to you the 2024 New York Statewide Communication Interoperability Plan (SCIP). The SCIP represents the state's continued commitment to improving emergency communications interoperability and supporting public safety practitioners throughout the state. In addition, this update meets the requirements of the current U.S. Department of Homeland Security grant guidelines.

Representatives from the State Interoperable and Emergency Communication (SIEC) Board, the Interoperability Consortium Chairs, the New York State 911 Coordinators Association, and others 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 New York'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,



Mark Balistreri
New York Statewide Interoperability Coordinator
Division of Homeland Security and Emergency Services

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 New York’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 New York 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 New York along with methods and strategies for funding sustainment and enhancement to meet long-term goals.
- **Implementation Plan** – Describes New York’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 interrelated components and functions, including communications for incident response operations, notifications and alerts and

warnings, requests for assistance and reporting, and public information exchange. The primary functions are depicted in the 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 policymakers with planning and implementing interoperability solutions for communications across technologies.

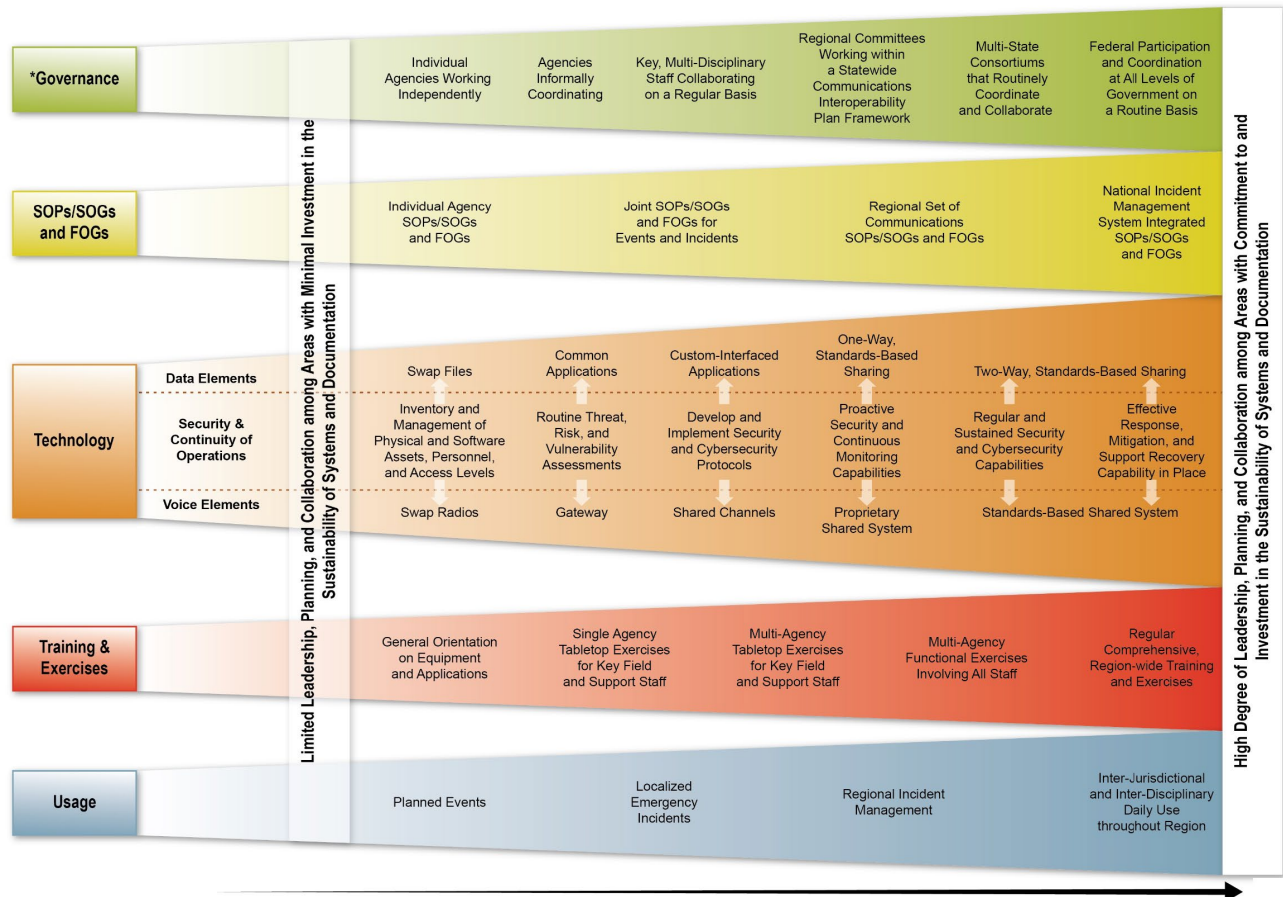


Figure 1: Interoperability Continuum

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 are critical to effectively carrying 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

¹ [2019 National Emergency Communications Plan](#)

² [Interoperability Continuum Brochure](#)

responders receive, the tools they communicate with, and the 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 the sharing of critical information in real-time using multimedia—such as pictures, video, and text — among citizens, PSAP operators, dispatch, and first responders. While the 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 New York’s vision and mission for improving emergency and public safety communications interoperability:

Vision:

To ensure emergency responders can effectively communicate during day-to-day operations, significant events, and disasters to protect lives and property.

Mission:

To implement our vision of effective interoperable and emergency communications, the New York State Interoperable and Emergency Communication (SIEC) Board will continue to develop and support communications partnerships inclusive of local, state, tribal, and Federal public safety agencies, through the efficient development and use of communication resources, policies, procedures, training, and exercises.

TECHNOLOGY AND CYBERSECURITY

Land Mobile Radio

Currently, the state of New York is working towards a “network of networks” system for their LMR needs, arranged through eight regional communications consortiums.

The state has five federal trunked systems, including the Federal Ultra High Frequency (UHF) Motorola Type II New York City Federal System. Many counties have implemented additional National Interoperability Channels on the infrastructure level.

Participants in the SCIP Workshop highlighted challenges, including disparate systems with encryption and vendor compatibility issues, along with governance challenges. Hiring and retaining skilled LMR technicians is challenging due to a scarcity of qualified personnel and justification difficulties. Risks involve criminal mischief to towers, malicious interference, equipment

vulnerabilities, ease of purchasing equipment that could introduce vulnerabilities, and cybersecurity and encryption challenges. Emphasizing redundancy in commercial carriers, involving backup power and backhaul, is seen as essential for enhancing communication infrastructure reliability.

911

New York is working toward a potential 911 solution comprised of regional Emergency Services Internet Protocol Networks (ESInets) or a single resilient system. Through endeavors to reach an NG911 capable network, the state is conducting efforts for data interoperability among Computer Aided Dispatch (CAD) systems and Records Management Systems (RMS) as well as enhancing GIS framework capabilities across the state through the seamless sharing of data layers and real-time location-based information. These capabilities will help align public safety better with PSAP operators to aid in emergencies.

New York has 174 primary and secondary PSAPs which are equipped to receive Enhanced 911 (E911) calls in both Phase 1 and 2 formats, directly or by transfer from other PSAPs.³ Much of this technology was funded through the former Expedited Deployment Funding Program and continues to be supported by the PSAP Operations Grant Program.

New York is a “home rule” state, however, the stakeholders have a demonstrated history of collaboration.

Challenges highlighted during the SCIP Workshop include issues with accurate caller location identification, routing wireless calls, and varying PSAP standards. The lack of formalized MOUs in some areas, challenges in data interoperability, and direct vendor engagement with decision-makers pose additional obstacles. Recognized risks involve cybersecurity, denial of service attacks, and staffing impacts leading to recruitment challenges.

The desired state envisions the implementation of an NG911 solution with an increased focus on PSAP staffing. Key components include integration with Alarm and Warning Systems, utilization of Telecommunications Service Priority, and a continually updated PSAP portal. Emphasis is placed on CAD-to-CAD interoperability, collaboration with schools, and the creation of a 911 Coordinator/Dispatcher course in partnership with local entities to enhance preparedness and awareness.

Broadband

While coverage and use of public safety broadband is improving, there is still the need for increased speed and capacity to support those public safety needs and ensure proper security protocols.

It has been noticed that 5G has decreased coverage due to the discontinuation of 3G. This is especially a concern in rural areas.

During the SCIP Workshop, participants expressed concern over issues, including incompatible applications for broadband purposes, non-governed public safety-grade Push-to-Talk (PTT) applications, and concerns about security compliance. Emerging issues include the need for increased speed and capacity to support public safety needs. The use of hybrid radios introduces

³ [SIEC Board Annual Report, 2022](#)

potential security risks as operators may unknowingly switch to less secure systems. Additionally, there are uncertainties surrounding unknown subscriber fees in LMR and broadband coordination.

The desired state envisions seamless interoperability between public safety apps, offering enhanced statewide coverage with reliable redundant systems. The approach would be vendor-agnostic to prioritize public safety on broadband networks, supported by a robust backbone for carriers. Site security standards would be improved using recommended best practices, with remote monitoring facilitated by state grants. The transition to broadband from mission-critical communications would only occur when equivalent alternatives are available, ensuring functionality is not compromised. Furthermore, there is a recognized need for additional training across various technologies within the emergency communications ecosystem.

Alerts and Warnings

New York Alert (NY-Alert) is a web-based portal that allows state, county, and local governments, emergency service agencies, colleges and universities, and private partners to provide emergency alert information and private notifications to a defined audience.⁴ The available types of notifications include America's Missing: Broadcast Emergency Response (AMBER) and Missing Child/Adult Alerts, emergency alerts (issued by county offices of emergency management or law enforcement), severe weather (issued by the National Weather Service), public health alerts, and earthquakes.

In addition to Alert-NY, Notify NYC is New York City's source of information regarding emergency events. Notify NYC is available through email, text, telephone, RSS, Twitter, and videos displaying American Sign Language.⁵ It can activate the Emergency Alert System (EAS), which sends information via television and radio, and the Wireless Emergency Alert (WEA) system, which allows alerts to be sent immediately through mobile devices within a targeted geographic area.

The State of New York has 66 Federal Emergency Management Agency (FEMA) Integrated Public Alert & Warning System (IPAWS) Alerting Authorities, including DHSES and the New York State Police.⁶ There is a desire to have all counties become alerting authorities.

During the SCIP Workshop, challenges in the emergency alert system noted include issues with governance, alert fatigue, and uncertainties regarding what information to communicate and how to follow up. Reaching vulnerable populations poses a challenge as does insufficient participation in opt-in programs, potentially due to alert overload and fatigue. Risks and threats include a lack of standardized messaging leading to possible confusion and potential cybersecurity vulnerabilities in web-based portals.

The desired state envisions robust contingency plans for technology failures, complemented by established SOPs. A more diverse membership in the Citizen Alerting Committee (CAC) and After-Action Reports (AARs) are sought for continual improvement. The focus is on reaching the whole community through expanding education and outreach through the educational system from the elementary level onwards. Alert testing times would be varied, including evening hours for comprehensive preparedness.

⁴ [New York Alert](#)

⁵ [Notify NYC](#)

⁶ [IPAWS Alerting Authorities – Agencies and Organizations](#)

Cybersecurity

In addition to its incident response services, the CIRT offers several programs designed to improve an organization's cybersecurity posture.⁷ Those programs are available at no cost to local governments, non-executive state agencies, and public authorities, including public safety:

- Cybersecurity risk assessments
- Phishing assessments
- Tabletop exercises
- Request services

There is currently \$30 million in grant funding to establish baseline capabilities with shared systems.

Some challenges identified during the SCIP Workshop include updating firewalls, system connectivity issues, and managing complex cybersecurity layers. Emerging issues include evolving threats and a lack of understanding, awareness, and training, along with insufficient personnel and the growing dependence on technology. Ensuring continuity of operations and addressing the absence of cyber response plans in 911 centers are key focus areas.

The desired state envisions comprehensive cyber assessments, increased collaboration with CISA, heightened cybersecurity awareness, and prioritized training and exercises. Additionally, it emphasizes increased information sharing on cyber incidents, mitigation, and resilience, along with effective coordination with statewide cybersecurity initiatives.

Technology and cybersecurity goals and objectives include the following:

Technology and Cybersecurity	
Goals	Objectives
1. Develop a network of networks approach to gain interoperability within the emergency communications ecosystem	1.1 Update and promote statewide standards, guidelines, and resources [TICP, CASM, New York State Tactical Interoperable Communications Field Operations Guide (NYS-TICFOG)]
	1.2 Promote the interoperability channel plan
	1.3 Coordinate with C3 and Consortiums
2. Maintain the Communications Unit (COMU) Program	2.1 Credential personnel in all COMU positions
	2.2 Provide training and exercises in all COMU positions
	2.3 Institutionalize the COMU program and promote Communication Assets Survey and Mapping Tool (CASM) usage
	a. Verify correct and future CASM information
	2.4 Expand the COMU program to encompass the Emergency Management Assistance Compact (EMAC)
	2.5 Continue annual evaluation and revision of policies and procedures
3. Develop and implement the State 911 Plan to include Next Generation 911 (NG911)	2.6 Increase outreach and education of the COMU Program
	3.1 Engage stakeholders
	3.2 Assign resources to the plan
	3.3 Determine scope
	3.4 Adopt and implement the plan
3.5 Continue evaluating and revising	

⁷ [DHSES Cybersecurity Services](#)

Goals	Objectives
4. Improve communications infrastructure resiliency in New York [Land Mobile Radio (LMR), Broadband, NG911]	4.1 Continue the LMR Grant Program
	4.2 Work in conjunction with carriers
	4.3 Develop, adopt, and implement best practices and standards for enhancing physical and cybersecurity and resiliency across all forms of communications
	4.4 Test, exercise, and collect After Action Reports (AARs) for all emergency communications capabilities
5. Promote and maintain the Statewide Interoperable Communications Grant (SICG) Program to ensure support of current and evolving interoperable technologies and programs	5.1 Continue to evaluate allowable costs and associated maintenance [e.g., governance, training, CASM usage, Tactical Interoperable Communications Plan (TICP) updates, open standards, 911] for future rounds
	5.2 Monitor the SICG Program to ensure it meets current and emerging needs of public safety
6. Enhance outreach, education, and partnerships	6.1 Partner with academia on a telecommunications degree program
	6.2 Maintain the SCIP
	6.3 Continue credentialing and deployment of COMU personnel for planned and unplanned events
	6.4 Provide an outreach program
	6.5 Increase diversity of working groups

GOVERNANCE

The State Interoperable and Emergency Communication (SIEC) Board is empowered under New York County Law Section 328, Subsections 10(a) and 10(b) with the following select powers and duties:

- Make recommendations to the Commissioner of the Division of Homeland Security and Emergency Services (DHSES) on the expenditure of grants and other funding programs related to interoperable and emergency communications.
- Make recommendations related to the development, coordination, and implementation of policies, plans, standards, programs, and services related to interoperable and emergency communications, including but not limited to ensuring compliance with federal mandates for interoperable communications and compatibility with the National Incident Management System (NIMS).
- Establish structures and guidelines to maintain interoperable communications planning and coordination at the statewide level.
- Establish, promulgate, and revise standards for the operation of PSAPs.
- Establish guidelines regarding the creation of regionally based radio communications systems compatible with the structures and guidelines consistent with federal mandates and best practices.⁸

The 25-member Board consists of state agency heads (or their designees) and individuals who are experienced with interoperable and emergency communication issues, representative of emergency response entities or constituencies.

⁸ [New York State Interoperable and Emergency Communication \(SIEC\) Board 2022 Annual Report](#)

Within the SIEC are several committees and working groups, including:

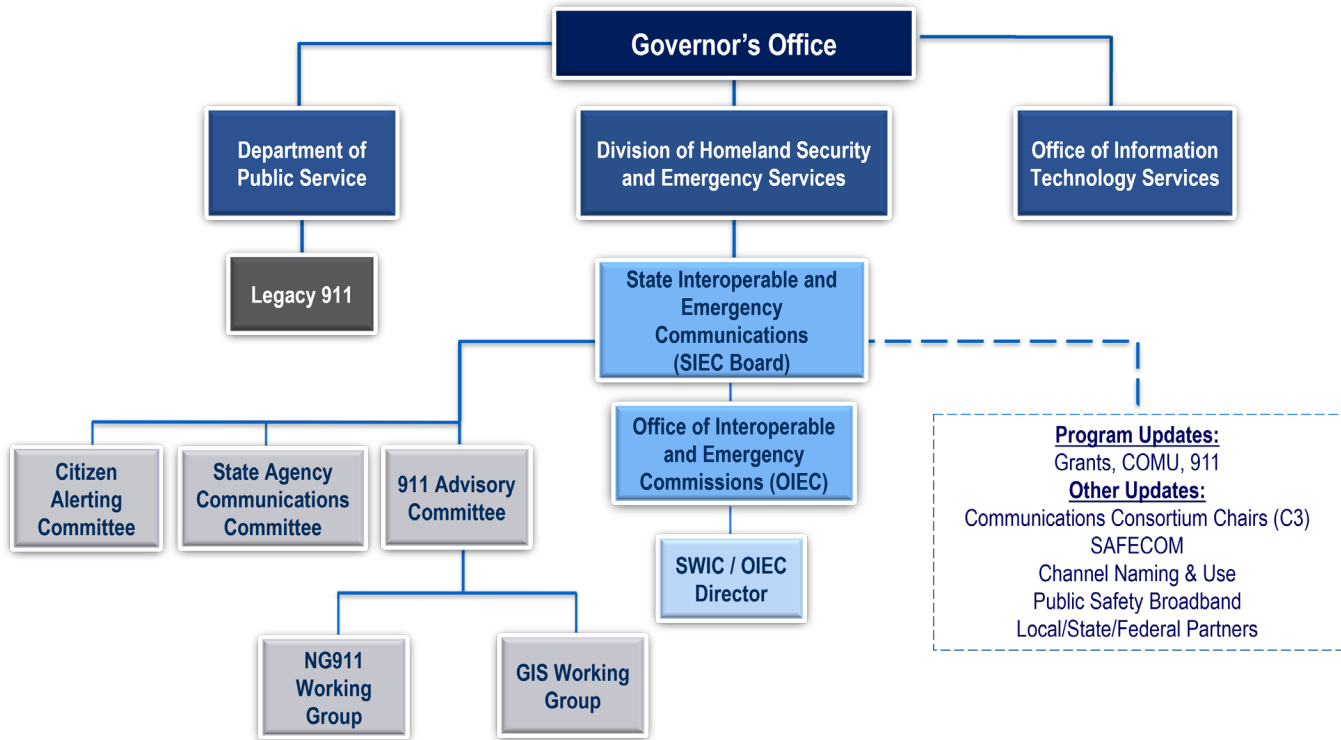
- 911 Advisory Committee
 - NG911 Working Group
 - GIS Working Group
- State Agency Communications Committee
- Citizen Alerting Committee

Additionally, there is the Communications Consortium Charis (C3) with eight regional consortiums.

During the SCIP Workshop, participants identified challenges such as outdated Memoranda of Understanding (MOUs), short-staffing, and inconsistent use of formalized MOUs hindering effective information sharing. Addressing high turnover, enhancing outreach, and educating legislatures were emphasized. The envisioned state prioritizes a dynamic and regularly updated framework involving statutes, MOUs, and documentation. Utilizing emergency communication tools such as the Communication Assets Survey and Mapping Tool (CASM), regional communication teams, and continuous updates to Tactical Interoperable Communications Plans (TICPs) and Field Operating Guides (FOGs) should be prioritized for optimal functionality. Increased tribal involvement, collaborative efforts with neighboring counties, and enhanced interoperable communications with neighboring states and provinces are key components of the envisioned state.

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

Figure 2: New York’s Emergency Communications Governance Map



Governance goals and objectives include the following:

Governance	
Goals	Objectives
7. Develop governance for the integration of public safety broadband communications	7.1 Engage broadband providers
	7.2 Determine governance needs
	7.3 Increase education and outreach to the public safety community through the Consortiums
8. Establish requirements and prepare the state to interface with merging and emerging technologies	8.1 Form a technology working group within the Communications Consortium Chairs (C3)
	a. Identify the merging and emerging technologies
	8.2 Collaborate with the state from the county consortium level
	8.3 Develop and execute a plan

FUNDING

The state is currently successfully utilizing a variety of grants and wishes to continue to have a healthy funding stream from the Statewide Interoperable Communications Grant (SICG) grant program. There is a state surcharge that goes towards the SICG program.

There is currently new funding available for NG911. Counties collect funding through surcharges, and counties fund the 911 dispatch services directly from their budgets.

OIEC outreach includes grant opportunities and funding. They are currently trying to simplify the grant process, eliminating the impacts on the shareholders.

Some challenges identified during the SCIP Workshop include inadequate funding for interoperability and infrastructure refreshment, equipment reaching the end of its lifecycle, and the need for cybersecurity funding. Additional challenges involve county-level tax caps, rising costs surpassing revenue, and difficulties with vendor contracts and life-cycle planning. This is exacerbated by declining federal funding and no system upkeep funding post-grants.

The desired state emphasizes improved life-cycle planning, research, and the establishment of procurement standards. Collaboration, enhanced shared services, and increased federal grant funding are crucial. Desired improvements encompass eligibility for 911 federal funding, better accountability at the county level, funding for the entire emergency communications ecosystem, and comprehensive analysis of state funding. Additionally, the vision includes outreach and education for legislators, sharing best practices, and developing lifecycle planning and grant writing courses.

Funding goals and objectives include the following:

Funding	
Goals	Objectives
9. Identify and document long-term funding for communications systems and assets [e.g., operations and	9.1 Continue to identify, track, and prioritize systems and assets that are reaching the end of their lifecycle or require a technology refresh
	9.2 Identify agency requirements and seek to secure associated funding

maintenance of existing systems, strategic technology reserve (STR) program, reserve funds, NG911 funds]	9.3 Establish partnerships for investment in lifecycle funding
	9.4 Initiate budget request process
	9.5 Identify funding for new and emerging technologies
	9.6 Create equipment/system purchasing standards, recommendations, and best practices

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 of technical assistance (TA) available to assist with the implementation of the SCIP.⁹ TA requests are to be coordinated through the SWIC.

New York's implementation plan is shown in the table below.

Goals	Objectives	Owners	Completion Dates
1. Develop a network of networks approach to gain interoperability within the emergency communications ecosystem	1.1 Update and promote statewide standards, guidelines, and resources [TICP, CASM, New York State Tactical Interoperable Communications Field Operations Guide (NYS-TICFOG)]	OIEC SIEC Board C3	Ongoing
	1.2 Promote the interoperability channel plan		
	1.3 Coordinate with C3 and Consortiums		
2. Maintain the Communications Unit (COMU) Program	2.1 Credential personnel in all COMU positions	DHSES COMU Personnel	Ongoing
	2.2 Provide training and exercises in all COMU positions		
	2.3 Institutionalize the COMU program and promote Communication Assets Survey and Mapping Tool (CASM) usage		
	a. Verify correct and future CASM information		
	2.4 Expand the COMU program to encompass the Emergency Management Assistance Compact (EMAC)		
	2.5 Continue annual evaluation and revision of policies and procedures		
	2.6 Increase outreach and education of the COMU Program		
3. Develop and implement the State 911 Plan to include Next Generation 911 (NG911)	3.1 Engage stakeholders	OIEC NYS911 Coordinators Association C3 SIEC Board	Ongoing
	3.2 Assign resources to the plan		
	3.3 Determine scope		
	3.4 Adopt and implement the plan		
	3.5 Continue evaluating and revising		

⁹ [Emergency Communications Technical Assistance Planning Guide](#)

Goals	Objectives	Owners	Completion Dates
4. Improve communications infrastructure resiliency in New York [Land Mobile Radio (LMR), Broadband, NG911]	4.1 Continue the LMR Grant Program	DHSES All System Operators/Owners C3 SIEC Board	Ongoing
	4.2 Work in conjunction with carriers		
	4.3 Develop, adopt, and implement best practices and standards for enhancing physical and cybersecurity and resiliency across all forms of communications		
	4.4 Test, exercise, and collect After Action Reports (AARs) for all emergency communications capabilities		
5. Promote and maintain the Statewide Interoperable Communications Grant (SICG) Program to ensure support of current and evolving interoperable technologies and programs	5.1 Continue to evaluate allowable costs and associated maintenance [e.g., governance, training, CASM usage, Tactical Interoperable Communications Plan (TICP) updates, open standards, 911] for future rounds	DHSES C3 NYS911 Coordinators Association SIEC Board	Ongoing
	5.2 Monitor the SICG Program to ensure it meets current and emerging needs of public safety		
6. Develop governance for the integration of public safety broadband communications	6.1 Engage broadband providers	C3 OIEC SIEC Board	6.1 Q2 2024
	6.2 Determine governance needs		6.2 Q3 2024
	6.3 Increase education and outreach to the public safety community through the Consortiums		6.3 Ongoing
7. Establish requirements and prepare the state to interface with merging and emerging technologies	7.1 Form a technology working group within the Communications Consortium Chairs (C3)	C3 OIEC SIEC Board	Q1 2024
	a. Identify the merging and emerging technologies		
	7.2 Collaborate with the state from the county consortium level		
	7.3 Develop and execute a plan		
8. Enhance outreach, education, and partnerships	8.1 Partner with academia on a telecommunications degree program	DHSES C3 NYS911 Coordinators Association Colleges and Universities	8.1 Q1 2025
	8.2 Maintain the SCIP		8.2 Every 3 Years
	8.3 Continue credentialing and deployment of COMU personnel for planned and unplanned events		8.3 Ongoing
	8.4 Provide an outreach program		8.4 Ongoing
	8.5 Increase diversity of working groups		8.5 Ongoing
9. Identify and document long-term funding for communications systems and assets [e.g., operations and maintenance of	9.1 Continue to identify, track, and prioritize systems and assets that are reaching the end of their lifecycle or require a technology refresh	SIEC Board DHSES Budget and Finance Offices	Ongoing
	9.2 Identify agency requirements and seek to secure associated funding		

Goals	Objectives	Owners	Completion Dates
existing systems, strategic technology reserve (STR) program, reserve funds, NG911 funds]	9.3 Establish partnerships for investment in lifecycle funding		
	9.4 Initiate budget request process		
	9.5 Identify funding for new and emerging technologies		
	9.6 Create equipment/system purchasing standards, recommendations, and best practices		

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 New York's assessment of their progress against the markers as of 01/05/24.

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: <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	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.). (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	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

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
8	<p>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:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> COML <input checked="" type="checkbox"/> COMT <input checked="" type="checkbox"/> ITSL <input checked="" type="checkbox"/> RADO <input checked="" type="checkbox"/> INCM <input checked="" type="checkbox"/> INTD <input checked="" type="checkbox"/> AUXCOM <input checked="" type="checkbox"/> TERT 	No Communications Unit process at present	Communications Unit process planned or designed (but not implemented)	Communications Unit process implemented and active
9	<p>Interagency communication. 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>TICP (or equivalent) developed. 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>Field Operations Guides (FOGs) developed. 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>Alerts & Warnings. State or Territory has Implemented an effective A&W program to include Policy, Procedures and Protocol measured through the following characteristics:</p> <ol style="list-style-type: none"> (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	<p>Radio programming. Radios programmed for National/Federal, SLTT interoperability channels and</p>	<49% of radios are programmed for interoperability and consistency	>50%<74% of radios are programmed for interoperability and consistency	>75%<100% of radios are programmed for interoperability and consistency

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
	channel nomenclature consistency across a state/territory.			
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) <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	NG911 implementation. NG911 implementation underway to serve state/territory population.	Working to establish NG911 governance through state/territorial plan. <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> NG911 governance established through state/territorial plan. GIS developed and supporting NG911 call routing. Operational Emergency Services IP Network (ESInet)/Next Generation Core Services (NGCS). PSAP equipment updated and handling basic NG911 service offerings.
16	Data operability/interoperability. Ability of agencies within a region to exchange data on demand, and needed, and as authorized. Examples of systems would be: CAD to CAD, Chat, GIS, Critical Incident Management Tool, Web EOC	Agencies are able to share data only by email. Systems are not touching or talking.	Systems are able to touch but with limited capabilities. One-way information sharing.	Full system to system integration. Able to fully consume and manipulate data.
17	Future Technology/Organizational Learning. SIEC/SIGB is tracking, evaluating, implementing future technology (checklist)	<input type="checkbox"/> 5G <input type="checkbox"/> Acoustic Signaling <input type="checkbox"/> Autonomous Vehicles <input type="checkbox"/> Body Cameras <input checked="" type="checkbox"/> ESInets <input checked="" type="checkbox"/> GIS <input checked="" type="checkbox"/> Geolocation	<input type="checkbox"/> HetNets/Mesh Networks <input checked="" type="checkbox"/> LMR to LTE Integration <input checked="" 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	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	<49% of public safety agencies within a state/territory have access to Communications Unit personnel	>50%<74% of public safety agencies within a state/territory have access to Communications Unit personnel	>75%<100% of public safety agencies within a state/territory have access to Communications Unit

Marker	Best Practices / Performance Markers	Initial	Defined	Optimized
	tracking database (e.g., NQS One Responder, CASM, etc.) and available for assignment/response.	who are listed in a tracking database and available for assignment/response	who are listed in a tracking database and available for assignment/response	personnel who are listed in a tracking database and available for assignment/response
20	Communications Usage Best Practices/Lessons Learned. Capability exists within jurisdiction to share best practices/lessons learned (positive and/or negative) across all lanes of the Interoperability Continuum related to all components of the emergency communications ecosystem	Best practices/lessons learned intake mechanism established. Create Communications AAR template to collect best practices	Initial plus review mechanism established	Defined plus distribution mechanism established
21	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: <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
AMBER	America's Missing: Broadcast Emergency Response
AUXCOMM/AUXC	Auxiliary Emergency Communications
A&W	Alerts and Warnings
C3	Communications Consortium Charis
CAC	Citizen Alerting Committee
CAD	Computer Aided Dispatch
CASM	Communication Assets Survey and Mapping
CIRT	Cyber Incident Response Team
CISA	Cybersecurity and Infrastructure Security Agency
COML	Communications Unit Leader
COMT	Communications Unit Technician
COMU	Communications Unit Program
COOP	Continuity of Operations Plan
EMAC	Emergency Management Assistance Compact
DHS	Department of Homeland Security
DHSES	Division of Homeland Security and Emergency Services
E911	Enhanced 911
EAS	Emergency Alert System
ESInet	Emergency Services Internal Protocol Network
FEMA	Federal Emergency Management Agency
FOG	Field Operations Guide
GIS	Geospatial Information System
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
LMR	Land Mobile Radio
MHz	Megahertz
MOU	Memorandum of Understanding
NCSWIC	National Council of Statewide Interoperability Coordinators
NECP	National Emergency Communications Plan
NIMS	National Incident Management System
NG911	Next Generation 911

Acronym	Definition
NYS-TICFOG	New York State Tactical Interoperable Communications Field Operations Guide
PSAP	Public Safety Answering Point
PTT	Push-to-Talk
RADO	Radio Operator
RMS	Records Management Systems
SCIP	Statewide Communication Interoperability Plan
SICG	Statewide Interoperable Communications Grant
SIEC	State Interoperable and Emergency Communication
SOP	Standard Operating Procedure
STR	Strategic Technology Reserve
SWIC	Statewide Interoperability Coordinator
TA	Technical Assistance
TERT	Telecommunications Emergency Response Team
TICP	Tactical Interoperable Communications Plan
UHF	Ultra-High Frequency
WEA	Wireless Emergency Alert
WPS	Wireless Priority Service