Emergency Communications Governance Guide for State, Local, Tribal, and Territorial Officials

Version Control Table

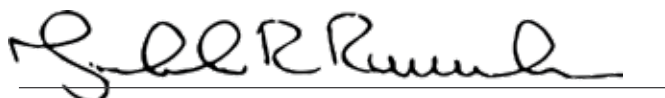| Revision Date	Summary of Update	Page(s)
April 2019	Ecosystem graphic and table updated to align with 2019 National Emergency Communications Plan (NECP)	4, 5
April 2019	Miscellaneous typesetting changes	v, 20, 30, 38, 48, B-1

Letter from the SAFECOM, NCSWIC, and Governance Guide Working Group Chairs

Engaged and effective governance is a critical component of successful interoperable emergency communications. The SAFECOM and National Council of Statewide Interoperability Coordinators (NCSWIC) members value effective governance but recognize it as one of the greatest challenges encountered by emergency communications officials. Establishing and maintaining effective governance across state, local, tribal, and territorial (SLTT) entities is a complex process, especially in the constantly evolving communications landscape. Strong leadership and governance improve planning, coordination, and decision-making, raising awareness of communications issues, and enhancing coordination across all levels of government.
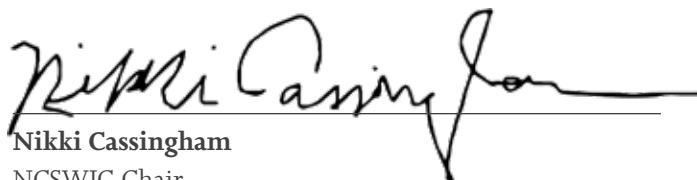
The 2018 *Governance Guide for State, Local, Tribal, and Territorial Emergency Communications Officials* (Governance Guide) builds on the 2015 Governance Guide release. This Governance Guide provides public safety professionals, at all levels of government and disciplines, tools to establish and sustain effective emergency communications governance. It describes functional areas applicable to the SLTT audience centered on interoperability coordination. The Governance Guide also strives to highlight tribal emergency communications best practices, lessons learned, capabilities, challenges, and partnerships while considering unique emergency management structures of federally recognized tribes.

Developed with input from a wide array of responders across the country, this guide outlines governance challenges, best practices, and recommendations. While information is not intended to be restrictive or mandated, the broad approach allows emergency communications officials to apply the governance model most appropriate for their jurisdiction. SAFECOM, NCSWIC, and the members of the Governance Guide Working Group are committed to enabling engaged and effective governance that supports life-saving emergency communications capabilities across the Nation.

Gerald Reardon
SAFECOM Chair

Nikki Cassingham
NCSWIC Chair

Daniel Martinez
Governance Guide Working Group Chair

Executive Summary

The Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA), in coordination with SAFECOM and the National Council of Statewide Interoperability Coordinators (NCSWIC), presents the 2018 *Governance Guide for State, Local, Tribal, and Territorial Emergency Communications Officials* (Governance Guide). Since the 2015 release of the Governance Guide, CISA conducted the SAFECOM Nationwide Survey to collect data on existing public safety communications capabilities and gaps. The survey found strong leadership and governance structures are improving emergency communications planning, coordination, and decision-making. However, the findings also recognized continued challenges involving new entities beyond traditional responders, as well as integrating emerging technologies into public safety communications systems.

To assist state, local, tribal, and territorial (SLTT) officials overcome these challenges, the 2018 Governance Guide empowers agencies to establish, assess, and update governance structures that support interoperable emergency communications. While the information provided is not intended to be restrictive or mandated, the broad approach allows officials to apply the governance model most appropriate for their jurisdiction. The Governance Guide holistically examines interoperable emergency communications governance structures, including best practices and guidance for public safety agencies to:

- **Understand the governance landscape**, including how governance bodies coordinate communications technologies (e.g., land mobile radio, broadband, 911, alerts, warnings, and notifications) and operational sustainment functions (e.g., cybersecurity, public-private partnerships, non-governmental organizations with supporting roles, training, exercise, and evaluation programs).

- **Build partnerships** between response organizations at all levels of government, fostering interaction between different departments, agencies, and jurisdictions, as well as formalizing cooperation through written agreements.

- **Establish a governance structure** and formal decision-making processes through authorities, charters, by-laws, resolutions, and strategic plans.

- **Choose a governance model** that reflects the unique organization, needs, and potential partners of each emergency communications ecosystem.

- **Engage in governance**, including considerations for communications lifecycle planning, coordination with other governance groups, and integration of emerging technologies.

- **Enhance governance** by establishing mechanisms to measure outcomes and identifying solutions to common governance, legal, fiscal, and technological challenges.

Engaged and effective governance is pivotal to operable, interoperable, and continuity of emergency communications. Robust governance establishes and maintains a central coordination point for efforts across the broad spectrum of public safety partners and the whole community, as well as helps to address challenges in a unified manner. Successful planning, implementation, and execution of a governance structure requires dedicated time and resources. While this investment may appear daunting, it will deliver solutions that benefit the public safety community, supporting entities, and ultimately citizens of this Nation. The Governance Guide, developed with and for use by emergency communications officials, offers the guidance needed to successfully establish, sustain, and enhance SLTT governance structures.

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"You can have all the technology you want but you will not achieve true interoperability if you do not have the cooperation and the collaboration that comes with the governance structure that ensures everyone is working together, making joint decisions, spending funds with others in mind."

– SAFECOM Executive Committee Chair Marilyn J. Praisner

2018 SAFECOM Emergency Communications Governance Guide for State, Local, Tribal, and Territorial Officials Working Group Membership was made up of 31 Emergency Management Professional State, Tribal, Association, and Federal partners

INTRODUCTION

Introduction

In an increasingly complex and interconnected emergency communications ecosystem, public safety agencies must consider the various functions and people that exchange information prior to, during, and after incidents. Similarly, agencies are integrating new and emerging communications technologies that must be interoperable with existing systems and across partner entities. With this integration of capabilities and partners, a single agency cannot solve communications operability, interoperability, and continuity alone. Effective communications require a partnership among response entities across all levels of government and disciplines to ensure the right information gets to the right people at the right time. A strong governance framework to plan, collaborate, and make decisions brings together all relevant participants with a stake in emergency communications.

The SAFECOM Nationwide Survey (SNS), a public safety data collection effort conducted from January through March 2018, included input from federal, state, local, tribal, territorial, urban and rural communities, as well as across the span of public safety disciplines. The SNS data reported most emergency communications-focused governance bodies are comprised of both formal and informal decision-making groups, with very few bodies proactively seeking new partners.[1] SNS data also found few state or local organizations engaging in communication planning with federal agencies,

[1]SAFECOM Nationwide Survey results: https://www.dhs.gov/sites/default/files/publications/FINAL_SNS_National-Level%20Random%20Sample%20Results_08092018.pdf.

tribal entities, or private sector/non-governmental organizations (NGOs). In addition, over a third of organizations indicated that cybersecurity incidents had an impact on the ability of their emergency response providers and government officials' ability to communicate over the past five years. However, only 9 percent identified addressing cybersecurity in their training and only 16 percent of organizations include cybersecurity in their organization's standard operating procedures (SOPs). These findings highlight the need for governance structures to evolve and broaden membership, as well as address rapid technology advancements. Cohesive governance structures representing the whole community will provide greater perspectives into the strengths, weaknesses, opportunities, and threats to emergency communications systems.

The Importance of Governance

- The first goal of the *National Emergency Communications Plan* (NECP), the Nation's strategic plan to improve emergency communications, calls to strengthen governance and leadership

- The National Governors Association (NGA), in its *Improving Emergency Communications Through Governance* white paper, calls governance the most critical element to ensuring interoperability of emergency communications

- The SNS pointed out broadening governance body membership as a key governance challenge

Sources: NECP, NGA, SNS

Establishing formal governance to improve communications can be challenging when "business as usual" includes a resistance to change and siloed decision-making. To prepare state, local, tribal, and territorial (SLTT) partners for today's challenges, SAFECOM, the National Council of Statewide Interoperability Coordinators (NCSWIC), and the Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA) developed the 2018 *Emergency Communications Governance Guide for State, Local, Tribal, and Territorial Officials* (Governance Guide) to:

- Highlight proven, repeatable models of emergency communications governance structures.

- Provide SLTT governing bodies with information and guidance for creating and managing an emergency communications governance structure.

- Demonstrate tribal emergency management best practices and lessons learned, including communications capabilities, activities, partnerships, and funding opportunities and challenges.

Scope and Methodology

The Governance Guide is a resource for governing bodies at all levels of government, recognizing that there is no "one size fits all" approach. It is intended to help elected or appointed officials, policy makers, planners, emergency managers, first responders, and the whole community form governance structures to support reliable, secure, and interoperable public safety communications.

To develop this document, SAFECOM and NCSWIC convened a working group comprised of public safety experts that interviewed SLTT agencies across the country. Interviews focused on the establishment and evolution of governance authorities. They also identified existing governance membership composition, organization and structure, measures of success, funding mechanisms, and engagement. As a result, the interviews captured examples of successful activities, challenges, best practices, and characteristics of effective governance that are included within this document.

Governance in the Interoperability Continuum

The emergency communications ecosystem is dynamic—not everyone is needed every day depending on the incident, events, access to information, and technologies used—and it is also multi-directional, as anyone can initiate emergency communications. By first understanding the ecosystem and unique needs in their area, agencies can then tackle challenges to achieving reliable, secure, and interoperable communications at any time. The ecosystem is comprised of: networks of people, technology, and processes. Together, these components create a "system of systems" that plays an important part in ensuring the operability, interoperability, and continuity of emergency communications. Figure 1 and Table 1 describe the Emergency Communications Ecosystem.

Figure 1: Emergency Communications Ecosystem

Table 1: Ecosystem Description

| Communications Functions	Purpose	Examples
Reporting & Requesting Assistance	Urgent and non-urgent requests or information sharing made to public safety resources using defined emergency and non-emergency paths	911, 311, dedicated numbers, tip lines, alarm activated, face-to-face, triggered telematics system, social media, web applications, detectionof service outages or disruptions
Incident Coordination & Response	Direct voice and data communications among public safety responders, emergency communication centers/public safety answering points, and emergency support systems to establish command and control, situational awareness, and shared common operating picture	Information sharing, joint planning, radio communications, in-field operations, data exchange
Alerts, Warnings, & Notifications	Instructional messages directing protective actions to save lives and property, and convey time-sensitive information for preparation, response, and recovery-related services	Active threats or civil dangers, hazmat, AMBER alerts, weather watches, fire warnings, evacuation orders, area accessibility updates, all-clear notices, Emergency Alert System, Wireless Emergency Alerts
Public Interaction	Public's sharing of information through various public or commercial networks supporting the Internet, social media, and telephony communications	Telephone calls, social media, such as Facebook, Twitter, web services and applications
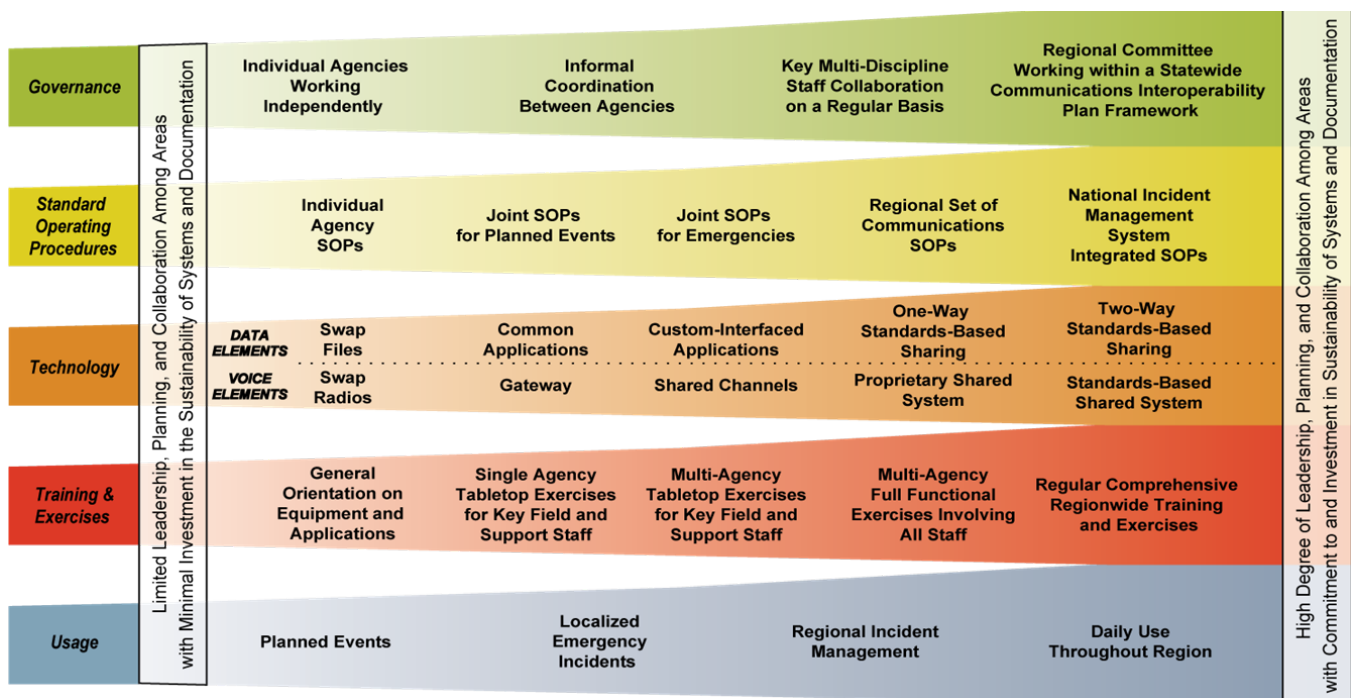
Figure 2: SAFECOM Interoperability Continuum

Figure 2 depicts the SAFECOM Interoperability Continuum, a tool that identifies the five critical success elements that must be addressed to achieve a sophisticated interoperability solution: governance, SOPs, technology, training and exercises, and usage of interoperable communications. The Interoperability Continuum can be used by jurisdictions to track progress in strengthening interoperable communications.

Governance is widely regarded as the most challenging element of the Interoperability Continuum because of the difficulty in bringing people together with different viewpoints from various geographies to support a common vision. The significance of governance is further demonstrated in that all other elements are managed or facilitated through governance. Governance serves as the framework for SLTT representatives to collaborate and make decisions that establish a shared approach for improving communications.

Characteristics of Effective Governance

Effective governance fosters collaboration between public safety partners, emergency communications officials, and members of the whole community. Governance structures facilitate a greater understanding of existing communications capabilities and gaps, as well as the development of a coordinated strategic plan to prioritize resources, investments, and staffing. Effective governance includes multi-disciplinary federal, state, tribal, regional, jurisdictional, and local entities working together to promote interoperability efforts that are supported by policies, processes, and agreements developed to support all partnering communities. Table 2 includes characteristics and activities typical of effective governance structures.

The characteristics of an effective governance structure will vary, but successful examples include most—if not all—of the characteristics and activities listed.

Table 2: Characteristics and Activities of Governance Structures

Characteristics	Activities
Document Authority	■ Establish formally through executive order, statute, or resolution ■ Create a charter and strategic plan ■ Maintain an open and transparent forum to promote greater partner buy-in
Gather an Active, Balanced, and Accountable Membership	■ Determine membership size and representation to maintain inclusiveness while permitting quorum to be met regularly ■ Align needs and priorities across various members who have a role in, or are impacted by, communications-related initiatives ■ Document roles, responsibilities, and membership requirements and routinely assess whether stated roles, responsibilities, and membership requirements are met ■ Determine how member attrition will be managed ■ Manage internal, jurisdictional, and regional differences (e.g., working cooperatively toward common, universally beneficial goals) ■ Ensure member participation is sanctioned and supported by the agency or entity they represent
Meet Frequently and Consistently	■ Provide multiple means to participate in meetings (e.g., in-person, videoconference, webinar, and teleconference) while advancing information sharing and transparency ■ Maintain consistent meeting cadence; when possible, members should collectively determine where meetings will be held and include consistent or alternating meeting location to increase attendance and participation depending on the size of the state or jurisdiction and residency of members
Plan Often	■ Identify sustainable funding for existing and future public safety communications priorities ■ Oversee and align activities to communications interoperability strategic plans (e.g., SCIP and NECP)

Governance Roles and Responsibilities

Emergency communications governance has three primary components—governance bodies, strategic plans, and day-to-day interoperability coordination. How these responsibilities are organized and executed varies across levels of government and disciplines. Together, these components establish and implement a shared vision and common objectives that support interoperability.

At the state/territorial-level, the NECP recommends that each state institute a statewide interoperability governing body (SIGB) or statewide interoperability executive committee (SIEC). These SIGBs or SIECs should be inclusive at all levels of government, including tribes and should have regionally-focused committees or working groups to inform senior leadership on emergency communications needs. For tribal communities and jurisdictions, the Tribal Council may be the sole advisory and decision-making body to make decisions impacting the tribe's emergency communications or they may refer to the Tribal Emergency Response Commission (TERC). A local emergency manager may enlist the local emergency planning committee (LEPC) to identify local emergency communications gaps, as well as develop interoperability plans, processes, and procedures that align to statewide and regional governance efforts.

The decision making responsibilities of a governance body guide day-to-day interoperability coordination and implementation of the strategic plan. The governance body supports the interoperability coordinators, especially when located in different agencies or entities, under different leadership chains of command, or on different organizational charts. Governance bodies ensure interoperability activities remain focused on implementing the strategic plan and sustainable funding is in place to accomplish strategic objectives. They ensure emergency communications acquisition decisions are informed by existing and future interoperability requirements. Governance

bodies can also facilitate the successful completion of memoranda of understanding (MOUs) / memoranda of agreement (MOAs) so responses will not be delayed due to policy issues. Lastly, to maintain the momentum of interoperability progress, governance bodies maintain continuity when interoperability coordinators change.

Statewide Interoperability Coordinators (SWICs)

SWICs are the designated day-to-day interoperability coordinators for states and territories.

Responsible for implementing the Statewide Communication Interoperability Plan (SCIP).

SWICs coordinate, communicate, and collaborate with federal, SLTT, international, and non-governmental partners to achieve the objectives identified in the SCIP.

Increase a state's cybersecurity posture when included in the coordination of response and recovery efforts.

DHS grant guidance requires states and territories to have a full-time SWIC in order to receive funding.

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UNDERSTAND THE GOVERNANCE LANDSCAPE

Understand the Governance Landscape

Governance supports a unified effort to coordinate the multiple functions that encompass emergency communications. These functions can be divided into two categories—communications technology and operational sustainment.

Communications Technology

- Land mobile radio (LMR)
- Wireless Broadband
- 911 / Next Generation 911 (NG911)
- Alerts, warnings, and notifications (AWNs)

Operational Sustainment

- Cybersecurity
- Private-sector/publicly-owned critical infrastructure/NGO resource coordination
- Training, exercises, and evaluation

Figure 3 depicts SLTT governance functional area coordination. Governance establishes a shared vision and common objectives that ensure the operability, interoperability, and continuity of communications across all communications technology and operational sustainment functions.

Figure 3: SLTT Governance Functional Area Coordination

As shown in Figure 4, to establish, maintain, and enhance governance for emergency communications, the key components of interoperability coordination—governance bodies, strategic plans, and interoperability coordinators—must work together to increase interoperability. Governance forms the policies and strategic direction for those engaging in interoperability activities and provides the authorities for interoperability coordinators to develop and implement the processes, agreements, and plans, including funding plans.
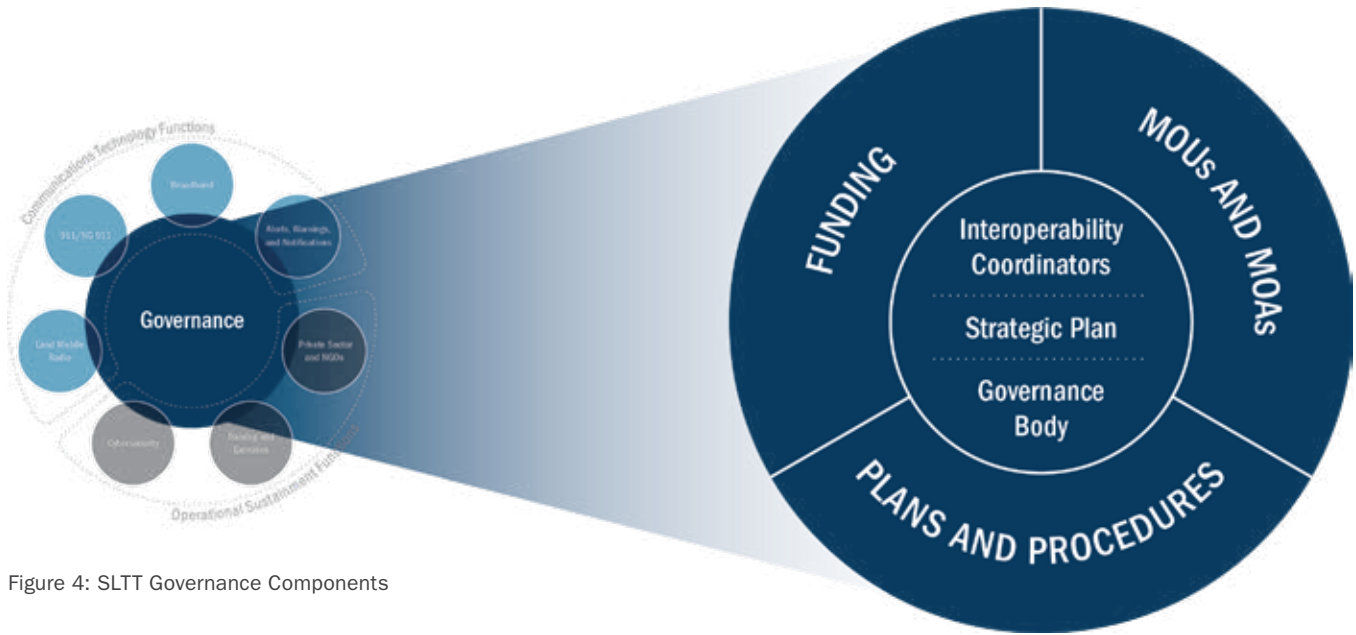

Figure 4: SLTT Governance Components

Governance of the communications technology and operational sustainment functions provides a focal point for elected and appointed officials to understand and support the ecosystem within their authority and the funding needs that are critical for its sustenance, evolution, and growth. From that support, governance lays the foundation for day-to-day activities necessary for interoperability coordination.

Members of the whole community contribute to communications interoperability, including the private-sector, publicly-owned critical infrastructure, international partners, NGOs, and individuals. Federal agencies are also part of the national emergency communications ecosystem with resources to support and coordinate with SLTT partners.[2] Governance structures, strategic plans, and day-to-day coordination activities must be inclusive of partners from all levels. Participation from a wide array of people ensures

that decision-making processes, information sharing networks, planning efforts, and response activities reflect the needs of the whole community.

Sustainable Funding Best Practice

Monroe County, Illinois, utilizes a Public Safety Income Tax to fund many public safety projects. By working with decision makers, emergency communications champions led the county to utilize funds for a new public safety answering point (PSAP).

Communications Technology Functions

Communications technology is the method or device by which information is shared. While technological

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[2]A separate governance guide, the *Emergency Communications Governance Guide for Federal Officials*, is being developed for the federal audience.

advances are evolving, most public safety agencies depend on the same systems that have supported their operations for many decades. LMR and 911 are often the essential communications capabilities; however, wireless broadband and Internet Protocol (IP)-based telecommunications are increasingly more prevalent, requiring additional funding, training, and support.

New technologies can be expensive and disrupt mission critical operations and communications. Yet, emerging technologies and services, such as the Internet of Things, social media, wireless data networks, IP-based mobile communications devices, and Network Function Virtualization (NFV) (i.e., virtualization) offer advanced capabilities to enhance command and control and situational awareness for emergency responders. The rapid rate of technology advancement continues to outpace the public safety community acquisition cycle. The ability to develop, test, and evaluate new technologies before integrating them ensures successful operability and interoperability with existing communications systems. Not every new or enhanced technology will be appropriate for each unique public safety organization's mission, nor can a new or enhanced technology be adopted without consideration of impacts to governance, funding, SOPs, use, training, and exercises.

Best practices and educational guidance allow the community to harness emerging technology benefits, while also preempting or mitigating the risks associated with wide-scale deployment. SAFECOM provides unique public safety recommendations and guidance for each technology, including those below.

Land Mobile Radio

The public safety community continues to use LMR systems to support critical voice communications. LMR systems provide a reliable means for field personnel to effectively communicate with each other, PSAPs, and public safety communications centers (PSCCs). Since the 1930s, LMR technology has evolved and the community is continuing to address resulting operability and interoperability challenges across jurisdictional, regional, agency, and tribal community lines.

Increasingly complex LMR systems and technologies that support larger geographic areas with greater user capacities require more and broader governance and policies. These decisions must support sufficient operability and interoperability to support day-to-day and out-of-the-ordinary situations. Given these concerns, public safety agencies can establish effective governance through formalized agreements for mutual aid, automatic aid, interoperability support and channel sharing, and shared systems solutions.

Wireless Broadband

Wireless broadband provides high-speed, high capacity data communications in a mobile environment. The public safety community has recognized the importance of wireless data services and specific challenges to overcome, such as coverage, security, and priority access and credentialing. Public safety requirements must be incorporated for this technology to meet a community's unique communications needs.

Wireless broadband capabilities have become mainstream offerings through the First Responder Network Authority's (FirstNet) commercial partner and broadband network operator of the Nationwide Public Safety Broadband Network (NPSBN).[3] As part of broadband coordination, all states and territories developed state plans for future wireless broadband services and have opted into the NPSBN radio access network. Thus, many governance bodies have incorporated wireless broadband planning into their activities.

Tribal Deployment of Wireless Broadband

Three federally recognized tribes are pursuing a pilot to showcase successful broadband technology deployment while also encouraging economic development by co-locating broadband capabilities on tribe-owned towers, expanding tribal and rural broadband coverage and also generating tribal revenue.

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[3] Middle Class Tax Relief and Job Creation Act of 2012. Pub.L. 112–96, H.R. 3630, 126 Stat. 156, enacted February 22, 2012.

Despite the planned NPSBN, broadband access, particularly in rural and tribal areas, poses a major dilemma. Currently, 47 percent of rural areas and 37 percent of tribal lands lack adequate broadband access due to topographical, economic, and network capacity challenges.[4]

Broadband governance and interoperability coordination challenges include:

- Coordination within and amongst partnering jurisdictions to enable access to various information resources, applications, and services.

- Interoperability planning including data ownership, access, sharing and storage.

- Vendor relationships and technical offerings.

- Implementation and sustainment of information protection and cybersecurity protocols.

- Leveraging and integrating deployables and other communications assets in areas or scenarios where broadband coverage is limited or lacking.

911, Enhanced 911, and Next Generation 911

Significant advancements in communications technologies enable greater information sharing capacities, as well as challenges for PSAPs. Legacy 911 systems rely heavily on 1960s era voice-based telephony technology. In contrast, IP-based NG911 systems use location-based routing to direct calls to appropriate public safety entities and process a multitude of data types including photos, text messages, and videos. As technology and governance structures improve, many states are considering regionalized PSAPs, reducing the number of resources needed to cover large areas.

Since neighboring jurisdictions may be using different 911 systems and other PSAP support systems (e.g., Computer Aided Dispatch [CAD], LMR consoles, networks, Geographic Information Systems [GIS]), governance considerations should broadly focus on the following critical elements, developed by the Federal Communications Commission (FCC) Task Force on Optimal PSAP Architecture (TFOPA)[5]:

- Facilitating formalized planning, coordinator designation, and MOUs/MOAs.

- Assessing and bolstering cybersecurity, resiliency and redundancy needs, and threats.

- Identifying opportunities for collaborative governance and shared funding and sustainment solutions.

- Recruiting and maintaining personnel by cultivating career paths.

Administrators for 911 districts may be statewide, region-wide, county, local, or facility-specific positions. For jurisdictions subject to statewide provision of 911 services, interoperability coordination includes implementing accredited technical standards for emergency telephone systems. Interoperability coordination of 911 systems includes working closely with contiguous districts, local, county, state, and federal 911 authorities. Secondarily, coordination is also necessary with LMR, broadband, and AWN governance groups to maximize modernization initiatives.

Alerts, Warnings, and Notifications

AWNs are instructional messages directing protective actions and conveying time-sensitive information for preparation, response, and recovery-related services. The use of accurate and timely AWNs protects lives and property and maintains citizens' trust in public safety. Interoperability coordinators, alerting authorities, and partners can implement best practices to help organizations enhance critical information sharing. Strong governance and collaboration with existing authorities creates communication pathways among involved partners. Establishing partnerships among overlapping jurisdictions, critical infrastructure operators, facility partners, communications providers, community members, news outlets, and social media platforms are important for AWN management. Furthermore, well-documented and field-tested plans, policies, and procedures should be executed, consistently evaluated for potential gaps, and adapted to the evolving and dynamic AWN landscape.

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[4]Government Accountability Office. Tribal Internet Access: Increased Federal Coordination and Performance Measurement Needed. GAO-16-504T. April 27, 2016.

[5]Federal Communications Commission, TFOPA. Working Group 2 Phase II Supplemental Report: NG911 Readiness Scorecard. December 2, 2016.

AWN Partnership

The State of Minnesota built a partnership with the Minnesota Broadcasters Association to enhance the delivery of public alert and warning messages.

Operational Sustainment Functions

The operational sustainment functions identified in this guide include a list of key activities necessary to maintain unified emergency communications. Each of these functions serve to sustain and enhance the interoperability of the communications technology functions.

Cybersecurity

The public safety community must continually identify risks and address evolving physical and cyber security requirements. Over a third (37 percent) of SNS respondents indicated that cybersecurity incidents had an impact on the ability of their emergency response providers and government officials' ability to communicate over the past five years. Yet, almost half (46 percent) of the organizations had not instituted cybersecurity best practices, such as risk assessment, continuous monitoring, and identity management. In fact, only one in five (20 percent) of the organizations indicated having cybersecurity incident response plans, policies, and capabilities.

Like other aspects of communications, cybersecurity is a shared responsibility. All levels of government, private and nonprofit sectors, and individual citizens must work together to protect voice and data communications. Ideally, each organization would employ an enterprise-wide, risk-informed cybersecurity management program with continuous improvement and coordination with all interconnected systems and the broader community. The _National Institute of Standards and Technology's (NIST) Cybersecurity Framework_ is a flexible, risk-based approach to improving the security of critical infrastructure. Collaboratively developed between government and

the private sector, the Framework is designed to complement an existing risk management process or to develop a credible program if one does not exist. Governance is explicitly addressed within the Framework, and resources are provided to establish and communicate the necessary governance structures (e.g., risk councils) and organizational cybersecurity policy for risk management.

SLTT agencies, entities, and jurisdictions should consider whether existing governance bodies sufficiently addresses cybersecurity topics, including policies, regulations, and funding for cybersecurity implementation. Governance bodies should ensure public safety's cybersecurity needs are effectively promoted and conveyed not just to public safety managers, but to leadership within municipalities, towns, cities, and tribes, to include tribal leaders/ councils, county, city, and town managers and councils, and other leaders and managers whose departments, agencies, or the resources and utilities they manage are impacted by a lack of governance and effective cybersecurity measures.

Cybersecurity

"Now more than ever, public safety needs governance that supports all technologies and includes a focus on cybersecurity as emergency communications systems become IP-based."

— Jeanette Manfra, Assistant Director for Cybersecurity, DHS CISA

Coordinating with the Private Sector, Publicly-Owned Critical Infrastructure and Non-Governmental Organizations

The private sector has many resources that provide or support emergency and non-emergency communications infrastructure, including equipment, facilities, and personnel. Similarly, public utilities and NGOs have dispatch and field communications capabilities that can support emergency communications. Entities such as

transportation providers, public works, electric utilities, and private emergency medical services may have day-to-day communications capabilities. Voluntary organizations active in disasters (VOADs), such as the American Red Cross, the Salvation Army, and the Medical Reserve Corps, as well as amateur radio clubs, such as the Amateur Radio Emergency Service (ARES) or Radio Amateur Civil Emergency Service (RACES), also have emergency communications capabilities. To ensure interoperability across the entire ecosystem, it is important to include these entities as partners in governance. Building these partnerships can result in:

- Resource sharing opportunities, including communications equipment, staff, vehicles, facilities, and support equipment.

- Opportunities to share and expand training, exercise, and evaluation offerings.

As relationships grow with these partners, they should be formalized through MOUs/MOAs. These partners should also be included as members of formal emergency communications governance structures. These relationships are already in place in many jurisdictions, such as states coordinating with national VOAD representatives, large employers sitting on LEPCs, and tribes positioning radio towers and communications facilities on tribal lands such as hardened casino properties. Governance structures should promote the inclusion of private sector and NGOs at every possible juncture, including planning, training, exercises, and real-world incident response.

Training, Exercises, and Evaluation

Training, exercises, and evaluations work together to identify staff, organizational, and technological challenges to achieving interoperability. Partners are best positioned to tackle interoperability across the emergency communications ecosystem when they establish governance over communications-focused trainings and exercises. Effective governance aids interoperability coordinators to manage trainings, exercises, and evaluations through:

- Partner organization engagement.

- Resource coordination.

- Funding support.

When designing training, exercise, and evaluations programs, governance bodies should consider how to include whole community partners. By engaging with a wide array of whole community members, governance bodies can tailor programs to partner needs, identify new training, exercise, and evaluation opportunities, and coordinate the use of public safety funds.

> ### Effective Training, Exercise, and Evaluation Programs
>
> - **Objective-based**: Focus on findings from evaluations of real-world incidents and exercises.
>
> - **Inclusive**: Incorporate partners and the whole community.
>
> - **Comprehensive**: Include all emergency communications functions.
>
> - **Progressive**: Organize event objectives that build from lessons learned.
>
> - **Continuous**: Provide training, exercises, and evaluations repeatedly over a defined period and following real world events.

Jurisdictions may leverage existing collaborative assessments such as the Federal Emergency Management Agency's (FEMA) Threat and Hazard Identification and Risk Assessment to develop objectives for trainings and exercises. Objectives can also be based on gaps identified during previous trainings and exercises, as well as real-world events. Effective evaluation programs gather data from across the ecosystem through governance established by SIGBs or SIECs, LEPCs, TERCs, and regional or national associations familiar with emergency communications challenges.

Governance bodies can increase the effectiveness of training, exercise, and evaluation programs by coordinating resources with partner jurisdictions. For example, independent third-party evaluators can provide objective feedback during and after an exercise. By partnering with other agencies or jurisdictions to provide third-party observers, governance bodies

can limit bias and facilitate cross-agency/jurisdiction interactions, exposing staff to new processes, technologies, and best practices.

Governance bodies should also consider financial resources when designing training, exercise, and evaluation programs. Governance bodies can use distance or shared training, exercise, and evaluation opportunities to expand the number of events jurisdictions participate in. For example, trainings conducted by video teleconferences, online streaming platforms, or the Internet enable organizations to participate without the financial commitment required by in-person events (e.g., travel, backfill). Governance bodies may also choose to incorporate interoperable communications objectives into larger exercises. Consolidating exercises enables governance bodies to maximize limited budgets to assess interoperable communications capabilities without the cost of standalone events.

Interoperability Coordination

Interoperability coordination includes managing governance-related activities, policy development, program management, outreach and education, grants management, and strategic planning. These activities necessitate engaging governance bodies, partner organizations, and representatives of the whole community. Table 3 lists interoperability coordination activities, in which some implementation activities are specific to one emergency communications function, and some span across multiple.

Table 3: Interoperability Coordination Activities

Type	Activities
Governance	■ Guide governing bodies in chartering and supporting working groups, committees, and/or coalitions ■ Promote development of governance-related outreach materials, presentations, and issue summaries ■ Adopt and implement standards on certified environments for the retention of classified and/or sensitive materials and the transmission of classified and/or sensitive information, both verbally and electronically
Policy	■ Support policy development to enhance interoperability ■ Develop written guidance, including SOPs and standard operating guides (SOGs) ■ Ensure lifecycle planning is supported by sustainable funding policies and grant programs ■ Monitor federal and SLTT legislation, regulations, guidelines, and policies related to emergency management programs and emergency communications
Program Management	■ Develop, establish, and track related emergency communication strategic plans, goals, initiatives, and objectives consistent with the NECP ■ Provide program coordination and evaluation pertaining to technical resources, training, exercises, report writing and submission, scheduling, and budgets ■ Support and coordinate working groups, committees, and/or coalitions organized to address public safety issues, emergency communications, and interoperability, as well as coordinate and draft session reports and requirements ■ Initiate and/or attend meetings to provide information to assure informed engagement impacted parties in communications systems planning, interoperability planning, and interoperability standards development ■ Initiate and facilitate engagement of tribal communities, NGOs, and all under-served and unserved partner agencies and members of the whole community ■ Develop and implement short and long-term performance measures to track progress toward improved interoperability ■ Provide data to populate databases designed to track availability of emergency communications resources (e.g., Communication Assets and Survey Mapping [CASM] Tool) ■ Direct and oversee programs with programmatic responsibility for preventing and/or minimizing losses or damage before a disaster strikes ■ Inform partners on opportunities and expectations required for technical training

Table 2: Interoperability Coordination Activities (Cont'd)

Type	Activities
Planning	■ Ensure interoperability plans align with national communications strategies ■ Support development of the SCIP, Tactical Interoperable Communications Plan (TICP), Tribal Communications Plan, and/or Regional Interoperable Communications Plan (RICP) ■ Drive and coordinate implementation of strategic plans by identifying champions, developing timelines, and initiating implementation activities ■ Measure and communicate progress and results of strategic plan objectives and update the plan as needed ■ Coordinate with partners to leverage Technical Assistance (TA) opportunities ■ Plan with DHS for priority communications capabilities through the Government Emergency Telecommunications Service (GETS), Wireless Priority Service (WPS), and Telecommunications Service Priority (TSP) programs ■ Encourage compliance with interoperability standards adopted by governance bodies ■ Perform analysis of the current state of public safety communications resources, agencies and entities, and polices currently in place and develop objectives for improvement based on exercise and incident after-action reports
Outreach and Education	■ Serve as the point of contact to partner agencies and entities and the whole community on interoperable communications issues ■ Provide governance bodies, partner agencies and entities, and the whole community with outreach and training support, including assistance with workshops and courses for emergency responders ■ Liaise across different levels of government including tribes and all disciplines to build partnerships ■ Communicate information regularly with partner agencies and entities and the whole community to ensure transparency ■ Attend interoperability conferences and workshops and participate in working groups, committees, coalitions, and associations promoting interoperability
Grant Coordination	■ Oversee long-term financial sustainability for interoperable communications ■ Ensure adherence to grant guidelines and laws ■ Review and approve interoperable communications grant funding requests ■ Coordinate grant writing management for interoperable emergency communications ■ Identify funding opportunities for planned interoperability improvements and coordinate efforts to acquire funding

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BUILD
PARTNERSHIPS

Build Partnerships

Achieving interoperability requires partnership among emergency response organizations across all levels of government, including federal, SLTT, and regional public safety and emergency communications. Forming relationships with other emergency management and public safety officials is one of the interoperability coordinator's most important tools to break down barriers across levels of government and disciplines. Often these begin at a training, exercise, conference, planned event, or incident response, making involvement at these a key aspect of the role.

Relationships turn to partnerships when agreements are made to work together in the future, as well as support each other's events through the sharing of equipment, staff, expertise, or peer networks. Partnering to plan, develop, and implement solutions can also reduce duplicate efforts, as well as improve the efficiency of the entire ecosystem.

Partnerships provide a level of security that additional resources can be readily accessed should the need arise, and challenges can be overcome through the sharing of knowledge and experience between trusted colleagues. As partnerships grow, it is important to document them through MOUs, MOAs, and mutual aid agreements (MAAs). These instruments provide an

additional level of security not only for the emergency communications organizations, but also for the elected and appointed officials and agency leadership that support those involved.

For Tribal Nations, partnerships are even more critical since land holdings can be located many miles apart, in multiple states, jurisdictions, and regions. Additionally, some tribes have their own public safety entities who support the tribal community and local jurisdictions surrounding the tribe, while other tribes rely solely or partially on local jurisdictions to provide public safety support to tribal members. Partnerships are key to maintaining a functional and supportive governance structure that may involve tribes. It is strongly suggested

for state, local, and regional agencies and entities to establish governance structures and directly engage and involve tribes. In kind, tribes can include their surrounding jurisdictions in some capacity when establishing a governance structure for their tribal public safety communications and coordination.

As networks of partnerships grow and intersect across multiple agreements, it can be beneficial for all parties to meet to resolve mutual challenges or come to a joint agreement on terms. The benefits realized in these sessions lead to the formation of formal governance structures supported by elected and appointed officials and agency leadership. A governance structure provides a unified approach to partnerships across multiple levels of government, jurisdictions, disciplines, and functions to foster informed decision-making in areas such as planning, operations, funding, training, exercises, and equipment acquisition.

Establishing a governance body does not end the need to form new partnerships and establish agreements; instead, it validates their usefulness and often expedites formalities, so interoperability coordinators can focus on their many day-to-day responsibilities.

Develop Memoranda of Understanding/Memoranda of Agreements

In many communities, the sharing of public safety resources, including communications capabilities, are based on long-standing informal agreements. These agreements are often put in place by public safety and emergency management agencies due to cross-jurisdictional and planned and unplanned large events that make the sharing of resources necessary. Such informal agreements may be established before, during, or after these events. These agreements are advantageous at the time they are put in place because they can be established quickly and without formal actions of executive and legislative decision makers. Because they are based on incident-specific or personal experiences and partnerships, these agreements are limited in scope and duration.

To minimize risks for the agencies, entities, and communities they serve, these agreements should be an MOU, MOA, or MAA. Additionally, written agreements should be backed by the legislative bodies or entities who enter into the agreement, as well as through the creation of formal governance bodies. When establishing an MOU, MOA, or MAA, all parties should keep in mind that while these are not considered legal contracts, they can impact jurisdictional and/or tribal sovereignty. Governance bodies can use these agreements to improve resource management and sharing abilities; engage in lifecycle and sustainment planning and funding strategies; develop further partnerships; and grow capabilities through the establishment of collaborative structures such as subcommittees, working groups, and coalitions designed to focus on specific issues or technologies.

Effective MOUs/MOAs

- Define the responsibilities of each party in an agreement,

- Provide the scope and authority of the agreement,

- Clarify terms, and

- Outline compliance issues.

For more information, see A Writing Guide for a MOU. This tool provides a detailed methodology and process for developing an appropriate MOU for any interoperable communications governance component.

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ESTABLISH FORMAL GOVERNANCE STRUCTURES

Establish Formal Governance Structures

Formalized governance provides a unified approach to partnerships across multiple disciplines, jurisdictions, and organizational functions. Documentation of processes and decision-making structures allows for greater understanding and evaluation of existing communications capabilities and the development and implementation of a coordinated plan to address gaps, align resources, and prioritize investments. Written agreements, backed by formal governance, establish common goals and objectives and minimize risk for the communities they serve. Governance structures are typically established ad-hoc or by executive order, legislative statute, or resolution(s). These mechanisms establish the body's legal authority and set the vision of what the group wishes to accomplish and why.

Authorities

Authorities refers to the mechanism and language by which a formal governance structure is established— by executive order, legislative statute, or resolution of elected or appointed officials. Working with elected and appointed officials and emergency communications leadership to establish formal governance structures can create bonds with those officials, leading to their support in the form of advocacy, authority, and funding. Strong representation from a champion at the highest possible level is critical when seeking to formalize governance structures, regardless of the type of authority that is sought. The type of authority sought varies based on those forming the structure. When gathering user requirements, a bottom-up approach should be leveraged to ensure specifications of the authority meet the needs of the public safety community it is designed to support. Table 4 lists general guidelines of what should be included in a legal authority.

Table 4: General Guidelines to Include in Governance Body Authority

What to Include	Why
Name, Authority, and Purpose	Solidifies the legal standing of the governance body and the purpose of its establishment. If applicable, indicate where the authority derives from (e.g., federal, state, local statutes or tribal resolutions) and if it amends or supersedes any prior authorizations
Roles and Responsibilities	Defines what the governance body has the authority to oversee, including any rule-making authority, aligning activities to overarching interoperability strategies and plans (e.g., SCIP, NECP) and maintaining fiduciary and fiscal compliance
Reporting Obligations	Provides a mechanism for the governance body to formally and publicly notify the overseeing authority (e.g., state legislature, Tribal Council, mayor, county council) on accomplishments, interoperability gaps, and future priorities to enhance public safety communications
Organizational Alignment	Describes if the governance body is established within an existing or new council, department, or agency, or if it has independent authority with direct access to the SLTT government leader
Guidelines for Subcommittee(s), Working Group(s), and/or Coalition(s)	Permits the governance body the flexibility to organize itself in a manner that enables it to meet its defined roles and responsibilities without enumerating the subcommittee, working group, or coalition mission, structure, and membership composition
Chairperson and Vice Chairperson	Designates which representative(s) will be presiding over the governance body to ensure accountability while providing a point(s) of contact that is available to provide any information needed regarding public safety communications and interoperability to senior government and elected and/or appointed officials
Membership (Voting and Non-Voting)	Indicates voting, non-voting, and ex-officio members, or their designee, from each discipline, level of government, and function
Term Limits	Establishes term limits for the public representatives, government agency or entity officials, and legislative members. Note: Elected and/or appointed officials serving as governance body members should serve term limits consistent with their term in office
Funding	Specifies if there will be a designated source of funding to support costs related to the administration of the governance body (e.g., meeting support, staff to oversee the authority, financial resource to manage the books), if individuals will receive compensation for serving as members (if applicable), or if members' expenses may be eligible for reimbursement from the governance body's funding source(s)

While the guidelines listed above are important to establish parameters within which a governance body is authorized to operate, there also needs to be flexibility within the legal authority for specific details to be laid out in a charter, bylaw(s), or resolution(s).

Charters and By-Laws

Many aspects of charters and bylaws overlap, and the choice to employ one or the other is at the discretion of the governance body and its leadership. Charters or bylaws describe the reason the group exists, outline its authority (if applicable), establish accountability for members and the group, and identify ground rules for operation. The rules of conduct are intended to guide the governance group as they work together to address common goals and objectives that cross jurisdictions and disciplines. Clear decision-making and conflict resolution processes for the governance structure ensure the successful development and execution of strategic efforts when multiple agencies, disciplines,

and jurisdictions are involved. Transparency in these processes helps build support for their outcomes. When creating a charter or bylaw, the governance group must agree upon key policies and procedures that determine how the group will operate. Charters and bylaws promote transparency by making the governance body's procedures and processes accessible to the communities it serves. Table 5 identifies key elements of a charter.

Table 5: Key Charter Elements

Element	Definition
Introduction	Provides an overview of the governance structure and outlines the sections within the charter
Purpose	Describes who established it, why it was established, and its mission, vision, goals, and objectives
Authority	Describes the governance structure's authority and funding sources
Outcomes	Describes the objectives of the governance structure in a manner that is quantifiable, so effectiveness and progress can be measured
Scope (Roles and Responsibilities)	Describes the scope of the governance body's responsibilities to include, but not limited to, level (e.g., command, tactical), discipline, function, communications type (i.e., data, voice, video, imagery) and usage
Operating Principles	Describes the ground rules for meetings and communications, including whether attendance and voting may be conducted electronically (from a distance)
Membership	Identifies the types of members and organizational structure. This should also include identifying alternate, advisory, and ad-hoc members
Decision Making	Outlines the decision-making process and reporting for the governance body
Logistics	Describes meeting logistics including meeting frequency and meeting locations. Administrative responsibilities such as who develops meeting minutes, to whom and when they are distributed, and where they are archived

Table 6 identifies key elements of by-laws.

Table 6: Key By-Law Elements

Element	Definition
Authority	Declares the legal language that gives the governance structure authority to oversee or advise on emergency communications and interoperability
Purpose	Describes why the governance structure was established and elaborates on the roles and responsibilities outlined in the authority
Board Composition	Identifies the governance structure membership, board chair/vice chair, duties of the elected and appointed officers and members, membership terms and termination process, election and appointment processes, and compensation
Meetings	Describes meeting frequency, quorum requirements, voting procedures, attendance requirements, and reasons and requirements for notification of special meetings

Table 6: Key By-Law Elements (Cont'd)

Element	Definition
Meeting Proceedings	Specifies if Robert's Rules of Order or other rules of order will prevail in board or working group proceedings
Adoption, Review, and Amendments	Describes the process to review, adopt, and amend the bylaws
Committees of the Board	Describes the process for the governance structure to establish subcommittees, working groups, or ad-hoc groups and identifies the subcommittees that may be established to best facilitate collaboration

Resolutions

Local jurisdictions, including counties, cities, townships and incorporated rural areas may issue resolutions to establish governance structures or to authorize an existing body to take on emergency communications governance roles and responsibilities. Resolutions are a policy mechanism often utilized by tribes to express the consensus position on matters affecting the welfare and rights of the Tribal Nation. Tribal governance structures are typically established by tribal resolution, and in accordance with the tribal constitution. Table 7 identifies key elements of resolutions.

Table 7: Key Resolution Elements

Element	Definition
Authority	Declares the legal language that gives the governance structure authority to oversee or advise on emergency communications and interoperability
Purpose	Describes why the governance structure was established and elaborates on the roles and responsibilities outlined in the authority
Governance Entity Composition	Identifies the governance structure membership, board chair/vice chair, duties of the elected and/or appointed officers and members, membership terms and termination process, election and appointment processes, and compensation
Meetings	Describes meeting frequency, quorum requirements, voting procedures, attendance requirements, and reasons and requirements for notification of special meetings
Meeting Proceedings	Specifies the rules of order to prevail during all decision-making proceedings
Adoption, Review, and Amendments	Describes the process to review, adopt, and amend the resolution
Governance Committees/ Groups	Describes the process for the governance structure to establish subcommittees, working groups, or ad-hoc groups and identifies the subcommittees that may be established to best facilitate collaboration

Strategic Plans

Strategic plans outline the path forward to achieve, sustain, and enhance interoperability by assessing the internal and external environments of participating partners, defining goals and initiatives, prioritizing allocation of resources, providing implementation strategies to achieve initiatives, and including metrics for evaluating and improving the strategy. Key elements of a strategic plan include:

- **Vision and Mission**: Describes the desired future state of interoperable and emergency communications and should be agreed upon by partners during a strategic planning process. The mission describes how you will arrive at the vision.

- **Goals and Initiatives**: Build on the vision and mission by prioritizing the broad direction in response to specific priorities and/or gaps. Initiatives articulate specific steps to complete each goal.

- **Action Plan**: Determines the specific steps, responsibilities, resources, and outputs necessary to accomplish the strategic plan.

As governance becomes more inclusive and structures expand to include more partners, it is recommended to develop and update strategic plans together with broader representation. Strategic plan updates should be regularly scheduled (e.g., annually, after upgrades, and following evaluations of events that test capabilities, including exercises and planned and unplanned large-scale events). Tribal Nations, while sovereign, can utilize existing state, local, or regional strategic plans and infrastructure or develop their own, as needed.

Statewide Communication Interoperability Plans

SCIPs are locally-driven, multi-jurisdictional, and multi-disciplinary plans to enhance emergency communications.

Serve as the strategic planning document used by state level governance bodies.

Intended to be a single resource for all partners and the whole community to create a unified approach and a comprehensive plan to outline the current and future interoperable and emergency communications environment.

CHOOSE A GOVERNANCE STRUCTURE

Choose a Governance Structure

Governance bodies provide a structure for strategic decision-making. Since public safety equities can reside within multiple departments and agencies or be managed externally by another governing entity, establishing a governance structure provides opportunities for collaboration, resource sharing, and a unified approach to address challenges.

Benefits of Governance Bodies

A formalized governance body can provide: a clear direction for future communications efforts to executive leadership, a framework for impacted parties to collaborate and make recommendations, justification to support funding requests, and more effective and efficient use of financial and technology resources.

Structures

An active, multi-functional governance body strengthens the ability of SLTT jurisdictions, regions, and communities to address technological, fiscal, and policy-driven emergency communications needs. Articulating roles and responsibilities, balancing

representation, and using a bottom-up structure empowers public safety officials to make knowledgeable decisions. As the emergency communications ecosystem continues to evolve, more inclusive governance bodies are required to address communication needs.

Governance structures differ among jurisdictions, regions, and communities. Each may require different types of committee structures, levels of coordination, executive councils, and elected/appointed officials and agency leadership participation. No structure is better than another, as long as the governance body consistently coordinates with oversight officials, among members, and with subcommittees if applicable.
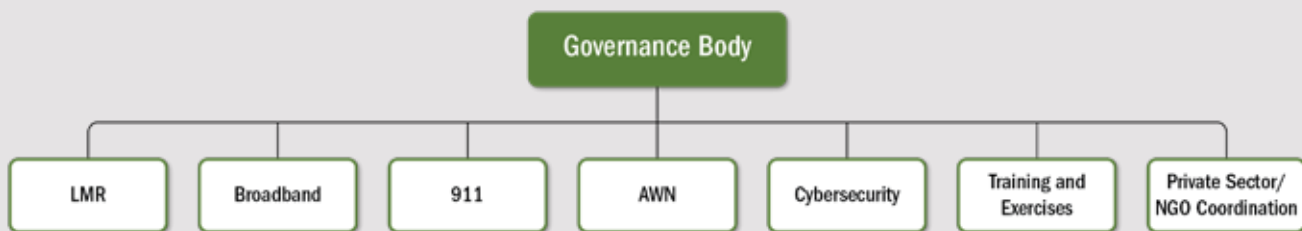
Models

When choosing a governance structure, elected and appointed officials and emergency communications leadership should first determine if the governance body

will have decision-making authority over emergency communications. In some states or jurisdictions, a governing body may serve as the decision maker. For Tribal Nations, the authority may remain with the Tribal Council. Depending on the governance body, members may choose instead to establish advisory groups representing some or all emergency communications functions (e.g., LMR, broadband, 911, AWN, cybersecurity). For example, a local government may delegate to their LEPC to make

recommendations on emergency communications issues, or a tribal government may delegate these responsibilities to their emergency management department.

The following models, labeled Models A through F, provide examples of governance structures. Each model described can function effectively if there is an established, formal level of coordination with adequate information sharing among the governance bodies.

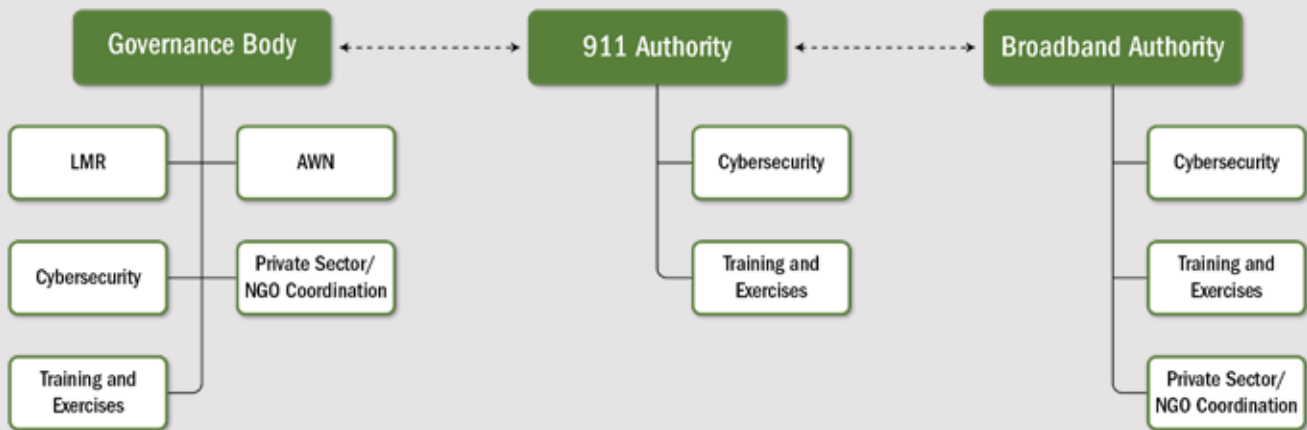## Model A: Governance Body With Subcommittees for Each Function

Model A depicts an overarching approach to governance, integrating all emergency communications capabilities into a single governance body or advisory group. At the state level, these bodies are focused on emergency communications governance and are typically identified as a SIGB or SIEC. By having a single decision-making body, this model enhances an SLTT government's ability to address existing interoperability gaps, identify possible investments, prioritize resources, and strengthen partnerships. Through subcommittees informing a singular governance body, partners can address tactical, operational, and strategic interoperability needs of the public safety community across all functions.

Model B: Governance Body With a Broadband or 911 Authority
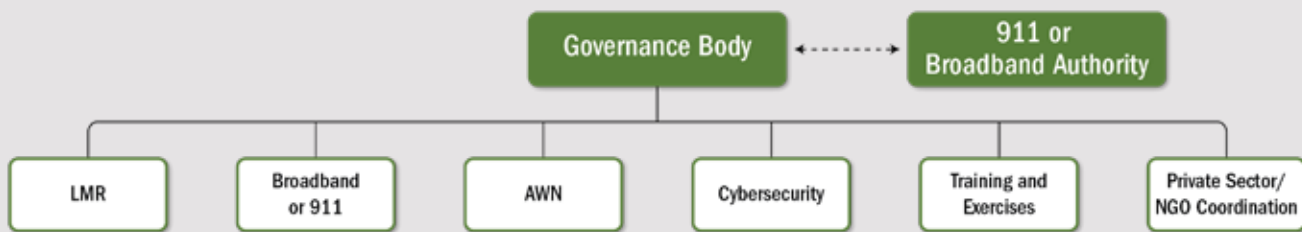
Model B exhibits a scenario where a government has already established a decision-making body for 911 or broadband-related issues. In that case, a newly established emergency communications body would work in concert with the existing 911/broadband authority, providing recommendations to it from the perspective of the entire ecosystem. The governance body and the 911/broadband authority must share information, as well as coordinate decisions for incident response operations, AWN, requests for assistance, reporting, and public information exchange. Entities that have implemented this model have achieved close coordination among the different emergency communications functions by ensuring members attend each other's meetings or have overlapping membership without oversight of these functions residing under a single authority.

Model C: Governance Body With 911 and Broadband Authorities With Subcommittees

Model C shows a government with separate authorities for both 911 and broadband. In this diagram, each governance body has established subcommittees to address specific emergency communications functions. Optimal coordination occurs through information sharing and, in some cases, overlapping membership, particularly at the subcommittee levels such as cybersecurity and training and exercises.

Model D: Government Establishes Authorities for LMR, 911, Broadband, and AWN

Model D when supported by strong existing partnerships, implements a broad and sustainable approach to coordination across disciplines and SLTT jurisdictions, regions, and communities. Governance bodies are established for each function associated with a communications technology. Model D allows each body to identify best practices, challenges, and capability gaps. Although not shown, each governance body would be empowered to establish subcommittees, working groups, or other issue-specific groups to meet the needs of the emergency communications ecosystem.

Model E: Subject Matter Expert Governance Body Across All Communications Technology Functions

Model E exhibits a path to bring together a variety of subject matter experts to address issues, contribute constructive input based on their expertise, and participate in planning and decision making across all communication technology functions. This model is guided by a decision-making executive or steering committee and receives input and recommendations from standing subcommittees. This approach fosters buy-in among all communications functions and stakeholders and provides a consensus-based recommendation to the decision-making authority (e.g., executive committee). The following are examples of subject matter subcommittees:

- **Operations**: Comprised of stakeholders with field experience and focuses on determining requirements for and application of communications technology functions. The committee may establish SOPs, training materials, and field operations guides, and may be comprised of SLTT end-users across the communications technology functions.

- **Technical**: Encompasses stakeholders with a focus on the current and future communications technology functions and may advise the executive committee on technical issues and solutions (e.g., cybersecurity risks and mitigation, protocol for standards).

- **Policy and Planning**: Focuses on policy recommendations and administrative processes to communicate to elected officials or designated authorities on the long-term planning for the successful implementation of communications technology functions. These subject matter experts may be comprised of elected-officials and SLTT public safety entities with authorities to help serve as the voice of the governance body. The committee may develop use cases, annual reports, and/or strategic plans.

- **Budget and Finance**: Advises the executive committee on matters related to securing funding including grants, user fees, and bond issues, and may include grant specialists, budget planners or officers, and SLTT public safety agencies.

Model F: Working Group Governance Body Across All Communications Technology Functions

Governance Body

| Create a Field Operations Guide | Update Interoperability Channel Plan | Organize Annual Training and Exercise Calendar | Develop a Strategic Plan | Advise on Industry Standards | Develop NG911 Plan | Coordinate with Private Sector/NGO |

Model F provides a structure where working groups can be established by a steering or executive committee when needed for a specific project or issue with an expected beginning and end date. This approach is conducive to brining as-needed subject matter experts into discussions to provide input to guide the governing body and help make timely decisions and actions. The working group structure assumes certain expectations regarding time commitments and objectives, which are defined by the government or governance body. This model can be helpful to focus on areas that require in-depth discussion and avoid draining members' time and expertise over the long term.

Organization

Membership and organization of an emergency communications governance structure are critical to its success. All emergency communications capabilities should be represented in a governance structure, coordinating partners representing LMR, broadband, 911, and AWN functions at all levels of government. Day-to-day interoperability coordinators must be invested in the success of a governance body, sitting as either voting or non-voting members of an executive committee, as well as serving as chairs for issue-specific groups related to their field of expertise.

Balancing the needs of each discipline and level of government will necessitate the development of different committees or subcommittees. Committees present recommendations to the executive council for approval and action. Likewise, members may be voting, non-voting, or a combination. Members are encouraged to think strategically and inclusively of the entire ecosystem as they advise on decisions that affect emergency communications. Committees commonly employ subject matter experts to advise members on sensitive issues and decisions. At times, the differing needs of committee members are best balanced by a more impartial third-party.

Modernization of communications technologies facilitates enhanced information flow between government agencies, the private-sector, non-profit entities, the public, and entities from neighboring SLTT jurisdictions. Governance bodies can benefit from technology that facilitates collaboration to meet the unique needs of their emergency communications ecosystem. For example, using webinars, video teleconferences, and voting electronically (e.g., via email, a website, or an application) allow for remote participation and voting and may increase attendance of members, particularly when a body covers a large geographic area.

Being inclusive of the entire ecosystem in committee structure empowers members to voice their specific concerns to the larger group and the leadership, making decisions truly beneficial to all levels of government. This approach also fosters genuine buy-in among all partners and the whole community. Table 7 outlines potential governance body membership of a SIEC or SIGB. Other SLTT governance bodies may choose to invite partners holding similar roles. This list is not all-inclusive, it represents commonly found governance body members.

Table 8: Potential Governance Body Members

Potential Governance Body Members	
Interoperability Coordinator (i.e., SWIC)	Tribes
LMR Manager	Governor's Office
Broadband/LTE Manager/Administrator	Legislative Representative
911 Administrator	Attorney General's Office
Alerts & Warnings Manager	CIO's Office
Homeland Security / Emergency Management	Chief Information Security Officer's (CISO) Office
Fire	Local/County/City Representative(s)
Law Enforcement	Department of Corrections
Emergency Medical Services	Department of Transportation
NGOs (e.g., American Red Cross, VOAD)	Health and Social Services
National Guard	State Administrative Agency
Privately-owned Critical Infrastructure	Public Utilities/Utility Commission

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ENGAGE IN GOVERNANCE

Engage in Governance

Governance sets the foundation for the collaboration and decision-making necessary to support operability, interoperability, and continuity of emergency communications. By having a wide view of the ecosystem, governance bodies can ensure funding and sustainment policies are in place to maintain all communications technology functions. To extend their effectiveness, governance bodies can partner with each other to coordinate resources, share best practices, align policies, and adopt standards for neighboring jurisdictions. In addition, the broad perspectives of governance bodies allow them to look for emerging technologies and plan for their integration within the evolving ecosystem.

Lifecycle Planning

As mentioned previously, the emergency communications ecosystem is extremely complex, and technology evolves rapidly. This poses a challenge for public safety agencies to assess technological and financial options for communications systems. Decision makers struggle to understand new technological features and application limitations, as well as funding implications. It is recommended that all options of a project proposal (e.g., technological, funding, cost benefit) be examined before seeking funding. The

governance group can provide the decision-making structure and authority to plan, procure, implement, support, and maintain communications systems, and eventually replace and dispose of system components. Figure 5 depicts the lifecycle planning model, which includes seven phases and the anticipated time of each phase. For more detailed information on how to apply and conduct each phase, see the *Emergency Communications System Lifecycle Planning Guide*.
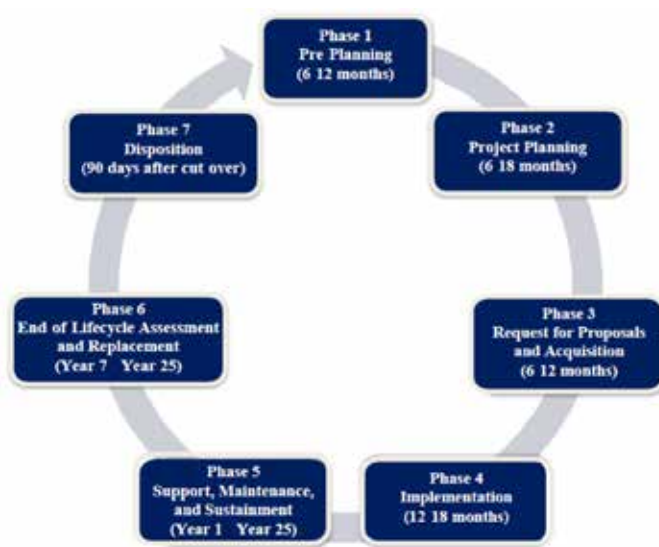
Figure 5: System Lifecycle Planning Model

Coordinating with Related Governance Groups

As governance groups exist at all levels of government that focus on different aspects of emergency communications, these divergent groups should understand what the other groups are working on and remain in coordination. The goal of coordination between governance groups is to:

- Avoid duplicative or conflicting efforts.
- Prevent the omission of partners or efforts.
- Develop of an understanding of how related and connected systems are managed.
- Increase cohesion towards a unified goal.

Governance groups that lack coordination face challenges such as competing for funding and resources and policy disagreements. To foster coordination between governing groups, it could be helpful to have a representative from another governance group facilitate information sharing or to send a representative to brief other governance groups.

Tribes may consider participation in associations, which help preserve government-to government relationships and protect their sovereignty. Below are examples of associations which tribes can participate in at a national, regional, and local level:

- **Affiliated Tribes of Northwest Indians (ATNI)**: Founded in 1953, supports tribal sovereignty and self-determination by representing 57 Northwest tribal governments from Oregon, Idaho, Washington, southeast Alaska, northern California, and western Montana to provide a forum for information sharing, consensus building, and assisting with governmental and programmatic development.

- **Inter-Tribal Emergency Management Coalition (ITEMC)**: Minimizes the effect of chemical, biological, technological, natural, or man-made disasters on Tribes in Oklahoma through planning response and recovery.

- **Inter-Tribal Long-Term Recovery Foundation (ITLTRF)**: Established in 2007 to help American Indian people and Tribal Nations in California affected by wildfires and other disasters recover and become resilient through coordination with federal and SLTT governmental agencies to share disaster relief information, relief resources and services, and mutual assistance.

- **Midwest Alliance of Sovereign Tribes (MAST)**: Advances, protects, preserves, and enhances the mutual interest, treaty rights, sovereignty, and cultural way of life of sovereign Midwest Tribes in Minnesota, Wisconsin, Iowa, and Michigan through coordinated public policy and initiatives at the state, regional, and federal levels.

- **National Congress of American Indians (NCAI)**: Founded in 1944, is the oldest largest, and most representative American Indian and Alaska Native Organization serving the broad interest of tribal interests and communities.

- **National Tribal Emergency Management Council (NTEMC)**: Brings together tribal emergency management organizations to share information and best practices and discuss public safety, public health, and homeland security issues in Indian Country.

- **United Southern and Eastern Tribes (USET)**: Dedicated to promoting Indian leadership, improving quality of life for American Indians, and protecting Indian rights and resources on tribal lands.

Tribes can also coordinate with other entities and working groups that serve to advance federal interaction with SLTT governments, such as the Texas Tribal Working Group, Bureau of Indian Affairs/Tribal Assistance Coordination Group (TAC-G), the DHS Tribal Affairs Liaison, the Southwest Border Communications Working Group (SWBCWG), or the Canada-United States Communications Interoperability Working Group (CANUS CIWG).

Measuring Success

Elected and appointed officials and agency leadership want emergency communications governance efforts to result in progress towards strengthening interoperability. For agencies and governance bodies, developing governance metrics and tracking interoperability coordination progress can be challenging.

Measures of success are used to meaningfully assess the outcomes of program functions and processes in meeting goals in the strategic plan (Section 4.4). Measurement allows operability, interoperability, and continuity of communications to be ideally managed from a strategic vantage point. Measures of success are the parameters against which progress toward goals can be managed, a common language linking plans and outcomes (i.e., a central component of management success). These measures allow for understanding

progress against identified targets aligned with goals in the strategic plan. If they are not properly aligned, results may include focusing on incorrect process objectives, measuring inconsequential outputs, and potentially wasting time, resources, and funding. Measures of success should be reviewed by the governance body on a yearly basis to manage progress. Successful and relevant measures of success are:

- Integrated with program goals and initiatives (i.e., defined specifically for measuring progress towards a goal).

- Limited to the critical few that are considered essential for generating data for decision-making.

- Responsive to multiple priorities.

- Responsibility-linked to establish accountability for results.

- Measurable and based on data that is complete, accurate and consistent, and cost-effective to collect and analyze.

- Within the direct control of the governance body.

- Realistic to be achieved within a few years.

- Easy to understand and unique.

- Meet the "SMART" Test—Specific, Measurable, Actionable, Realistic, and Time-bound.

- Lend themselves to target setting and interim variability (i.e., should not answer a yes/no question).

- Allow for use in predicting future events or at least managing current ones.

ENHANCE GOVERNANCE

Enhance Governance

Even when governance structures are formalized and inclusive, governance bodies may encounter challenges. Governance bodies can overcome challenges by proactively identifying capability gaps and implementing plans to achieve desired outcomes. In many cases, solutions may require the intervention of elected and appointed officials or agency leadership, making these decision makers valuable partners in emergency communications governance. Below are some common challenges governance bodies have experienced. This section focuses on challenges that arise when legally establishing formal structures, working with interoperability coordinators to secure adequate funding, and implementing new technologies.

Organizational Challenges

When building partnerships and establishing formal structures, there is no "one size fits all" solution. Authorities, agreements, and the assignment of responsibilities are often unique to each jurisdiction; SLTT emergency communications capabilities can vary considerably in size, scope, and maturity. Agreements and formal governance bodies can overcome these structural inefficiencies by, leveraging resources from the whole community, engaging new partners, and implementing emerging technologies.

Soliciting input from a variety of whole community members, including tribal, local, non-profit, and private-sector representatives, allows decision makers to tailor governance structures to their jurisdiction. A variety of partners enables governance bodies to identify the capabilities and capability gaps unique to each ecosystem. When inviting partners, governance bodies should determine the appropriate protocols to follow (e.g., extending invitations between individuals of equivalent authority). Governance bodies may engage with regional tribal organizations and state offices for tribal affairs to best approach partnerships with tribes within their unique ecosystem.

Governance bodies may experience challenges formalizing, updating, or expanding their structure to account for emerging technologies and emergency communications functions. Interoperability coordinators may have multiple areas of responsibility, face personnel shortages, or lack authority to implement governance activities. An emergency communications-focused governance group, supported by elected and appointed officials and agency leadership can help mitigate many of these challenges, helping SLTT jurisdictions achieve desired interoperable communications outcomes.

Legal Challenges

With differences in government structures and foundational laws, formalizing SLTT partnerships can be challenging. Joining existing governance bodies may be as difficult as establishing new ones. Having legal support involved in a governance body is particularly valuable when extensive legislative, executive, and sometimes judicial scrutiny are part of established government processes. Legal review may be required to

assess governing legal authorities and resource sharing arrangements. Having legal representatives sit as voting or non-voting members of a governance body will allow them to better understand the issues affecting emergency communications and provide more informed advice.

Legal review is also important to ensure accountability of partners and minimize liability should actions under an agreement lead to harm to people or property. Legal representatives can help maneuver through related issues. For example, tribes may consider it a forfeiture of their sovereignty when they join agreements, allowing them to be sued in the courts of other jurisdictions. Independent, disparate disciplines or function-based governance bodies may have difficulty yielding their authority in favor of a statewide, regional, district, or multi-jurisdictional governing body. Legal representatives can work through issues with concerned parties to find an acceptable solution.

In addition, public safety entities can reside within multiple departments and agencies or be managed externally by another governing entity. For example, a PSAP might be regional and cover multiple jurisdictions/towns/cities/tribes and none of those in the coverage area own and manage the governance of that PSAP. Similarly, in the case of some tribes, they may not have their own police/fire/emergency medical services departments and rely on local jurisdictional support. Legal representatives can help facilitate individual agreements or draft resolutions, executive orders, or statutes for agencies and other entities to establish or join governance structures. Authorities address legal concerns, ensure inclusivity, and dispel resistance offered by reluctant participants. These solutions reiterate the need to include legal support when establishing regional governance bodies and agreements.

Funding Challenges

For many SLTT jurisdictions, getting adequate funding to fully support interoperability coordination of all the emergency communications functions can be a daunting task. Technologies, systems, applications, processes, standards, and expectations are ever-evolving, requiring more security and risk mitigation strategies, coordination

with the private sector, training, and exercises. Through all those factors, it is necessary to reach elected and appointed officials and agency leadership with a clear picture of progress towards interoperability. If not delivered properly, governance activities will be impacted along with day-to-day interoperability activities not deemed essential by decision makers.

Homeland Security Grant Program can provide funds for bulk LMR equipment upgrades.

Emerging Best Practice—Tribal Revenue

Tribes are utilizing tax and set-aside revenue streams to support local emergency communications systems, or to fund positions within public safety has occurred throughout the nation. States and tribes have both found success in the dedication of gaming money to support communications capabilities.

Emerging Best Practice—Special Taxes

In 2016, voters in Whitfield County, Georgia, approved a one percent sales tax increase for four years. Revenue from the special tax supported a $12 million upgrade to the county's LMR system, enabling the county to transition to a Project 25-compliant network. Because of the upgrade, Whitfield County integrated into a regional communications network with other counties in Georgia and Tennessee, further increasing the ability of first responders to communicate within the county and with partner jurisdictions.

SLTT entities that collaborate can maximize the impact of every available dollar by leveraging shared resources, established relationships, and all available funding sources. Taking these actions can bolster grant proposals, when available, by showing fiscal responsibility and accountability of participating partners. The availability of low-cost and no-cost solutions increases when partners work together. For example, CISA, FEMA, and other federal agencies provide access to tools, exercises, and trainings to enhance knowledge and better identify gaps. Partners can make use of these resources by hosting joint sessions or by providing control and evaluation responsibilities for other partnering jurisdictions to the benefit of all.

Tapping into diverse funding sources and identifying unique funding streams can increase the sustainability of funds over the lifetime of equipment, facilities, and programs. Jurisdictions should balance funding sources that offer support for large capital expenditures with those that provide sustainable income for long-term maintenance needs. Jurisdictions may elect to allocate grant awards or issue bonds to cover the costs of large communications projects. For example, FEMA's

Tribes can sometimes face additional challenges when seeking grant funding, which can be remedied at the state-level. FEMA's Emergency Management Performance Grant funding is funded federally and administered at the state level. While the states are required to share these funds with local jurisdictions, the same requirement is not true for sharing with tribes. As a result, some states share these funds with tribes while others do not. Sharing grant funding opportunities shows full acceptance of tribes as partners, which brings many benefits.

Federal Assistance for Tribes

Tribes have found it beneficial to apply for, and participate in, the FEMA Hazard Mitigation Assistance External Shareholder Working Group, which provides an opportunity for FEMA staff to increase engagement and transparency with non-federal partners in the Hazard Mitigation Assistance programs. In addition, FEMA's Tribal Homeland Security Grant Program provides funding for federally-recognized tribes.

When funding opportunities remain static or show signs of diminishing, strategic financial planning becomes increasingly important. Funding for equipment requires a dedicated lifecycle management plan, including maintenance and replacement of parts. Shared purchasing plans with partners can increase buying power and provide additional value to initial and follow-up purchases.

To better communicate needs to elected and appointed officials and agency leadership, SLTT financial planning entities of governance bodies (e.g., subcommittees and working groups) are developing business cases. Ideal business cases will identify successes and challenges and clarify how objectives to improve interoperability will be achieved.

Engaging with Elected and Appointed Officials: Making a Business Case

- Define the desired outcome or end-state that each program/project aims to accomplish, outlining the benefits, feasibility, and potential challenges.

- Identify current capability gaps and impacts on emergency preparedness using strategic assessments, exercise findings, or other lessons learned.

- Prepare a detailed implementation plan, outlining specific steps, milestones, and goals the program/project will employ throughout its lifecycle.

- Develop a program/project evaluation strategy to measure progress of the initiative towards the desired end-state (e.g., outcome-based performance measures, exercise evaluations).

- Provide officials with meeting materials (e.g., presentations, fact sheets) that concisely communicate the justification, action plan, and desired outcomes of the program/project, avoiding technical language or jargon where possible.

- Follow up with officials after presentations to solicit feedback and address any questions.

Business cases are bolstered when holistic planning efforts are undertaken to promote the sustainability and enhancement of the whole community. Providing the complete picture to decision makers has many benefits. Having the entire ecosystem represented suggests that every effort was taken to understand the best use for needed funding and that there will be no surprises in the near term for unexpected expenses. At the same time, demonstrating the adaptability of governance structures, strategic plans, and interoperability coordination activities promotes awareness to decision makers that the ever-evolving nature of emergency communications will lead to expected cost increases and that the best system is in place to make use of future funds when needed.

Technological Challenges

A key challenge moving forward is preparing for the integration of technologies impacting the flow of information. Integration creates new challenges in information management, equipment interoperability, system design, cybersecurity, and funding. This is compounded when technology is outpacing legislation regarding public safety communications. NG911, for example, is becoming more information technology (IT)-focused, an aspect that was not a part of legacy 911 systems. It is critical that there is coordination between all emergency communications governance officials and structures and other decision-making offices, bodies, and individuals who oversee this technology.

In larger government organizations, the executive office or public safety agencies may have a Chief Information Officer, Chief Technology Officer, Chief Information Security Officer or IT office/department. Representatives from these offices should serve on governance bodies—as voting or non-voting members at the appropriate committee levels—on an executive committee/council, the general governance body, and on relevant subcommittees. Technology-oriented subject matter experts can advise on the dynamic nature of technologies, assessment of governance body membership, policies, and priorities. This coordination

will help address disconnects that commonly exist between IT services provided by SLTT governments and the end-user public safety community. Addressing technological issues is another challenge that can be overcome by having the right people at the table to inform decision making.

CONCLUSION

Conclusion

Engaged and effective governance is pivotal to operable, interoperable, and continuity of emergency communications. Robust governance establishes and maintains a central coordination point for efforts across the broad spectrum of public safety partners and the whole community, as well as helps to address challenges in a unified manner.

Strong leadership and governance structures improve emergency communications planning, coordination, and decision-making. The presence of an active, transparent, multi-disciplinary, and multi-functional governance body fosters relationships, collaboration, and information sharing to better balance fiscal, technological, and policy-driven public safety needs. In the constantly evolving emergency communications ecosystem, the best practices and recommendations in this Governance Guide demonstrate innovative solutions to support effective interoperable communications and collaborate across jurisdictions.

Collaboration and participation from relevant emergency response entities are essential for any jurisdiction to improve and ensure future interoperable communications. A formalized governance structure provides a unified approach across multiple disciplines, jurisdictions, and

functions to allow for understanding and evaluation of communications capabilities, identification of gaps, and development and implementation of a coordinated plan to address and prioritize resources, investments, and staffing.

Successful planning, implementation, and execution of a governance structure requires dedicated time and resources. While this investment may appear daunting, it will deliver solutions that benefit the public safety community, supporting entities, and ultimately citizens of this Nation. The Governance Guide, developed with and for use by emergency communications officials, offers the guidance needed to successfully establish, sustain, and enhance SLTT governance structures.

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Acronyms

Acronym	Definition
ARES	Amateur Radio Emergency Service
ATNI	Affiliated Tribes of Northwest Indians
AWN	Alerts, Warnings, and Notifications
CAD	Computer Aided Dispatch
CANUS CIWG	Canada-United States Communications Interoperability Working Group
CASM	Communication Assets and Survey Mapping
CISA	Cybersecurity and Infrastructure Security Agency
CISO	Chief Information Security Officer's
DHS	Department of Homeland Security
ESInet	Emergency Services Internet Protocol Network
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FirstNet	First Responder Network Authority
GETS	Government Emergency Telecommunications Services
GIS	Geographic Information System
IP	Internet Protocol
IT	Information Technology
ITEMC	Inter-Tribal Emergency Management Coalition
ITLTRF	Inter-Tribal Long-Term Recovery Foundation
LEPC	Local Emergency Planning Committee
LMR	Land Mobile Radio
LTE	Long-Term Evolution

Acronym	Definition
MAA	Mutual Aid Agreement
MAST	Midwest Alliance of Sovereign Tribes
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NASNA	National Association of State 911 Administrators
NCAI	National Congress of American Indians
NCSWIC	National Council of Statewide Interoperability Coordinators
NECP	National Emergency Communications Plan
NFV	Network Function Virtualization
NG911	Next Generation 911
NGA	National Governors Association
NGO	Non-Governmental Organization
NIST	National Institute of Standards and Technology
NPSBN	Nationwide Public Safety Broadband Network
NPSTC	National Public Safety Telecommunications Council
NS/EP	National Security and Emergency Preparedness
NTEMC	National Tribal Emergency Management Council
P25	Project 25
PSAC	Public Safety Advisory Committee
PSAP	Public Safety Answering Point
PSCC	Public Safety Communications Center
RICP	Regional Interoperable Communications Plan

Acronym	Definition
SCIP	Statewide Communication Interoperability Plan
SIEC	Statewide Interoperability Executive Committee
SIGB	Statewide Interoperability Governing Body
SLTT	State, Local, Tribal, and Territorial
SNS	SAFECOM Nationwide Survey
SOG	Standard Operating Guide
SOP	Standard Operating Procedure
SWBCWG	Southwest Border Communications Working Group
SWIC	Statewide Interoperability Coordinator
TA	Technical Assistance
TERC	Tribal Emergency Response Commission
TFOPA	Task Force on Optimal PSAP Architecture
TICP	Tactical Interoperable Communications Plan
TAC-G	Tribal Assistance Coordination Group
TSP	Telecommunications Service Priority
USET	United Southern and Eastern Tribes
VOAD	Voluntary Organizations Active in Disaster
WPS	Wireless Priority Service

Appendix A—Position Descriptions

Position descriptions are provided not only for state governments, but as models for all state, local, tribal, and territorial (SLTT) partners and the whole community to understand the roles required to support the functions. Descriptions provided include the Statewide Interoperability Coordinator (SWIC), Statewide 911 Administrator, Statewide Wireless Broadband Administrator, and Statewide Alert, Warning, and Notification (AWN) Manager. These positions, when established by the state, should act as a resource to all SLTT emergency communications partners and the whole community on issues regarding interoperability and emergency communications governance.

Statewide Interoperability Coordinator

The SWIC's primary function is to plan and implement the statewide interoperability program, guided by initiatives outlined in the National Emergency Communications Plan (NECP) and Statewide Communication Interoperability Plan (SCIP). As one small part of a complex governance landscape, the SWIC serves as a neutral, unbiased coordinator for interoperability and emergency communications within the state and region, including supporting the establishment and maintenance of a statewide governing body. Stakeholders indicated that it is important for states with diverse communications systems and geography to include the SWIC on all communications related governance bodies to help identify synergies and bridge gaps between efforts. Empowering the SWIC position to be identified as the state's interoperable communications expert on behalf of the Governor's Office, will serve to strengthen statewide interoperability and emergency communications programs through increased visibility and access to high-level decision makers within state government. This will also build relationships by bringing together stakeholders across the broad spectrum of public safety communications.

Ultimately, the SWIC builds trust across federal, SLTT, as well as public and private partners to enhance program efficiency and effectiveness. Table A-1 outlines SWIC roles and responsibilities by category type.

Full-Time SWICs

All states and territories must designate a full-time SWIC who has the authority and resources to actively improve interoperability with emergency management and response agencies across all levels of government, to include establishing statewide plans, policies, and procedures, and coordinating decisions on communications investments funded through federal grants. SWIC status information will be maintained by the CISA and will be verified by FEMA Grant Programs Directorate through programmatic monitoring activities.

Table A-1: SWIC Roles and Responsibilities

Type	Activities
Governance	■ Guide the governing bodies in chartering and supporting working groups to develop outreach materials, presentations, and issue summaries ■ Provide and maintain certified environments for the retention of classified materials and the transmission of classified information, both verbally and electronically ■ Work directly with the statewide interoperability governing body (SIGB) or statewide interoperability executive committee (SIEC) to address issues of wireless communication interoperability, resources, and assets available within the state at all levels of government to enhance emergency communications
Policy	■ Support policy development and provide direction, guidance, and assistance on public safety interoperability ■ Escalate policy and grant recommendations to the State Administrative Agency (SAA), Director of the State Office of Homeland Security, or Governor's Office for consideration ■ Monitor and maintain an understanding of federal and state legislation, regulations, guidelines and policies related to emergency management programs ■ Monitor and maintain an understanding of Federal Communications Commission (FCC) and National Telecommunications and Information Administration (NTIA) actions related to wireless voice and data communications
Program Management	■ Develop, establish, and track state emergency communication strategic plans, goals, initiatives, and objectives consistent with the NECP and SCIP ■ Provide responsible program coordination and evaluation pertaining to technical resources, training and exercises, report writing and submission, and scheduling and budgets ■ Possess a working knowledge of how public safety communications operate and function ■ Support and coordinate working groups and/or coalitions organized to address state public safety issues, emergency communications, and/or interoperability, as well as coordinate and draft focus group session reports and requirements ■ Initiate and/or attend meetings to provide information to assure informed engagement of partners and the whole community in communications systems planning, interoperability planning and interoperability standards development ■ Initiate and facilitate engagement of tribal communities and non-government public safety entities into regional and statewide planning efforts ■ Develop and assess short- and long-term performance measures to demonstrate progress toward improved interoperability ■ Plan, organize, and oversee operations conducted by contract employees performing those duties identified as necessary for initiatives under this position ■ Maintain a database of partners and resources across the state through Communications Asset & Survey Mapping (CASM) Tool and ensure regional updates to their Tactical Interoperable Communications Plan (TICP) ■ Direct and oversee the programs with responsibility for preventing and/or minimizing losses or damage before a disaster strikes

Table A-1: SWIC Roles and Responsibilities (Cont'd)

Type	Activities
SCIP Implementation	■ Leverage all components of the statewide governing system to update and maintain the SCIP with partner and whole community input ■ Ensure that the state and county interoperability plans align with, and support, local, tribal, and national communications strategies ■ Drive and coordinate SCIP implementation by identifying champions, developing timelines and initiative plans ■ Coordinate with federal partners on Technical Assistance related to SCIP implementation ■ Ensure adherence to grant guidelines and state laws ■ Measure and communicate SCIP progress and results and update the plan as needed ■ Encourage compliance with statewide interoperability standards in local implementations by assisting local authorities ■ Perform analysis of the current state of public safety communications resources, responsible agencies, and polices currently in place and provide information to the SIEC for development of state, local, tribal, and territorial public safety interoperable communications strategy[6]
Outreach and Education	■ Serve as the point of contact (POC) to the Federal Government and industry on state and territory interoperable communications issues ■ Represent the state as a member of the National Council of Statewide Interoperability Coordinators (NCSWIC) ■ Provide state and territory governance entities with outreach and training support, including assistance with workshops and courses, for emergency responders ■ Liaise across different levels of government and all disciplines to build partnerships ■ Communicate information regularly with partners and the whole community to ensure transparency ■ Articulate statewide strategies and operational standards for public safety communications for the statewide system ■ Attend national interoperability conferences and workshops; participate in the NCSWIC ■ Coordinate with the Statewide Wireless Broadband Coordinator for all activities related to the nationwide public safety broadband network
Grant Coordination	■ Oversee long-term financial sustainability for interoperable and emergency communications ■ Review and approve interoperable communications grant funding requests ■ Coordinate grant writing and grant management for interoperable emergency communications ■ Oversee the cost of programs including allocation of Homeland Security funds, payment of contracts, progress and payment of Regional Interoperability Council (RIC) consultants hired to assist with initiatives for interoperable emergency communications ■ Identify funding opportunities for planned interoperability improvements and coordinate efforts to acquire funding

[6]H.B. No. 460 Relating to Statewide Interoperable Public Safety Communications.

Statewide 911 Administrator

The 911 Program Administrator supports the statewide implementation and maintenance of 911 services, identifying and recommending minimum standards for emergency phone systems. The 911 Administrator position is not mandated and may not exist in all states because in many states the 911 function is managed at the local level. The 911 community (state and/or local level) is leading the effort to transition to Internet Protocol (IP)-based technologies and shares a mutual interest with land mobile radio (LMR) and broadband governance groups to modernize communications systems. Despite the systemic differences in purpose, 911 Administrators work closely with other emergency communications systems to coordinate efforts. Table A-2 outlines 911 Program Administrator roles and responsibilities by category type.

Table A-2: Statewide 911 Interoperability Roles and Responsibilities

Type	Activities
Governance	■ Engage partners in defining requirements, developing plans, and coordinating efforts to achieve desired performance standards and to attain compliance with statutory requirements ■ Coordinate and conduct meetings with partners and governance groups having an interest in the statewide 911 network and provide opportunities for the whole community to have meaningful input into the establishment of program priorities, including network standards and funding decisions ■ Provide detailed written reports and correspondence to document and communicate decisions and actions – Establish and maintain relationships with 911 program partners, including but not limited to elected officials, public safety answering point (PSAP) administrators, 911 service providers, telephone companies, utility commissions, 911 equipment vendors, other state 911 program administrators; public safety and telephony associations, and other interested parties, such as the FirstNet Public Safety Advisory Committee (PSAC) Tribal Working Group ■ Coordinate with SIEC/SIGB to develop and enhance the operability, interoperability, continuity, and resilience of state and local 911/Next Generation 911 (NG911) capabilities ■ Work directly with the SWIC and Statewide Wireless Broadband Coordinator to ensure 911/ NG911 program initiatives coincide with the SCIP and statewide interoperability programs to allow for the clear and concise transfer of information across jurisdictions
Policy	■ Serve as the state's primary point of contact for 911 initiatives, including NG911 planning and deployment ■ Coordinate with county officials, 911 planning committees, emergency service providers, legislators, regulators, 911 service providers and telephone companies to formulate and articulate the strategic direction of the state 911 network and standards ■ Document and report the results of meetings on the development of policies, standards, and strategic priorities ■ Oversee the adoption of administrative rules related to the operation of the statewide 911 network, including statewide network standards and operational standards necessary to assure efficient operation of the program ■ Identify national trends and issues related to interaction with 911 networks in other states and border nations, including tribes

Table A-2: Statewide 911 Interoperability Roles and Responsibilities (Cont'd)

Type	Activities
Budget and Financial Management	■ Develop program budget for statewide 911 program that accounts for basic network costs and anticipated improvements to the network, authorized PSAP payments, 911 grants and other appropriations from the 911 Special Revenue Account ■ Estimate the non-recurring and recurring expenses sand revenues of the program; calculate program cost estimates to provide justification of program cost estimates to elected and appointed officials and agency leadership ■ Articulate procedures to assure fiscal accountability of the 911 program, assuring that revenues are properly received and credited and that funds are properly encumbered to pay all authorized program expenses ■ Make 911 fee recommendations ■ Estimate telecommunication subscriber counts based upon historical data and other relevant considerations ■ Oversee the collection of 911 and related fees and implement actions necessary to assure appropriate submission of fees by telecommunication providers ■ Oversee the distribution of 911 funds in accordance with statutes ■ Oversee payment of 911 program expenses in accordance with contracts, payments to PSAPs and other authorized program expenses ■ Assure that expenses have been properly authorized prior to the implementation of services and expenses are properly authorized for payment
Special Reporting and Legislative and Regulatory Support	■ Assist in educating and informing legislative committees and other regulatory agencies of all issues effecting the 911 program and telecommunication matters impacting the 911 program ■ Provide accurate and reliable testimony to legislative and regulatory bodies ■ Assist in the formulation of statutory changes and regulatory rules necessary to address current and emerging issues affecting the 911 network ■ Prepare an annual report to the legislature and special reports as requested on the status and cost of the 911 network ■ Oversee and prepare requests for bids and proposals for 911 related services that must be competitively acquired ■ Formulate legislative initiatives necessary to provide for the operation of the statewide 911 program
Statewide 911 Program Planning	■ Collaborate with the Federal Government, Tribal Nations, state agencies and officials, bordering states, and the regional and local emergency response community on statewide emergency services internet protocol (ESI) networks ■ Align planning efforts with the SCIP, general 911 initiatives, and the state NG911 strategic plan ■ Provide recommendations for enhancements and changes to the 911 network consistent with the statewide strategy ■ In conjunction with partners and subject matter experts, formulate strategies for incorporating new technologies into the 911 network ■ Develop cost estimates of alternative network configurations outlining the benefits to be achieved and the cost of implementing on a statewide basis

Table A-2: Statewide 911 Interoperability Roles and Responsibilities (Cont'd)

Type	Activities
Strategic Planning of Network Development	■ Working with 911 governance bodies at all levels of government to ensure system functions are coordinated, comprehensive, and efficient ■ Maintain a technical understanding of the traditional telecommunication industry and of newer technologies, including broadband telecommunications, IP-enabled telecommunications, and NG911 ■ Monitor the evolution of the telecommunication industry and other telecommunication services that may ultimately require access to the network ■ Encourage an active discussion of new technologies among stakeholders and assist in developing common strategies for the long term efficiency and enhancement of the network ■ Work with vendors and consultants to provide a guarded but open environment to changes in the statewide network that address the strategic direction of the statewide 911 program ■ Develop network standards and funding criteria that promote efficient use of resources, competition among responsible vendors, and the leverage of investments in existing resources ■ Participate in the discussion and formulation, where appropriate, of multi-state and national strategies and standards related to the 911 network
Local 911 Program Planning	■ Assist tribal, county, and local officials in planning upgrades and improvements to their 911 networks consistent with the strategic direction of the statewide 911 network ■ Articulate the statewide 911 network design and operational standards for wired and wireless telecommunication services and as new technologies emerge ■ Support the design of each local network through funding decisions which are consistent with the strategic direction of the statewide 911 network ■ Evaluate local 911 network proposals to assure compliance with articulated statewide 911 network standards and respond in a timely and appropriate manner ■ Evaluate unique aspects of local 911 network proposals to determine their appropriateness and determine the statewide implication of implementing similar enhancements upon the statewide 911 network strategic direction and upon other local networks within the state ■ Oversee the evaluation of and response to 911 plans submitted to Public Utilities Commissions by competitive local exchange carriers ■ Oversee and coordinate (between wireless carriers, PSAP managers, and 911 service providers) the expansion of wireless telecommunication service throughout the state
Contract Administration, Oversight, and Audit	■ Provide direct oversight of the contracting process with 911 service providers and telephone companies (e.g., wired line, wireless) to assure that 911 expenses are contracted for in a timely manner ■ Assure that written procedures exist for all processes related to 911 expenses and that appropriate authority exists for all payments ■ Oversee the coordination of local 911 network planning efforts with the program's statutory contracting process ■ Oversee coordination of telephone company contracts with proposed local network designs to assure compliance with statewide network standards and efficient use of the program's economic resources ■ Develop processes to assure the timely renewal of 911 service contracts, including the application of competitive bid processes for services available from more than one source

Table A-2: Statewide 911 Interoperability Roles and Responsibilities (Cont'd)

Type	Activities
Statewide 911 Program Management	■ Plan, organize and monitor the activities of personnel assigned to the statewide 911 program; provide input to staffing decisions and work plans ■ Analyze and articulate guidelines and procedures to assure that all inquiries and requests are responded to in an appropriate and timely manner ■ Analyze processes and articulate guidelines and procedures to assure that fiscal procedures are addressed in the operation of the statewide 911 program ■ Coordinate the training of new employees ■ Monitor compliance with all guidelines and procedures and organize work assignments among personnel to achieve the goals and priorities of the program ■ Assist staff members in understanding the guidelines and processes of the program, in addressing variances from the norm, and in identifying and implementing best practices. ■ Provide guidance on the use and application of traditional, new, and emerging communications technologies, including telecommunication services and facilities used in the 911 network; IP-based telecommunications, including Voice over Internet Protocol telecommunication services; and IP-based data networks ■ Interpret and understand circuit or network diagrams and to relate them in layman's terms to non-technical end users and partners ■ Institute operational procedures to assure timely and appropriate contracting with 911 service providers for components of the 911 network and negotiate contracts, where appropriate
Outreach and Education	■ Attend and contribute at various meetings of 911 PSAP coordinators, county planning committees, county commissioners, ad hoc special project committees, regulatory bodies and professional associations ■ Promote and coordinate informed discussion on identified technical issues and alternatives among partners of the 911 network in an ever-changing technological environment ■ Provide statewide and regional governance groups with comprehensive updates and guidance on 911 policies, funding, and operational and technical developments

Statewide Wireless Broadband Administrator

Table A-3 outlines statewide wireless broadband administrator coordination activities by category type.

Table A-3: Statewide Wireless Broadband Interoperability Coordination Activities

Type	Activities
Governance	■ Define and articulate the state's strategic direction for public safety broadband, in conjunction with Statewide Emergency Communications Board and committees ■ Coordinate with the SIGB/SIEC to enhance interoperability of state and local public safety broadband networks ■ Work directly with the SWIC and Statewide 911 Program Administrator to promote interoperability across public safety communications networks ■ Advise governance groups on Long-Term Evolution (LTE) technology implementation, cybersecurity, integration, and use requirements of the Nationwide Public Safety Broadband Network (i.e., FirstNet), and identifying broadband coverage needs ■ Provide governance groups with updates on FirstNet offerings, services and deployment status

Table A-3: Statewide Wireless Broadband Interoperability Coordination Activities (Cont'd)

Type	Activities
Policy	■ Support policy development that enhances broadband adoption and interoperability with legacy communications systems (e.g., LMR) ■ Develop written guidance, including standard operating plans and standard operating guides ■ Ensure lifecycle planning is supported by sustainable funding policies and grant programs ■ Monitor SLTT and federal legislation, regulations, guidelines, and policies related to emergency management programs and emergency communications
Program Management	■ Facilitate stakeholder meetings to discuss technical issues, capability gaps, and alternative approaches to public safety communications interoperability ■ Monitor the status of national public safety interoperable communications developments, including issues before the FCC, the Federal Partnership for Interoperable Communications, the National Public Safety Telecommunications Council, and NTIA ■ Evaluate technical alternatives to enhance the operations, management, and implementation of interoperable public safety communications systems ■ Maintain a technical understanding of wireless cellular broadband concepts, such as 3G/4G data, LTE, WIFI, and very high frequency, ultra-high frequency, and 800 MHz communications protocols ■ Analyze statewide posture of interoperable equipment, wireless data, wireless broadband, and internet protocol-enabled communications capabilities
Planning	■ Support SLTT partner adoption of FirstNet and integration with legacy communications systems, including determining data ownership, access, sharing, and storage responsibilities ■ Communicate SLTT public safety broadband requirements to FirstNet's Public Safety Advisory Council, standards development organizations (e.g., National Institute of Standards and Technology), vendors, and manufacturers ■ Facilitate vendor relationships and technical offerings ■ Develop information protection and cybersecurity protocols
Outreach and Education	■ Solicit feedback on public safety broadband service, equipment, and application needs from SLTT, nonprofit, and private-sector partners ■ Provide education, outreach, and stakeholder engagement of FirstNet State and Local Implementation Grant Program (SLIGP) activities, to ensure compliance with federal grant program requirements ■ Organize, develop, and conduct informational presentations for SLTT partners, both in-person and remote (e.g., webinars, video teleconference) ■ Collect information on FirstNet compatible network assets and services from SLTT partners ■ Plan, schedule, and execute a stakeholder awareness campaign which compliments FirstNet outreach efforts
Grant Coordination	■ Provide project coordination, local support, and oversight of FirstNet SLIGP activities, to ensure compliance with federal grant program requirements ■ Assist SLTT partners in identifying emerging public safety broadband grant opportunities

Statewide AWN Manager

Table A-4 outlines Statewide AWN Manager coordination activities by category type.

Table A-4: Statewide AWN Interoperability Coordination Activities

Type	Activities
Governance	▪ Define and articulate the state's strategic direction for public safety AWNs, in conjunction with Statewide Emergency Communications Board and committees ▪ Coordinate with SIGB/SIEC to enhance interoperability and accessibility of public safety AWNs ▪ Work directly with the SWIC and Statewide 911 Program Administrator to promote interoperability across public safety communications networks ▪ Provide AWN subject matter expertise to governance bodies, public safety organizations, and senior executive leadership ▪ Integrate partners from public safety organizations (e.g., the National Weather Service, emergency management services, tribal representatives) and the private-sector (e.g., radio and television providers, cellular service carriers)
Policy	▪ Support policy development that enhances AWN interoperability with existing (e.g., television, radio) and emerging communications methods (e.g., social media) ▪ Develop written guidance, including standard operating procedures (SOPs) and standard operating guides (SOGs) ▪ Incorporate safeguards into SOPs and SOGs to review AWN content before publication, as well as prevent accidental dissemination of AWNs ▪ Ensure lifecycle planning is supported by sustainable funding policies and grant programs ▪ Monitor SLTT and federal legislation, regulations, guidelines, and policies related to emergency management programs and emergency communications
Program Management	▪ Maintain AWN infrastructure, such as sirens, reverse 911 systems, and social media accounts ▪ Exercise AWN systems on a regular basis to evaluate capabilities and identify areas for improvement (e.g., coverage gaps) ▪ Deliver timely and actionable intelligence to the public during an incident ▪ Monitor AWNs for misinformation and promptly correct as required ▪ Identify opportunities to incorporate emerging AWN technologies, protocols, and assistive communications techniques ▪ Author standardized, clear, and concise templates for common types of AWNs, as well as criteria for issuing emergency communications to the public
Planning	▪ Account for diverse populations when delivering AWNs, including individuals with access and functional needs or English as a second language ▪ Design AWN systems to be resilient, incorporating redundant means of communication to ensure continuous operation during emergency events, such as utility interruptions or cyber incidents ▪ Incorporate AWN equipment and systems into lifecycle planning, considering the technical and financial requirements to sustain AWN operations ▪ Ensure AWN system compatibility with the Integrated Public Alert & Warning System

Table A-4: Statewide AWN Interoperability Coordination Activities (Cont'd)

Type	Activities
Outreach and Education	■ Train emergency management staff on AWN protocols, systems, and technologies ■ Socialize AWN exercise results and lessons learned with partner organizations, governance bodies, and executive leadership ■ Engage federal, SLTT, nonprofit, academic, and private-sector partners to participate in AWN activities ■ Promote individual and community preparedness before disasters through educational events and publications ■ Coordinate training and technical assistance opportunities with SLTT partners
Grant Coordination	■ Provide project coordination, local support, and oversight of federal preparedness grant programs (e.g., FEMA's Homeland Security Grant Program, Emergency Management Performance Grant program), to ensure compliance with federal grant program requirements ■ Assist SLTT partners in identifying emerging grant opportunities

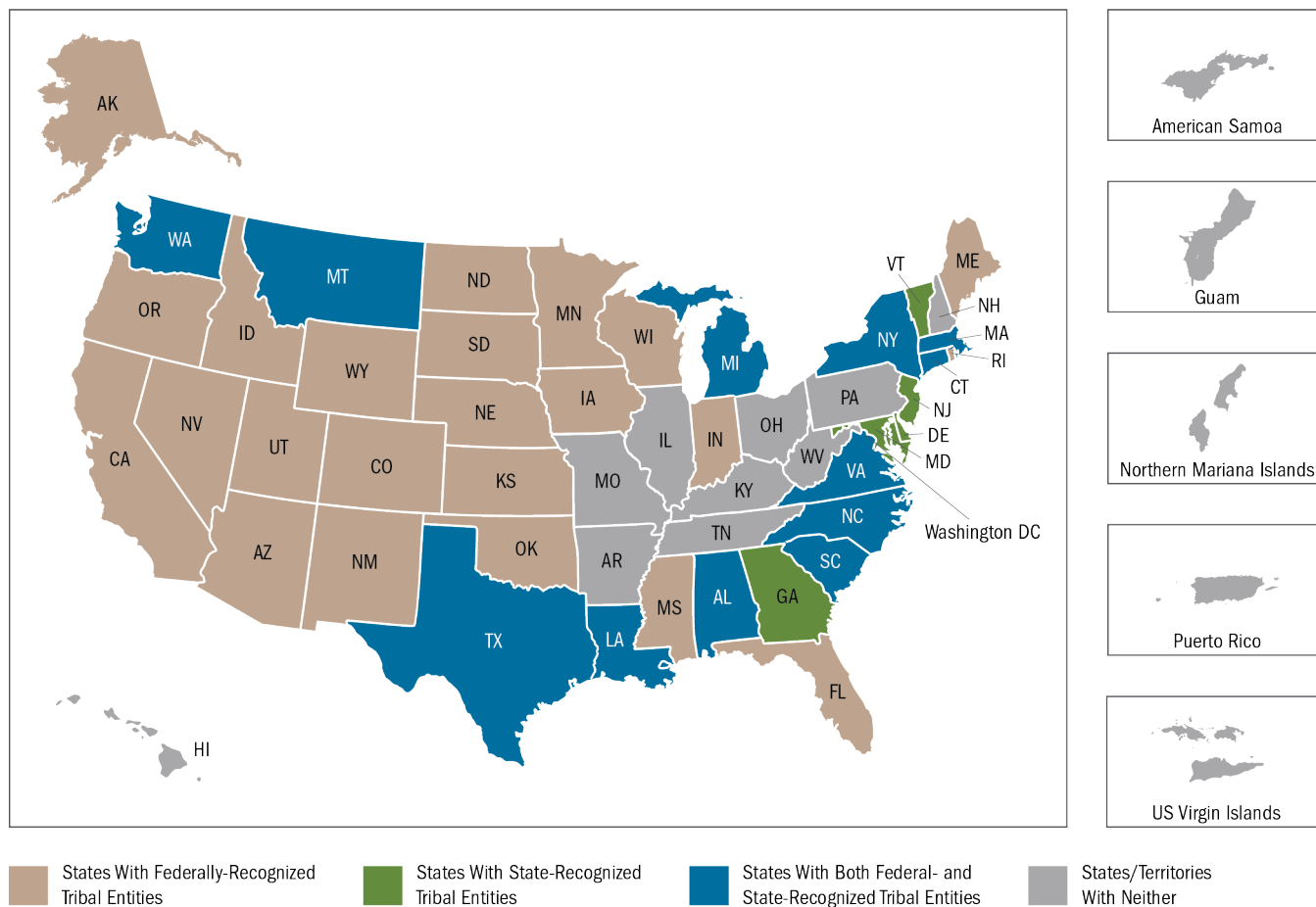# Appendix B—Native American Tribal Recognition by State

Figure B-1: Native American Tribal Recognition by State

Legend:
- States With Federally-Recognized Tribal Entities
- States With State-Recognized Tribal Entities
- States With Both Federal- and State-Recognized Tribal Entities
- States/Territories With Neither

Figure B-1 shows that 23 states contain Federally-recognized tribal entities, five contain state-recognized tribal entities, and twelve contain both Federally- and state-recognized tribal entities. Sixteen states/territories contain neither Federally- or state-recognized tribal entities. A full-size version of figure B-1 can be found on the next page.
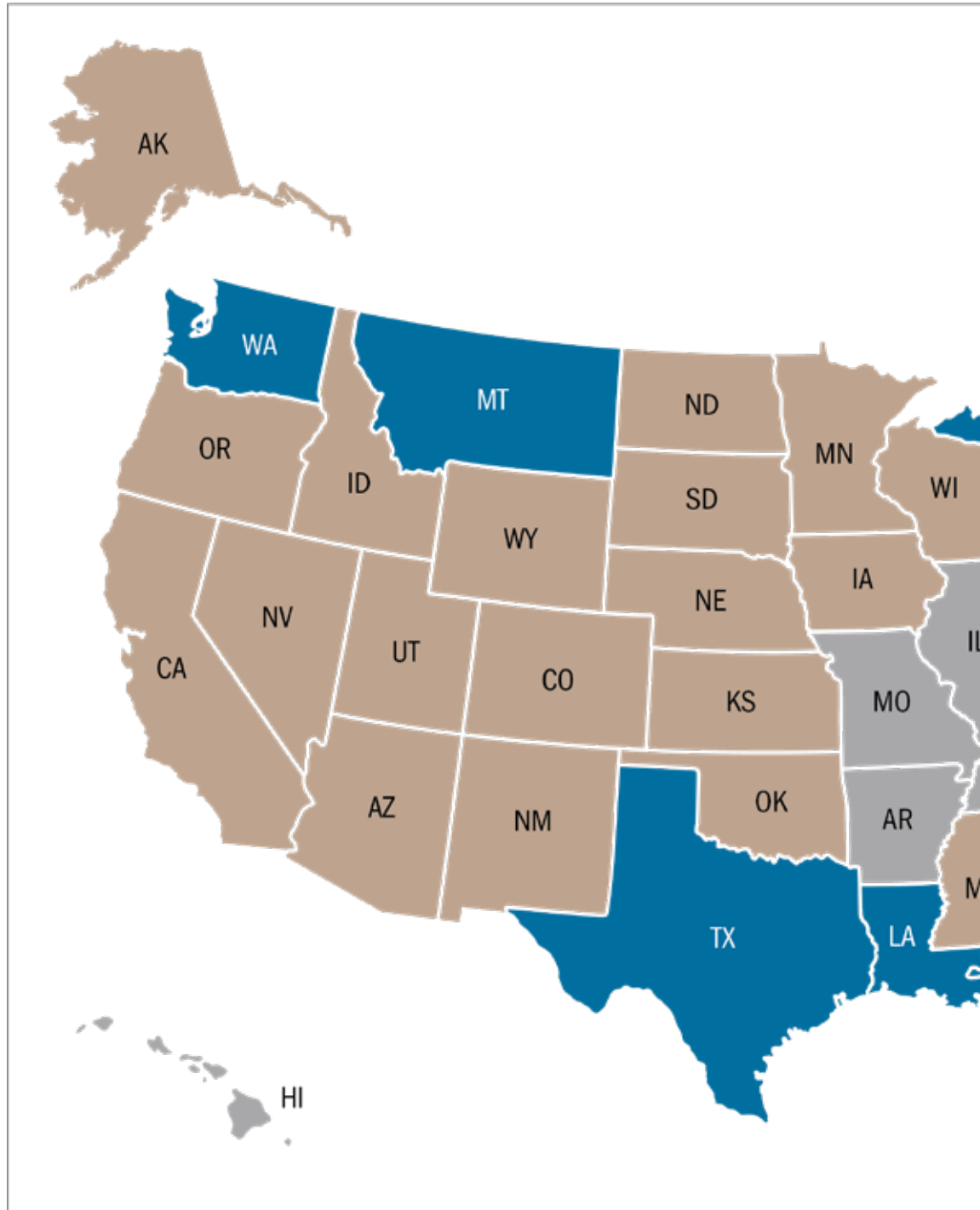
The states/territories that contain Federally-recognized tribal entities are: Alaska, Arizona, California, Colorado, Florida, Idaho, Indiana, Iowa, Kansas, Maine, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, Rhode Island, South Dakota, Texas, Utah, Washington, Wisconsin, and Wyoming.

The states/territories that contain both Federally- and state-recognized tribal entities are: Alabama, Connecticut, Louisiana, Massachusetts, Michigan, Montana, New York, North Carolina, South Carolina, Texas, Virginia, and Washington.

The states/territories that contain state-recognized tribal entities are: Delaware, Georgia, Maryland, New Jersey, and Vermont.
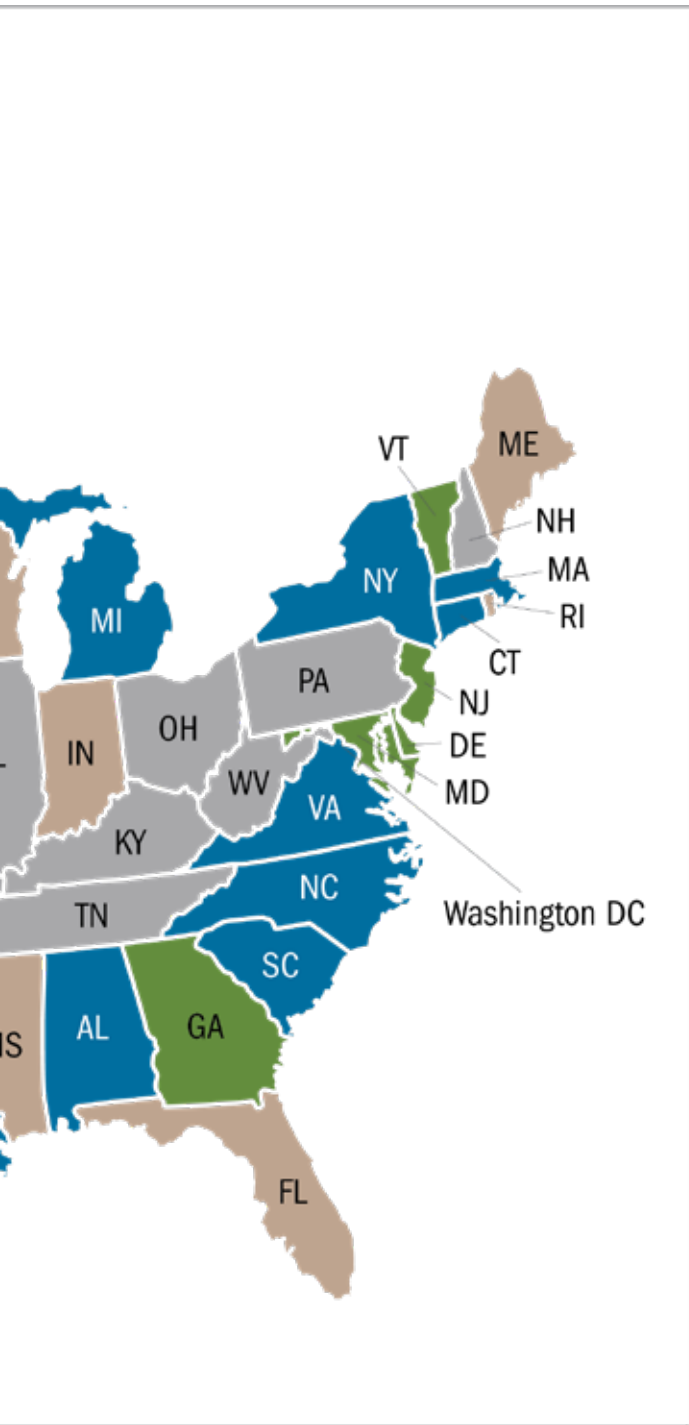
The states/territories that contain neither Federally- or state-recognized tribal entities are: Arkansas, Hawaii, Illinois, Kentucky, Missouri, New Hampshire, Ohio, Pennsylvania, Tennessee, West Virginia, District of Columbia, American Samoa, Guam, Commonwealth of the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.

Native American Tribal Recognition by State

States With Federally-Recognized Tribal Entities

States With State-Recognized Tribal Entities

American Samoa

Guam

Northern Mariana Islands

Puerto Rico

US Virgin Islands

VT
ME
NH
NY
MA
RI
MI
CT
PA
NJ
OH
DE
IN
MD
WV
VA
KY
NC
TN
Washington DC
SC
AL
GA
FL

States With Both Federal- and State-Recognized Tribal Entities

States/Territories With Neither

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