



**ALASKA LAND MOBILE RADIO**

# **Alaska Land Mobile Radio Communications System**

## **Operations Management Office (OMO) High-Level Strategy**

**Version 17**

**November 4, 2024**



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## Document Revision History

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## **Acronyms and Definitions**

**Alaska Federal Executive Association (AFEA):** federal government entities, agencies, and organizations, other than the Department of Defense, that operate on the shared ALMR system infrastructure.

**Alaska Land Mobile Radio (ALMR) Communications System:** the ALMR Communications System, as established in the Cooperative and Mutual Aid Agreement.

**Alaska Municipal League:** a voluntary non-profit organization in Alaska that represents 165 cities, boroughs, and unified municipalities.

**Alaska Public Safety Communication Services (APSCS):** a State of Alaska (SOA) office in the Department of Public Safety (DPS) that operates and maintains the SOA Telecommunications System (SATS) supporting ALMR and providing public safety communication services and support to state agencies.

**Alaska Public Safety Information Network (APSIN):** provides Public Safety information to multi-jurisdictional agencies across the State. The APSIN database includes the National Crime Information Center (NCIC) data to facilitate rapid identification of criminals.

**APCO Project 25 (P25):** is a set of standards produced through the joint efforts of the Association of Public Safety Communications Officials International (APCO), the National Association of State Telecommunications Directors (NASTD), selected Federal Agencies, and the National Communications System (NCS), and standardized under the Telecommunications Industry Association (TIA). The P25 suite of standards involves digital Land Mobile Radio (LMR) services for local, state/provincial, tribal, and national (federal) public safety organizations and agencies.

**Cooperative and Mutual Aid Agreement:** the instrument that establishes ALMR and sets out the terms and conditions by which the system will be governed, managed, operated, and modified by the parties signing the agreement.

**Department of Defense (DoD)– Alaska:** Alaskan Command, US Air Force, and US Army component services operating under United States Pacific Command and United States Northern Command.

**Department of Public Safety (DPS):** a State of Alaska (SOA) department where the SOA Telecommunications System (SATS) and ALMR programs reside.



**Encryption:** - the process of coding data so that a specific code or key is required to restore the original data; used to make transmissions secure from unauthorized reception

**Executive Council:** governing body made up of three voting members and two associate members representing the original four constituency groups: the State of Alaska, the Department of Defense, Federal Non-DoD agencies (represented by the Alaska Federal Executive Association), and local municipal/government (represented by the Alaska Municipal League and the Municipality of Anchorage).

**Interoperable Communications:** the ability of public safety, including emergency and other first responders, to talk to one another via radio and other communication systems, and to exchange voice and/or data with one another on demand in real time.

**Member:** a public safety agency including, but not limited to, a general government agency (local, state, tribal, or federal), its authorized employees and personnel (paid or volunteer), and its service provider, participating in and using the system under a membership agreement.

**Municipality of Anchorage (MOA):** the MOA covers 1,951 square miles with a population of over 300,000. The MOA stretches from Portage, at the southern border, to the Knik River at the northern border, and encompasses the communities of Girdwood, Indian, Anchorage, Eagle River, Chugiak/Birchwood, and the native village of Eklutna.

**Operations Manager:** the Operations Manager represents the User Council interests and makes decisions on issues related to the day-to-day operation of the system and any urgent or emergency, operational or repair decisions; establishes policies, procedures, contracts, organizations, and agreements that provide the service levels as defined in the ALMR Service Level Agreement in coordination with the User Council.

**Protocol:** a standard that governs network communications by providing a set of rules for its operation.

**Service Level Agreement (SLA):** outlines the operations and maintenance services as required by the User Council membership for the sustainment and operation of the ALMR infrastructure. The performance metrics contained in the SLA describe the maintenance standards for the ALMR system infrastructure. ALMR cost share services are also outlined in the SLA.

**State of Alaska (SOA):** the primary maintainer of the State's infrastructure system, and shared owner of the system. The State of Alaska sponsors local/municipal agencies onto the system.



**System Management Office (SMO):** the team of specialists responsible for management of maintenance and operations of the system.

**Talk group:** the electronic equivalent of a channel on a trunked system; a unique group of radio users that can communicate with each other.

**User:** an agency, person, group, organization, or other entity which has an existing written membership agreement to operate on ALMR with one of the parties to the Cooperative and Mutual Aid Agreement. The terms user and member are synonymous and interchangeable. All terms and conditions of the Cooperative and Mutual Aid agreement defined apply to local/municipal government agencies that are sponsored/represented by the State of Alaska.

**User Council:** governing body responsible for recommending all operational and maintenance decisions affecting the system. Under the direction and supervision of the Executive Council, the User Council has the responsibility for management, oversight, and operation of the system. The User Council oversees the development of system operations plans, procedures and policies.



## **1.0 Introduction**

### **1.1 Executive Summary**

The continued existence of the Alaska Land Mobile Radio (ALMR) Communications System not only depends upon the state-of-the-art infrastructure built and implemented by the Department of Defense (DoD) and the State of Alaska (SOA), but also on the strategic operations and maintenance decisions made by the ALMR Executive and User Councils. To ensure ALMR continues the road of interoperability success, it is essential the High-Level Strategy addresses the challenges facing ALMR. The strategy must always recognize and capitalize on the distinctive strengths and contributions of all the ALMR stakeholders and explore new avenues for future operations.

### **1.2 Background**

Communication has been, and will continue to be, an essential aspect of day-to-day operations with emergency response organizations. Without effective communications, internally and externally, it is difficult, if not impossible, to efficiently manage and deploy first responder assets where and when they are needed.

Throughout the distant past, Federal, State, Tribal, and local first responders in Alaska had traditionally operated either on their own conventional radio systems or the State of Alaska's conventional system for their day-to-day operations. This worked sufficiently until an incident occurred, which required multiple disciplines and jurisdictions to respond in a coordinated effort. Like the numerous examples around the country of interoperable communication difficulties during multiple agency responses, Alaska had its own share.

The Miller's Reach fire near Wasilla in June 1996 brought home the point to Alaska's first responders and others that communications interoperability needed to be addressed immediately. In 2013, the Stuart Creek 2 fire near Chena Hot Springs demonstrated the need to address those areas outside the current ALMR coverage footprint, which remains an important issue still today. More recently, the November 30, 2018, earthquake demonstrated the value of the ALMR system as responders covered gas leaks, destroyed roadways, structure fires, and medical events. Dispatch centers, despite ceiling collapses, noted they experienced no communications problems, and one noted, "The ALMR system performed beyond expectations and supported our mission completely and without failure. "



Because any solution clearly involves more than just acquiring new communications equipment, complicated issues such as cost share, governance, maintenance, and operations must be highlighted.

To address Alaska's interoperability needs, agencies from all levels of government took the initiative to champion and implement the ALMR system, which to this day, and into the foreseeable future, will provide a technology solution allowing agencies to conduct day-to-day operations on a shared infrastructure platform but operationally independent of each other. Then, when the need arises, they can interoperate seamlessly with other agencies or disciplines.

The ALMR Executive Council has made multi-agency, multi-jurisdictional interoperable communications a top priority. In January 2020, they decreed via policy directive that the nine regional Incident Command (IC) Zones and the statewide talkgroups would be replaced by three Interoperability Zones developed by the User Council and required them to be programmed in all radios operating on ALMR.

The advantage to this approach is that when required, ALMR radio users can transition to simpler, more user-friendly pre-programmed talkgroups for multi-agency responses, while still using the same communications equipment and protocols as they use when called upon to respond to local emergencies daily.

From its initial concept, ALMR was designed to:

- Create a cost-sharing partnership across Federal, State, Tribal, and local jurisdictions.
- Enhance first responder personnel safety and operational capabilities.
- Provide backwards compatibility with existing disparate systems.
- Share infrastructure costs by utilizing existing resources and assets.
- Support Homeland Security initiatives.
- Operate at Level 5 of the SAFECOM Interoperability Continuum.
- Develop and maintain a fiscally sound business model for the implementation, operation, and maintenance of the system.

ALMR is a secure, digital, interoperable, trunked radio system that combines Federal, State, Tribal, and local resources in a single, standards-based infrastructure. It supports public-safety first responders, as well as the Department of Defense (DoD) and Federal Non-DoD consequence management, law enforcement, and critical infrastructure protection functions.

The success of ALMR depends on an effective governance structure, a standard technology (Project 25), cooperative management utilizing a shared spectrum



plan containing both State and Federal resources, outreach, and training for member agencies, and conducting exercises utilizing the National Incident Management System (NIMS).

Key to the ALMR approach is the *Four Pillars of Implementation*. The foundation behind the implementation pillars is to define, implement, and train to standardized techniques, procedures, processes, and protocols, which allows for successful use of the ALMR system for both day-to-day and emergency operations.

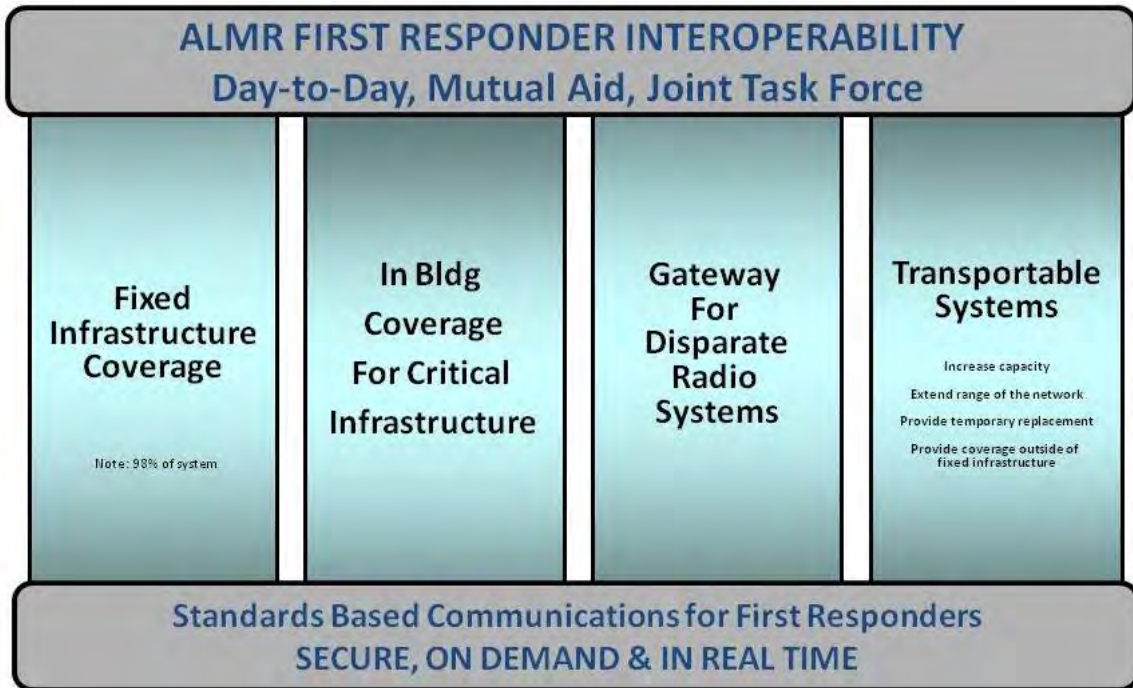


Figure 1. Four Pillars of Implementation

The first pillar includes providing a fixed communications infrastructure across the State. Currently, there are 86 fixed sites covering the majority of the Alaska Highway System and portions of the Alaska Marine Highway.

The second pillar addresses coverage within facilities identified as critical infrastructure, such as hospitals and government offices. The ALMR system utilizes bi-directional amplifiers (BDAs) to provide communications coverage within Ted Stevens Anchorage International Airport and through the three-mile Anton Anderson Memorial Tunnel, which traverses the mountain from Portage to Whittier. In-building coverage solutions were also implemented within several buildings on Joint Base Elmendorf-Richardson (JBER), Eielson Air Force Base, Fort Wainwright, Clear Air Force Station, Fort Greely, local school buildings, and in the Nesbitt Courthouse in Anchorage.



The third pillar provides for communications gateways, which allow agencies with disparate radio systems to still be able to interoperate with agencies on ALMR. A gateway solution was put in place at several locations within Alaska, which further enhanced interoperability. When fully utilized, gateways can also enable secure communications without changing or exchanging secure keys, which is extremely important in emergencies.

The fourth pillar provides for transportable coverage capability in areas outside the range of the fixed infrastructure, to increase capacity during an emergency/event, or to provide temporary communications for a site where communications are down. The DoD-owned transportable communications systems provide advanced dispatch communications and satellite connectivity to bring communications capabilities to/from remote locations. This is crucial should a disaster or emergency, such as a wildfire or a plane crash, happen outside the range of fixed infrastructure. Control of these assets falls under the Alaskan Command (ALCOM).

### **1.3 Governance Structure**

As emphasized in the National Task Force on Interoperability (NTFI), February 2003 report, a successful interoperability plan requires leadership participation on several levels, such as an executive champion at the State level (the Governor or Commissioner of Public Safety), as well as a dedicated resource to drive the planning process. In Alaska, local agencies are some of the principal users of the system; therefore, they were involved from the start of system inception all the way through final implementation.

Likewise, the purpose of creating any governance structure is to ensure that key stakeholders have an on-going role in the planning, design, implementation, and maintenance of the interoperable communications system.

Historically, case examples illustrate that by enrolling a majority of user representatives on the leadership team, trust is established at the local level that, in turn, eases barriers to cooperation and implementation. Governance structures that incorporate a participatory, all-inclusive, and user-driven approach toward decision-making find success in the implementation phase of a shared system.

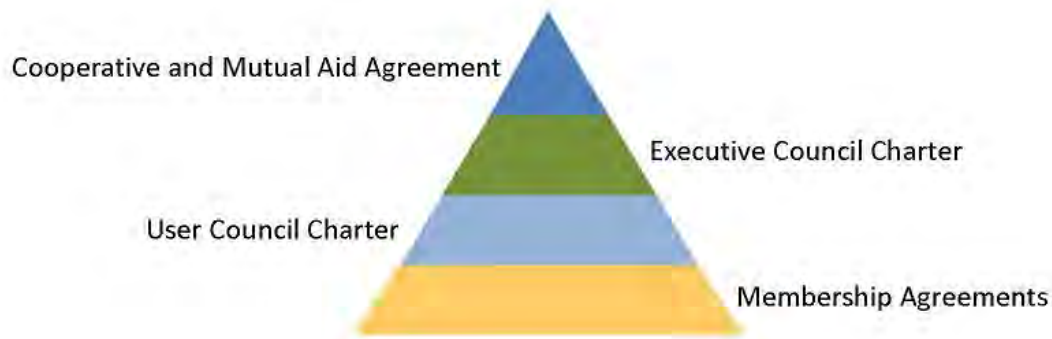


Figure 2. Governance Document Hierarchy

### 1.3.1 Executive Council

In Alaska, the Executive Council (EC) was formed as the governance body responsible for developing a set of system requirements, as well as a migration plan from previous conventional communications systems to a shared, trunked radio system. One key requirement involved developing a system capable of handling disaster responses and crisis management, in addition to supporting day-to-day operational use. This system also needed to have the ability to transition seamlessly to a full-featured, on-demand, and in-real-time interoperable system for public-safety first responders.

The EC identified their stakeholders as the DoD, Federal Non-DoD, State, tribal, and local governments, and volunteer agencies. To meet their goals, the EC decided upon a cost-shared, Project 25/TIA-102 standards, trunked land mobile radio communications system. Based on an assessment that incorporated the diverse needs of its stakeholders, the EC was able to move forward with the implementation of a new system with the support of DoD, Federal Non-DoD, State of Alaska, and local community executives.

### 1.3.2 User Council

The User Council (UC) was established by the Cooperative Agreement in 2007 and is responsible for making operations and maintenance decisions affecting the system, including those governing day-to-day operations, which they present to the EC for final approval. During the implementation phase of the system build out, the UC directed oversight of operations, maintenance, and management of the system through the Project Management Office (PMO). Today, the UC remains responsible for providing recommendations to the Executive Council regarding approval of all proposed modifications to system design, modifications



to performance standards extensions, expansion of the system, and addition of new users.

### 1.3.3 Operations Management Office

The Operations Management Office (OMO) function is to conduct the day-to-day operational management of the system on behalf of the stakeholders in coordination and cooperation with the System Management Office (SMO). The primary goal of the OMO is to ensure a reliable, safe, and secure system is always available to users.

The OMO works with the EC and stakeholders and, at the direction of the UC, acts as the single point of contact for all ALMR-related issues and requests.

## 2.0 Resources

The following staffing requirements are necessary for the Operations Management Office. The OMO currently is staffed by:

- Operations Manager
- Part-time Training Coordinator
- Documentation Specialist

**NOTE:** Staffing levels for the SMO are addressed in the SMO Customer Support Plan.

## 3.0 Goals

Strategic planning is the process of comprehensive and integrative program planning that considers the future of current decisions, overall policy, organizational development, and their links to operational plans, at a minimum.

The purpose of this document is to determine the how, when, and where ALMR will be going over the system lifetime. This document is not intended to be all-inclusive but is fluid and will evolve as conditions and improved management, control processes, and procedures dictate.

In June 2006, the ALMR PMO was charged with identifying existing standard processes and procedures and the gaps that needed to be addressed. The OMO utilized this information to identify additional areas where improvement, efficiency, and cost savings could be facilitated as the system transitioned to fully operational status July 1, 2008. At that time, the PMO stood down.



### **3.1 Foster Innovation and Creativity**

Creative thinking leads to new ways of dealing with existing or newly emerging technological, operational, and personnel issues. Actions required by the OMO to foster innovation and creative thinking are:

- Create an environment that promotes open discussion.
- Hold frequent staff meetings.
- Listen to staff and stakeholder thoughts and ideas.
- Establish internal working groups to discuss issues and promote creative thinking.
- Ensure staff and stakeholders have up-to-date information on new technologies.
- Encourage stakeholder input on improving existing policies and procedures and the creation of new ones, as needed.
- Encourage research on other statewide interoperable communications systems and their technology, policies, processes, and procedures.

### **3.2 Institutional Excellence**

To strive for management and institutional excellence, the OMO must:

- Promote the current ALMR Help Desk function to the stakeholders and make it the single point of contact for any/all maintenance requests, problem tracking, monitoring, and resolution.
- Review and update policies and procedures and ensure that they are communicated to the stakeholder community.
- Review and update a communications strategy that meets the needs of the stakeholders.
- Review and update the Business Case.
- Review and update the Customer Support Plan.
- Develop an annual budget.
- Serve as corporate secretary for the documentation process.
- Review organizational structure and update staffing requirements.
- Review and address stakeholder requirements, when needed.
- Respond to emergency requests and document actions.

### **3.3 Leadership**

To demonstrate leadership in all areas of day-to-day management responsibilities, the OMO must:

- Attend the Executive Council and User Council meetings and promote the available services and resources.



- Attend all in-house meetings to promote the available services/resources and to stay abreast of actions transpiring within the organization.
- Ensure the staff is professional and aware of management expectations.

### **3.4 Stakeholder Service**

Stakeholders have a vested interest in all aspects of the system. Therefore, the OMO must:

- Provide the best possible service to ALMR stakeholders.
- Be proactive, wherever possible, to keep the stakeholders informed and engaged.
- Ensure system maintenance is performed to the level required by the Service Level Agreement, to the greatest extent possible.
- Treat all stakeholder interactions with respect and efficiency.
- Ensure that priority issues are handled correctly and on time.
- Oversee lost and stolen asset reporting procedures.

### **3.5 Foster Partnerships**

The OMO will collaborate with Federal, State, local government, volunteer, and tribal agencies to foster partnerships which:

- Promote the OMO to the EC, UC, and stakeholders, whenever possible.
- Form stakeholder work groups from all regions to work on issues relating to the field.
- Provide the stakeholders with informational materials, as they become available.
- Promote the ALMR system to potential new partners.
- Work with other similar groups and systems outside Alaska to share best practices and formulate partnerships, where appropriate.

### **3.6 Technical Expertise**

To promote technical expertise and ensure information sharing with public and private stakeholders, the OMO shall:

- Establish and maintain a quarterly newsletter.
- Disseminate pertinent information through social media.
- Provide an integrated and user-friendly ALMR website for public access and communication.
- Establish and maintain documents approval process.





### **3.7 Enhance ALMR**

To enhance ALMR engineering, maintenance, management, and technology processes to increase performance and reduce costs, the OMO must:

- Review and update the new technology review and selection process, as required.
- Review and update a new site development process.
- Review, update, and manage a maintenance coordination plan which encompasses both the SOA and contract maintenance assets.

### **3.8 System Reliability**

To ensure the ALMR system is reliable, safe, secure, and available 24/7, the OMO will:

- Develop a security audit plan and schedule.
- Review/update employee termination policy.
- Review/update password management policies and procedures.
- Develop a stakeholder security awareness procedure.
- Review/update intrusion reporting policies and procedures.
- Review/update implemented virus protection policies and procedures.
- Observe and validate subscriber equipment testing for operation on the system.
- Ensure that ALMR security policies and procedures are in sync with Alaska Public Safety Information Network (APSIN) requirements.
- Review/update established disaster contingency procedures.
- Ensure testing of disaster contingency procedures.
- Review/update a user security awareness procedure.
- Ensure that maintenance policies are in place and adhered to.
- Ensure all stakeholders/member agencies adhere to the policies and procedures within the Cooperative and Mutual Aid, Service Level Agreement, and Membership Agreement.
- Facilitate ALMR system interoperability exercises, when funded, to ensure that stakeholders are aware and use interoperability talkgroup protocols.

### **3.9 Outreach and Education**

To promote education on all equipment and systems within the ALMR structure, the OMO shall:

- Ensure that training resources, when funded, are available to those agencies that request them, as it is beneficial that all stakeholders are



proficient in the understanding and use of the ALMR system, and the protocols utilized.

- Establish a resource library for both internal and stakeholder use.
- Provide training materials when requested and available.
- Ensure that outreach training and education resources are available to stakeholders when funds are available.
- Ensure that OMO stays abreast of any/all technological advances that could enhance the system.
- Ensure that stakeholders are aware of SOA training opportunities, when available and funded.

### **3.10 Cost Share Consensus**

To ensure that a cost share cooperative agreement was developed, the OMO:

- Worked with the EC, UC, and stakeholders to develop a fair and equitable cost share model.
- Worked with the EC, UC, and stakeholders to execute a Cost Share Agreement.

### **3.11 Operations Services**

OMO workforce acquisition and development is accomplished through:

- Promotion of diversity.
- Discussion of issues and promotion of creative thinking.
- Frequent staff meetings.

### **3.12 Institutional Control**

The OMO monitors and provides oversight of institutional asset inventory controls through:

- Ensuring system equipment lifecycles are within manufacturers guidelines.
- Ensuring an annual inventory of agency-owned assets.

### **3.13 Information Management**

The OMO records/information management function must:

- Establish administrative procedures and processes.
- Establish a records management program that makes information available internally and to the stakeholder community.





- Monitor/facilitate change management policies and procedures.

### **3.14 Risk Management**

To identify associated risks and mitigation procedures, the OMO must:

- Establish a risk identification process.
- Define magnitude and impact for identified risks.
- Develop risk avoidance and mitigation strategies.
- Establish a watch list that ranks and prioritizes identified risks, when warranted.
- Review the watch list periodically.

## **4.0 Methodology**

### **4.1 Strategic Planning Approach**

The overall strategic planning framework described in this document reflects discussions and ideas regarding how to create a dynamic operations management approach for all ALMR operations/functions. This document builds on the mission, vision, strategy, values, and strategic goals of ALMR and all its stakeholders. Mandates, environmental factors, challenges, opportunities, and strategic issues identified by stakeholders have all been considered in the preparation of this document. This document presents information on the following subjects:

- Operations
- Maintenance
- Finance and budget
- Quality control
- Administrative activities

### **4.2 Certification**

Certification is achieved by acceptance of the High-Level Strategy by the User Council. As noted, adjustments to the document will be made during annual reviews, or as needed.



## **5.0 Key Principles**

### **5.1 Mission Statement**

The mission of ALMR is to manage the shared ALMR system by supporting the collaborative partnership between public safety-first responders serving the citizens of Alaska and provide secure, reliable, 24/7 operational communications by utilizing the latest proven land mobile radio technologies.

### **5.2 Vision Statement**

The vision of ALMR is to provide Alaskan public safety-first responders with interoperable communications that are cost effective, reliable, and adhere to national standards for public safety land mobile radio.

### **5.3 Guiding Values**

In all functions, the OMO will:

- Be accountable for its actions, and exercise responsible stewardship.
- Value excellence, quality, and service.
- Foster diverse thinking, be inclusive, treat each other with respect and dignity, and promote interaction with all ALMR partners/stakeholders.
- Be cognizant in encumbrance and expenditure of public funds.

## **6.0 Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis**

An important step in responding strategically and effectively to the rapidly changing environment facing ALMR is developing an understanding of the external and internal context within which it operates. This involves an analysis of the strengths, weaknesses, opportunities, and threats (SWOT) facing ALMR.

This list is by no means all-inclusive but provides a starting point for the on-going development and refinement of the strategic planning framework.

### **6.1 Strengths**

Perceived/known strengths for ALMR are:

- Statewide presence (along the road system and marine highway).
- Interoperability provided to public safety-first responders.
- Interoperability talkgroups programmed in radios.
- Project 25 standards-based system allowing multiple vendors.



- Newest trunked system technology available.
- Growing number of ALMR users; quality federal, state, tribal, and contractor involvement and operational functionality.
- Seamless interoperability for users over previous conventional stovepipe type radio systems.
- Geographically separated ALMR transportable units capable of establishing communications anywhere in the event of catastrophic disaster (through contracted maintenance).
- Continued evaluation and consideration of expansion of coverage along the Alaska highway system; planned future expansion of the system statewide when funds become available.
- In-building and tunnel communications.
- Strong governance structure.

## **6.2 Weaknesses**

The perceived/known weaknesses for ALMR are:

- Harsh Alaskan environment and inability to travel via roadways to some of the remote mountain sites.
- Limited numbers of trunked channels once outside of the major municipalities.
- Managing technology debt, if required technical refresh and system updates are not performed on a regular basis, the ALMR system will be exposed to risks and will raise concerns with compliance requirements regarding Defense Information Assurance Risk Management Framework (RMF).
- Funding pressure for system upkeep and expansion caused by a complex budget situation, involving overlap of multiple fiscal years and lack of secured funding sources.
- Lack of awareness and understanding of how ALMR serves the statewide public safety communications mission.
- Radio communications are perceived as old and low-tech.

## **6.3 Opportunities**

Perceived/known opportunities for ALMR are:

- Ability to accommodate new user agencies.
- Cost savings over previous conventional radio equipment and systems at state and local levels.
- Ability to enable communications for agencies with disparate systems.
- System expansion capability.



- Strengthening awareness and understanding with stakeholders and elected officials about critical public safety communication.
- Acquire and use new technologies to support better user community engagement.

## **6.4 Threats**

Perceived/known threats for ALMR are:

- Reduction in funding availability from infrastructure owners for maintenance, equipment replacement, and operating system updates.
- Misunderstandings around the critical nature of public safety communications.
- Reverting to a break/fix maintenance practice due to the non-availability of funds.
- External natural and manmade destruction of ALMR infrastructure.
- Loss of key stakeholders.
- Failure to develop and implement a sustainable cost share agreement.
- Perception that ALMR is only for State of Alaska agencies.
- Possibility of cybersecurity attacks by bad actors.

## **7.0 Conclusion**

Given the number of operational tasks to be accomplished, it is necessary to prioritize the top issues/goals requiring immediate attention according to their importance to the operation of the ALMR system.

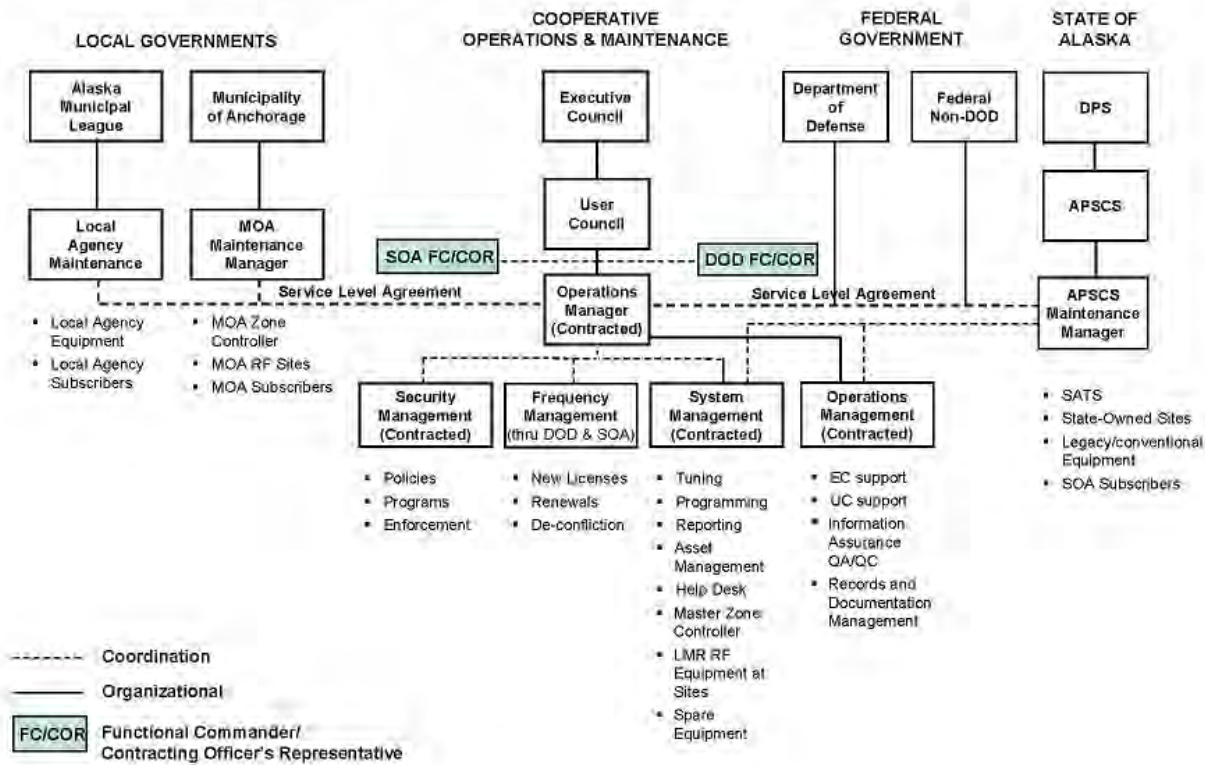
This is not to say that any of the strategic goals are unimportant, but rather that some are more essential to establishing an effective operations organization.

The following issues/goals are deemed priority items that require continued attention from the OMO:

- Establish a long-term funding stream dedicated to public safety radios like other state LMR systems.
- Improve coverage/capacity within current ALMR footprint, add coverage to unserved/underserved areas where feasible, and promote and encourage potential new users to come onto the ALMR system.
- Encourage member agencies to actively participate in the ALMR system, through established governance council, to allow the OMO to better serve individual agency needs.

## Appendix A Operations and Maintenance Organizational Structure

### Alaska Land Mobile Radio (ALMR) Communications System Operations and Maintenance Organizational Structure



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