



Maryland

Statewide Communication Interoperability Plan (SCIP)

February 7, 2013

EXECUTIVE SUMMARY

The Maryland Statewide Communication Interoperability Plan (SCIP) is a stakeholder-driven, multi-jurisdictional, and multi-disciplinary statewide strategic plan to enhance interoperable and emergency communications. The SCIP is a critical mid-range (three to five years) strategic planning tool to help Maryland prioritize resources, strengthen governance, identify future investments, and address interoperability gaps.

The purpose of Maryland's SCIP is:

- To provide the strategic direction and alignment for those responsible for interoperable and emergency communications at the State, regional, local, and tribal levels.
- To explain to leadership and elected officials the vision for interoperable and emergency communications and demonstrate the need for funding.

The following are Maryland's Vision and Mission for improving emergency communications operability, interoperability, and continuity of communications statewide.

Vision: Achieve a statewide system that will support communications interoperability and will facilitate real-time communications across agencies, jurisdictions, levels of government, and ultimately, across State boundaries with Maryland's neighbors. Interoperable communications will ensure that Maryland's public safety providers can coordinate with one another, share information, and provide a consolidated response.

Mission: In the short-term, develop and implement a reasonable and feasible solution framework that provides statewide, secure, coordinated, real-time voice and data communications that can span jurisdictional and organization boundaries. In the long-term, establish a statewide public safety communications system that will be a standards-based open architecture that will address the needs of all stakeholders from the enterprise level.

The following strategic goals represent the priorities for delivering Maryland's vision for interoperable and emergency communications.

- **Governance** –
 - Strengthen and review regional inter- and intra-state partnerships to validate existing membership and consider including additional stakeholders as applicable (e.g., public works, critical infrastructure, private sector, Maryland State Department of Education, Federal agencies).
 - Codify existing governance structure (existing by way of executive order) through legislation.
 - In partnership with local government, complete the last of five regional interoperable radio communication networks in 2016 that provide first

responders with interoperable radio communications across county lines, within their region, and on Maryland's waterways.

- **Standard Operating Procedures (SOPs)** –

- Establish and maintain a recurring statewide communications-related SOP/ Standard Operating Guidelines (SOG) development process.

- **Technology** –

- Add nationwide interoperability channels and establish related process or structure to tie the channels into the new statewide 700 megahertz (MHz) system.
- Provide access to the Nationwide Public Safety Broadband Network (NPSBN) to all Maryland First Responders and Emergency Management partners.

- **Training and Exercises** –

- Coordinate the development of regional communications-focused learning and exercises across the State.

- **Usage** –

- Encourage familiarity of communications systems (e.g., 700 MHz system), interoperability technology, and emerging technologies.
- Enhance capabilities to share communications-related emergency information in real time.

- **Outreach and Information Sharing** –

- Identify and provide access to critical radio channels across agency and county lines in partnership with local jurisdictions and other mutual aid partners via the Maryland First Responder Interoperable Radio System Team (FiRST)

- **Life Cycle Funding** –

- Invest to build a state-of-the-art computer aided dispatch and records management system for Maryland's State public safety agencies and share real-time data on emergency service dispatches and critical records with local jurisdictions.
- Develop a process to establish a long-term funding plan for the operations maintenance and system administration of current land mobile radio (LMR) systems while addressing the long-term needs of State and local first responders.

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1. INTRODUCTION

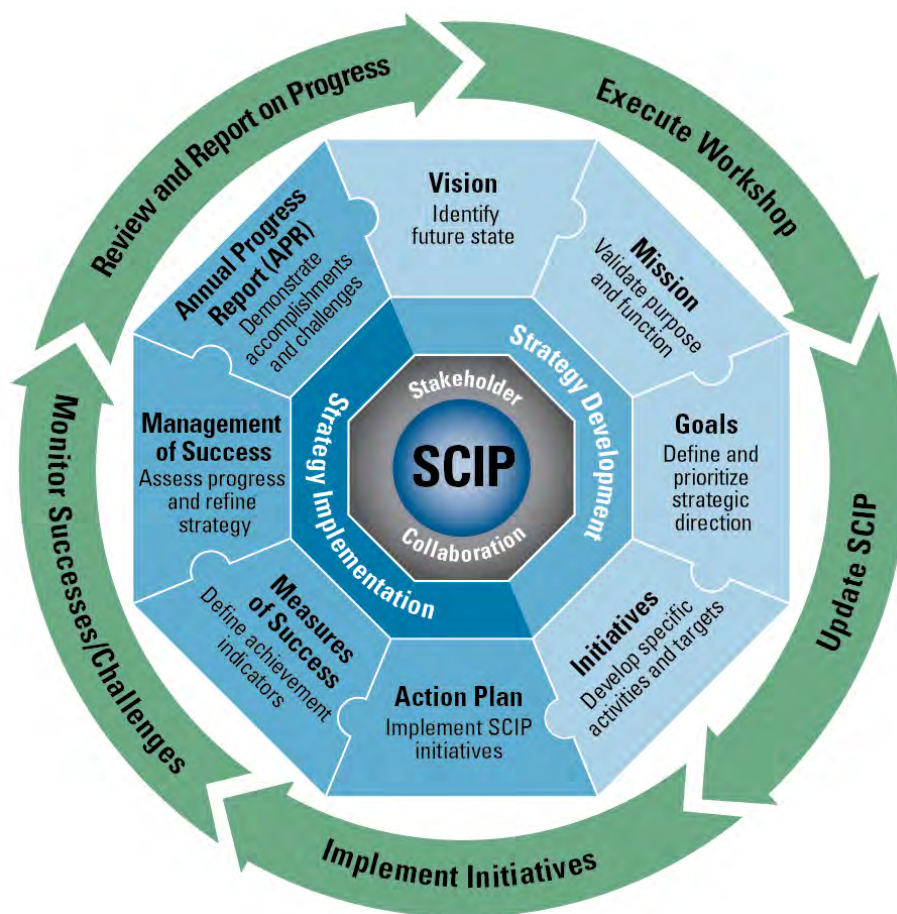
The Maryland Statewide Communication Interoperability Plan (SCIP) is a stakeholder-driven, multi-jurisdictional, and multi-disciplinary statewide strategic plan to enhance interoperable and emergency communications. The SCIP is a critical mid-range (three to five years) strategic planning tool to help Maryland prioritize resources, strengthen governance, identify future investments, and address interoperability gaps. This document contains the following planning components:

- Introduction – Provides the context necessary to understand what the SCIP is and how it was developed.
- Purpose – Explains the purpose/function(s) of the SCIP in Maryland.
- State's Interoperable and Emergency Communications Overview – Provides an overview of the State's current and future emergency communications environment [e.g., statewide or regional interoperable and emergency communications systems, National Emergency Communications Plan (NECP) Goal 2 results¹] and defines ownership of the SCIP.
- Vision and Mission – Articulates the State's three- to five-year vision and mission for improving emergency communications operability, interoperability, and continuity of communications at all levels of government.
- Strategic Goals and Initiatives – Outlines the strategic goals and initiatives aligned with the three- to five-year vision and mission of the SCIP and pertains to the following critical components: Governance, Standard Operating Procedure (SOP), Technology, Training and Exercises, Usage, Outreach and Information Sharing, and Life Cycle Funding.
- Implementation – Describes the process to evaluate the success of the SCIP and to conduct SCIP reviews to ensure it is up-to-date and aligned with the changing internal and external environment.
- Reference Documents – Includes documents that provide additional background information on the SCIP or interoperable and emergency communications in Maryland or directly support the SCIP.

Figure 1 below provides additional information about how these components of the SCIP interrelate to develop a comprehensive plan for improving interoperable and emergency communications.

¹ More information on the NECP is available here: <http://www.dhs.gov/national-emergency-communications-plan-necp-goals>

Figure 1: SCIP Strategic Plan and Implementation Components



The Maryland SCIP is based on an understanding of the current and mid-range interoperable and emergency communications environment. Maryland has taken significant steps towards enhancing interoperable and emergency communications, including:

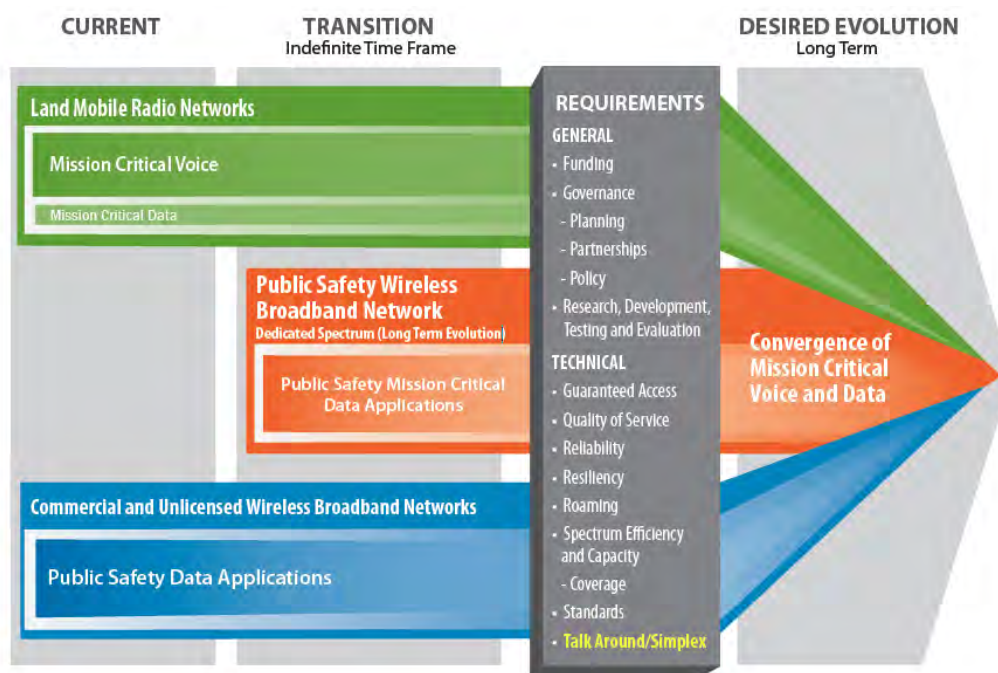
- Creating strong inter-state, intra-state, and regional coordination at all levels of government
- Garnering executive support of emergency communications
- Planning, development, and initial rollout of Maryland's new statewide 700 MHz system
- Developing an electrical power outage map for Maryland's Mapping Application (OSPREY), Maryland's first-ever common operating platform that provides real-time data on emergencies to the public and first responders through an online map

However, more remains to be done to achieve the vision. It is also important to note that this work is part of a continuous cycle as Maryland will always need to adapt to evolving technologies, operational tactics, and changes to key individuals (e.g., Governor, project champions). In the next three to five years, Maryland will encounter challenges relating

to operability, interoperability, geography, aging equipment/systems, emerging technologies, changing project champions, and sustainable funding.

Wireless voice and data technology is evolving rapidly and efforts are underway to determine how to leverage these new technologies to meet the needs of public safety. For example, the enactment of the Middle Class Tax Relief and Job Creation Act of 2012 (the Act), specifically Title VI, related to Public Safety Communications, authorizes the deployment of the Nationwide Public Safety Broadband Network (NPSBN). The NPSBN is intended to be a wireless, interoperable nationwide communications network that will allow members of the public safety community to securely and reliably gain and share information with their counterparts in other locations and agencies. New policies and initiatives such as the NPSBN present additional changes and considerations for future planning efforts and require an informed strategic vision to properly account for these changes. Figure 2 below illustrates a public safety communications evolution by describing the long-term transition toward a desired converged future.

Figure 2: Public Safety Communications Evolution



Integrating capabilities such as broadband provide an unparalleled opportunity for the future of interoperable communications in Maryland. It may result in a secure path for information-sharing initiatives, Public Safety Answering Points (PSAP), and Next Generation 911 (NG911) integration. Broadband will not replace existing LMR systems in the foreseeable future, as the cost to implement broadband will be significant. A cautious approach to this investment is needed. Therefore, robust requirements and innovative business practices must be developed for broadband initiatives prior to any implementation.

There is no defined timeline for the deployment of the NPSBN; however, Maryland will be closely involved with the planning and build-out of the NPSBN in the near and long term through planning, outreach, and education activities funded through the State and Local Implementation Grant Program (SLIGP). The network build-out will require continuing education and commitment at all levels of government and across public safety disciplines to document network requirements and identify existing resources and assets that could potentially be used in the build-out of the network. It will also be necessary to develop and maintain strategic partnerships with a variety of stakeholder agencies and organizations at the national, State, regional, and local levels and design effective policy and governance structures that address new and emerging interoperable and emergency communications technologies. During this process, investments in LMR will continue to be necessary and in the near term, wireless data systems or commercial broadband will complement LMR. More information on the role of these two technologies in interoperable and emergency communications is available in the Department of Homeland Security (DHS) Office of Emergency Communications (OEC) Public Safety Communications Evolution brochure². Maryland has been an active member of the Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications (MACINAC) – a multi-state (Delaware, Maryland, Pennsylvania, Virginia, West Virginia) approach to preparing for the NPSBN. MACINAC's goals are to:

- Establish MACINAC - a multistate agreement to work cooperatively on planning, design, procurement, deployment, maintenance and operation of a region-wide public safety broadband network through FirstNet
- Determine technical and operational requirements of stakeholders in the region
- Analyze a single procurement approach for all States in the region to harness economies of scale in the deployment and operation of the network

The MACINAC project enables its member States to accomplish the planning and work necessary to make an informed decision on FirstNet participation.

Additionally, achieving sustainable funding in the current fiscal climate is a priority for Maryland. As State and Federal grant funding diminishes, States need to identify alternative funding sources to continue improving interoperable and emergency communications for voice and data systems. Key priorities for sustainable funding are:

- Developing a long-term funding plan for the maintenance and administration of existing LMR systems
- Building a state-of-the-art computer aided dispatch and records management system (CAD/RMS)

More information on a typical emergency communications system life cycle, cost planning, and budgeting is available in OEC's System Life Cycle Planning Guide.³

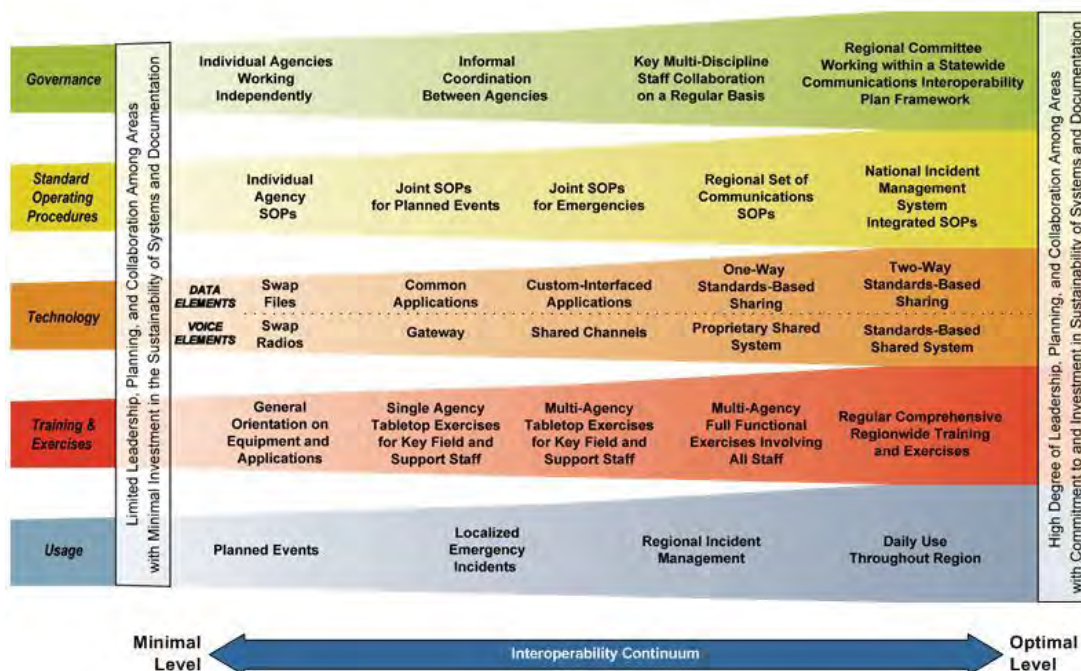
² OEC's Public Safety Communications Evolution brochure is available here:

http://publicsafetytools.info/oec_guidance/docs/Public_Safety_Communications_Evolution_Brochure.pdf

³ OEC's System Life Cycle Planning Guide is available here:

http://publicsafetytools.info/oec_guidance/docs/OEC_System_Life_Cycle_Planning_Guide_Final.pdf

Figure 3: The Interoperability Continuum



The Interoperability Continuum, developed by SAFECOM and shown in Figure 3, serves as a framework to address all of these challenges and continue improving operable/interoperable and emergency communications. It is designed to assist emergency response agencies and policy makers with planning and implementing interoperability solutions for voice and data communications.

The Continuum identifies five critical success elements that must be addressed to achieve a successful interoperable communications solution:

- **Governance** – Collaborative decision-making process that supports interoperability efforts to improve communication, coordination, and cooperation across disciplines and jurisdictions. Governance is the critical foundation of all of Maryland's efforts to address communications interoperability.
- **SOPs** – Policies, repetitive practices, and procedures that guide emergency responder interactions and the use of interoperable communications solutions.
- **Technology** – Systems and equipment that enable emergency responders to share voice and data information efficiently, reliably, and securely.
- **Training and Exercises** – Scenario-based practices used to enhance communications interoperability and familiarize the public safety community with equipment and procedures.
- **Usage** – Familiarity with interoperable communications technologies, systems, and operating procedures used by first responders to enhance interoperability.

More information on the Interoperability Continuum is available in OEC's Interoperability Continuum brochure⁴. The following sections will further describe how the SCIP will be used in Maryland and Maryland's plans to enhance interoperable and emergency communications.

2. PURPOSE

The purpose of the Maryland SCIP is:

- To provide the strategic direction and alignment for those responsible for interoperable and emergency communications at the State, regional, local, and tribal levels.
- To explain to leadership and elected officials the vision for interoperable and emergency communications and demonstrate the need for funding.

The development and execution of the SCIP assists Maryland with addressing the results of the NECP Goals and the Federal government with fulfilling the Presidential Policy Directive 8 (PPD-8)⁵ National Preparedness Goal for Operational Communications.⁶

In addition to this SCIP, Maryland will develop an Annual Progress Report (APR) that will be shared with OEC and other stakeholders to highlight recent accomplishments and demonstrate progress toward achieving the goals and initiatives identified in the SCIP.

3. MARYLAND'S INTEROPERABLE AND EMERGENCY COMMUNICATIONS OVERVIEW

Maryland employs a network approach for interoperability solutions. Every part of the State can communicate through gateways; however, only certain portions of the State have shared channels or proprietary shared systems. Long-term voice interoperability will be achieved with a phased-in implementation of a statewide 700 megahertz (MHz) radio system – Maryland First Responders Interoperable Radio System Team (Maryland FiRST). This system is a standards-based, shared system that will provide seamless operations statewide and the ability to connect with other regional and local systems. This system is building on past and current infrastructure and requires Project

⁴ OEC's Interoperability Continuum is available here:

<http://www.safecomprogram.gov/oecguidancedocuments/continuum/Default.aspx>

⁵ PPD-8 was signed in 2011 and is comprised of six elements: a National Preparedness Goal, the National Preparedness System, National Planning Frameworks and Federal Interagency Operational Plan, an annual National Preparedness Report, and ongoing national efforts to build and sustain preparedness. PPD-8 defines a series of national preparedness elements and emphasizes the need for the whole community to work together to achieve the National Preparedness Goal. <http://www.dhs.gov/presidential-policy-directive-8-national-preparedness>.

⁶ National Preparedness Goal – Mitigation and Response Mission Area Capabilities and Preliminary Targets – Operational Communications: Ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

1. Ensure the capacity to communicate with both the emergency response community and the affected populations and establish interoperable voice and data communications between Federal, State, and local first responders.
2. Re-establish sufficient communications infrastructure within the affected areas to support ongoing life-sustaining activities, provide basic human needs, and transition to recovery.

25 (P25) compliance statewide. It is left up to the localities whether to join the new statewide 700 MHz system and use the new system as a compliment to existing systems or replace existing systems and operate exclusively on the Maryland FiRST. The first phase was put into full operation on December 31, 2012.

With the passage of the Federal legislation establishing FirstNet, the board that will build out the NPSBN, Maryland has established a Broadband Committee as a subcommittee of the SIEC. Governor Martin O'Malley has designated Ray Lehr, the Maryland SWIC, as the FirstNet State Point of Contact for Maryland.

Data communications standards in Maryland are based on the use of proprietary shared systems with relatively open architectures such as WebEOC, Capital Wireless Information Net (CapWIN), and OSPREY, the State's Geographic Information Systems (GIS) mapping system for emergency managers and other public safety users as well as a version for the general public.

The statewide capabilities assessment survey results identified the following challenges to interoperability:

- Funding limitations
- Systems with limited interoperability capabilities
- Aging systems in need of replacement
- Insufficient availability of frequencies
- System coverage limitations
- Underutilization of mutual aid channels
- Lack of a statewide common frequency band
- Limited use of wireless data systems
- Requirement for a robust statewide infrastructure.

Table 1 outlines the current highlights and challenges of the regional communications systems currently being operated in the State of Maryland.

Table 1: Highlights and Challenges of Regional Interoperability Systems

Region	Interoperability Solution	Highlights	Challenges
Western Interoperability Region (Counties: Washington, Allegany, and Garrett)	Washington Allegany Garrett Interoperability Network (WAGIN)	<ul style="list-style-type: none"> • Newly developed WAGIN field guide has made it possible for first responders to attain resource awareness as part of a response • The MOTOBRIDGE achieves interoperability with 800 MHz, low-band, ultra high frequency (UHF) and very high frequency (VHF) <ul style="list-style-type: none"> ○ Enables bridging between WAGIN counties and outside agencies responding to Western Maryland • In excess of 80% of patches on WAGIN 	<ul style="list-style-type: none"> • Need for additional Communications Unit Leader (COML) / Communications Technician (COMT) Training (e.g., train-the-trainer classes) • Need for the availability of cache resources (e.g., radios)

Region	Interoperability Solution	Highlights	Challenges
		<p>are executed seamlessly</p> <ul style="list-style-type: none"> Developing a WAGIN 101 Dispatcher Training Packet <ul style="list-style-type: none"> The WAGIN Conference is held to enhance coordination on interoperability communications with regional partners (e.g., West Virginia, Pennsylvania, Virginia) 	
National Capital Region (NCR) Interoperability Region (Counties: Prince George, Montgomery, and Frederick)	NCR	<ul style="list-style-type: none"> Shared talk groups and radio caches exist across all member counties Three on-going projects in Montgomery County (contracts expected by end of 2013): <ul style="list-style-type: none"> Replace Fire Station Alerting Upgrade 911 system Replace Radio Infrastructure 	<ul style="list-style-type: none"> Lack of coordination efforts between State and NCR on interoperable communications
Central Interoperability Region (Counties: Cities of Baltimore City and Annapolis: Counties of: Baltimore, Carroll, Harford, Howard, and Anne Arundel)	Central Maryland Area Radio Communications System (CMARC)	<ul style="list-style-type: none"> Availability of a regional trunked system 	<ul style="list-style-type: none"> Limited intra-regional coordination (i.e., counties focus on county-specific issues) Long-term funding Currently, CMARC member counties have to provide 50% of maintenance and system administration costs. By 2015, counties will provide 100% of the cost
Southern Interoperability Region (Counties: Charles, Calvert, and St. Mary)	Southern Maryland Interoperable Communications (SMIEC)	<ul style="list-style-type: none"> Public Safety Interoperability Communications (PSIC) grant program funded mutual aid channels across Southern Interoperability Region Counties of the Southern Interoperability Region operating on old legacy systems can join the new statewide 700 MHz system to forego investment in new independent communications systems Charles County, geographically surrounded by counties in Maryland, Virginia, and the District of Columbia, functions as an interoperability coordination point St. Mary's County will begin testing of Maryland FiRST in August 2013 	<ul style="list-style-type: none"> Dependent on national mutual aid channels Some counties in Southern Interoperability Region are operating on very old legacy systems Upgrades are cost prohibitive Disparate systems from different vendors make achievement of seamless interoperability a challenge
Eastern Interoperability Region	Maryland Eastern Shore Interoperability	<ul style="list-style-type: none"> Maryland FiRST is operational in Kent County 	<ul style="list-style-type: none"> Counties in the Eastern Interoperability Region

Region	Interoperability Solution	Highlights	Challenges
(Counties: Cecil, Kent, Queen Anne, Caroline, Talbot, Dorchester, Wicomico, Somerset, Worcester counties and the town of Ocean City)	Network (MESIN)	<ul style="list-style-type: none"> Dead spots in the county have been eliminated Coverage testing successful Reliance on cell phone usage has been reduced significantly Dispatchers in the county will be moved to a single location All counties in Eastern Interoperability Region can communicate on MESIN Upgrades on MESIN will include incorporation of MESIN with Maryland FiRST 	<p>are facing the decision whether to join or only establish interoperability with Maryland FiRST</p> <ul style="list-style-type: none"> Coordination between the State and Counties in the Eastern Interoperability Region Funding --maintenance and system administration of MESIN relies on federal grant funding

4. VISION AND MISSION

The Vision and Mission section describes the Maryland vision and mission for improving emergency communications operability, interoperability, and continuity of communications statewide.

Maryland Interoperable and Emergency Communications Vision:

Achieve a statewide system that will support communications interoperability and will facilitate real-time communications across agencies, jurisdictions, levels of government, and ultimately, across State boundaries with Maryland's neighbors. Interoperable communications will ensure that Maryland's public safety providers can coordinate with one another, share information, and provide a consolidated response.

Maryland Interoperable and Emergency Communications Mission:

In the short-term, develop and implement a reasonable and feasible solution framework that provides statewide, secure, coordinated, real-time voice and data communications that can span jurisdictional and organization boundaries. In the long-term, establish a statewide public safety communications system that will be a standards-based open architecture that will address the needs of all stakeholders from the enterprise level.

5. STRATEGIC GOALS AND INITIATIVES

The Strategic Goals and Initiatives section describes the statewide goals and initiatives for delivering the vision for interoperable and emergency communications. The goals and initiatives are grouped into seven sections, including Governance, SOPs, Technology, Training and Exercises, Usage, Outreach and Information Sharing, and Life Cycle Funding.

5.1 Governance

The Governance section of the SCIP outlines the future direction for the Maryland governance structure for interoperable and emergency communications. Maryland established a governance structure that facilitates the development of a statewide, locally driven interoperability plan that meets the needs of public safety first responders.

On July 10, 2008, Governor Martin O'Malley signed an Executive Order formally establishing Maryland's Statewide Interoperability Executive Committee (SIEC), along with its Practitioner Steering Committee (PSC). The SIEC is comprised of senior elected and appointed officials from State, county, and municipal governments appointed by the Governor. The SIEC has the responsibility to provide policy-level advice regarding public safety communications interoperability and to promote the efficient and effective use of resources for matters related to public safety communications and interoperability.

The order also establishes the position of Statewide Interoperability Director (Maryland's SWIC) who is responsible for the Interoperable Communications programs within the State. He will direct a Program Management Office (PMO) to provide oversight and direction to these programs. The PSC was established to provide recommendations and advice to the SIEC and the Governor's Office of Homeland Security (GOHS) on all matters pertaining to communications interoperability (e.g., assessment, acquisition, standardization, planning, management, use, and oversight of communications). The PSC is comprised of senior communications practitioners from all fields of public safety. The PSC established the following three permanent subcommittees that provide the subject matter expertise required to implement public safety communications and interoperability projects: 1) Administrative and Budgetary Support Subcommittee, 2) Technical Subcommittee, and 3) Operations Subcommittee.

The PMO is responsible for arranging and supporting meetings between State, local and Federal entities, as well as assisting in drafting a variety of memorandum of understanding (MOU). These agreements provide for a range of practices, from exchanging codes to sharing frequencies in times of emergencies to sharing tower infrastructure. Public safety non-governmental organizations (NGO) are also involved in policy development and outreach efforts. NGOs include, but are not limited to, hospitals, volunteer fire companies, utilities, Radio Amateur Communications Emergency Services (RACES), the American Red Cross, passenger and freight railroad, port facilities, and mass-transit entities. Table 2 outlines Maryland's goals and initiatives related to governance.

Table 2: Governance Goals and Initiatives

Governance Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
1. Strengthen and review regional inter and intra-state partnerships to validate existing membership and consider including additional stakeholders as applicable (e.g., public works, critical infrastructure, private sector, Maryland State Department of Education, Federal agencies)	1.1 Conduct regular outreach to additional stakeholders through the regional interoperability committees	State (PMO)	Short-term (monthly)
	1.2 Establish a statewide interoperability workshop with representation from all regional interoperability committees	State PMO	Summer 2014 – annually
	1.3 Leverage existing Governor’s Emergency Management Advisory Council (GEMAC) bi-monthly meetings for regional coordinators to engage private industry	Regional Interoperability Committees	July 2013
	1.4 Strengthen existing governance relationships with Delaware, Pennsylvania, Virginia, District of Columbia, West Virginia	State PMO; Regional Interoperability Committees	Annually
	1.5 Continued engagement with / participation in Federal interoperability initiatives	State PMO; Maryland Emergency Management Agency (MEMA); Regional Interoperability Committees; local representatives	Annually
2. Codify existing governance structure (existing by way of executive order) through legislation	2.1 Submitted to Governor’s office for consideration	State PMO	May 1, 2013
3. In partnership with local government, complete the last five regional interoperable radio communication networks in 2016 that provide first responders with	3.1 Implement Region 1: Baltimore City, Cecil and Kent Counties, Plus Partial Coverage in Anne Arundel, Baltimore and Hartford Counties	State PMO and local stakeholders	Completed in 2012
	3.2 Implement Region 2: Eastern Shore	State PMO and local stakeholders	2013
	3.3 Implement Region 3: Central	State PMO and local	2014

Governance Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
interoperable radio communications across county lines, within their region and on Maryland's waterways	Maryland Plus Completion of Coverage in Hartford, Baltimore, and Anne Arundel Counties	stakeholders	
	3.4 Implement Region 4: National Capital Region and Southern Maryland	State PMO and local stakeholders	2015
	3.5 Implement Region 5: Western Maryland	State PMO and local stakeholders	2016

5.2 Standard Operating Procedures (SOPs)

The SOP section of the SCIP identifies the framework and processes for developing and managing SOPs statewide. Maryland has several regional sets of SOPs for communications, including SOPs for each interoperability region in the State. The State also has SOPs that govern the use of the National Public Safety Planning Advisory Committee allocated 800 MHz channels (currently in revision), Mobile Command Post/Unit Mobilization, NCR Radio Cache Deployment, mutual aid channels, and Central Maryland Radio Tower "Sites on Wheels."

Mutual aid agreements with neighboring States are also common in Maryland for specific events and incidents in many jurisdictions. Agencies across the Eastern Shore of Maryland have mutual aid agreements with each other and with agencies in Delaware and Virginia. Maryland's counties in the NCR have mutual aid agreements with their counterparts in Washington, DC and Virginia, and counties in Western Maryland have mutual aid agreements with their public safety counterparts in Pennsylvania and West Virginia.

Additional work remains to address the need for SOPs in the future. Maryland seeks to identify a formal working group to addressing arising SOP needs and establish a repeatable process to streamline the creation of SOPs as needed.

Table 3 outlines Maryland's goals and initiatives for SOPs.

Table 3: Standard Operating Procedures Goals and Initiatives

Standard Operating Procedures Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
4. Establish and maintain a recurring statewide communications-	4.1 Identify need for specific SOGs	State PMO	September 2013
	4.2 Establishment of a formal working group to address the needs for SOGs, develop	SIEC	May 2013

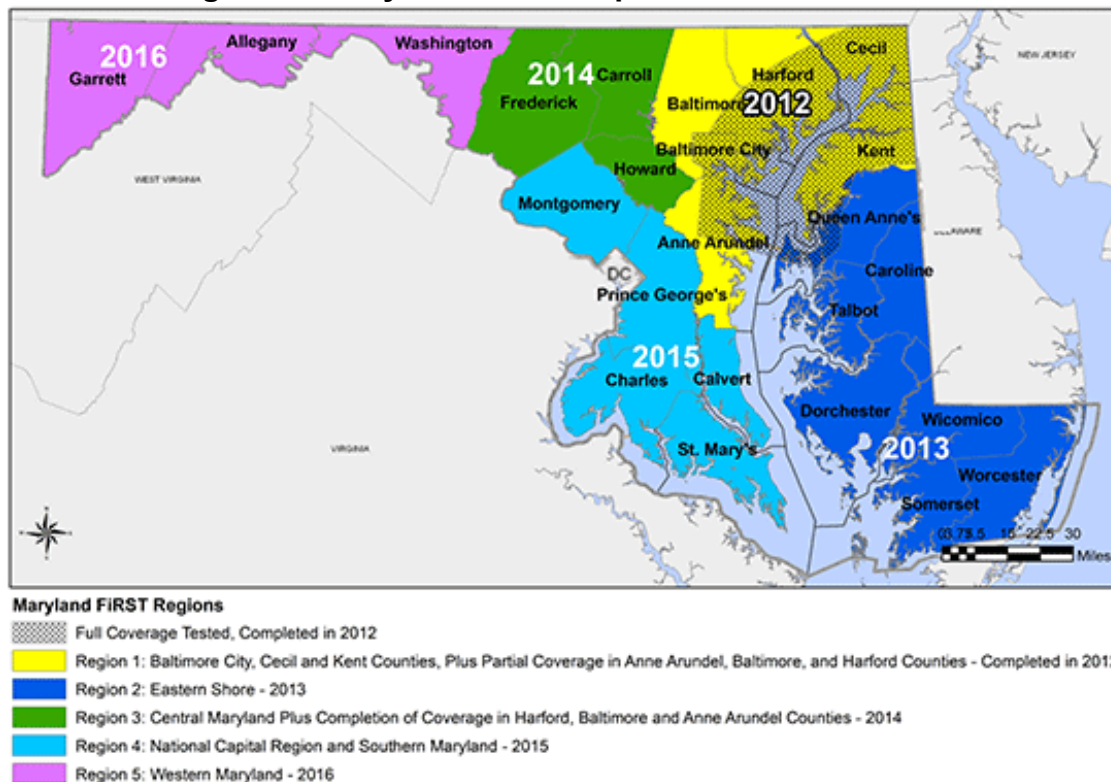
Standard Operating Procedures Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
related SOP / Standard Operating Guidelines (SOG) development process	SOGs, vet SOGs, and review SOGs as needed		
	4.3 Present SOG recommendations to the SIEC	State PMO	Ongoing as system needs are identified

5.3 Technology

The Technology section of the SCIP outlines Maryland's plan to maintain and upgrade existing technology; the roadmap to identify, develop, and implement new and emerging technology solutions; and the approach to survey and disseminate information on current and future technology solutions to ensure user needs are met.

The State's long-term strategy for statewide interoperable communications is currently being implemented with the construction and roll-out of a statewide P25 700 MHz system for voice communications to be used by all disciplines in State agencies, with local government agencies invited to join. Kent County, on the Eastern Shore, is the first county to join Maryland FiRST. The system is being constructed in five phases and, when completed by the end of 2016, will allow first responders in every region of the State to communicate with each other using a single radio. The Maryland Transportation Authority Police and the JFK Highway barrack of the Maryland State Police are the first to operate on the system in an area called Region 1-A. This is the Maryland Transportation Authority's (MDTA) service area and covers a portion of Central Maryland that is home to about one-third of the State's population and much of its critical infrastructure, including the Port of Baltimore, the Interstate 95 corridor, Baltimore Washington International (BWI) Airport, and the Chesapeake Bay Bridge. Region 1-A was put into operation October 15, 2012.

This figure below shows the project schedule by region with the entire system scheduled to be operational by the end of 2016.

Figure 4: Maryland FiRST Implementation Schedule

Regional radio systems in the State are used for interoperability and mutual aid communications as opposed to day-to-day operations. The significant regional interoperability networks operating in Maryland include the NCR, MESIN, CMARC, and SMIEC. The WAGIN is an Internet Protocol Interoperability and Collaboration System solution that has been recently completed in Western Maryland. The SMIEC network became operational in the fall of 2012.

Additionally, State agencies and many of the county jurisdictions have cooperated in the installation of a statewide digital microwave system overseen by the Maryland Institute for Emergency Medical Services Systems (MIEMSS). The microwave provides connectivity between the County Public Safety Answering Point (PSAP) locations and the many radio communications towers throughout the State. Bandwidth on the microwave is used to provide point-to-point connectivity for the State and County radio systems. The infrastructure includes towers, shelters, generators, and digital microwave and serves State agencies as well as County public safety communications systems. The Maryland Broadband project (One Maryland Broadband Network), managed by the Department of Information Technology, is providing fiber connectivity to MD FiRST tower sites and dispatch locations. This provides secure, reliable network connectivity to critical elements of the public safety communications network. Through a combination of fiber and microwave, nearly all of the MD FiRST remote sites have dual paths to assure a single failure will not impact the system operationally. Work is current underway on

Maryland's Eastern Shore to complete the second phase of the Statewide 700 MHz system and the One Maryland Broadband Network (OMBN) is coordinating fiber deployment to sites identified by the MD FiRST project for inclusion in this build-out.

Several data systems and projects are in various stages. Mobile data systems are widely used in the metropolitan areas; however, lack of funding is the primary obstacle for more widespread use. Most Maryland State law enforcement agencies use CapWIN, the mobile solution developed by the University of Maryland, DC and Virginia. The system will incorporate CapWIN and expand the ability to use mobile data for dispatch, information sharing and report writing. The network core for the Statewide CAD/RMS is currently being developed. A pilot CAD implementation is scheduled to be operational by early 2013. The aviation component that allows the Systems Communications Center (SYSCOM) and Maryland State Police (MSP) Aviation to track State Police Medevac helicopters was deployed in March 2012. Last year Maryland updated its State Geographic Information System (GIS) mapping data system called OSPREY. OSPREY uses next generation GIS technology to provide public safety and emergency managers with a variety of tools to monitor and manage emergencies. It was used extensively during the 2011 earthquake to monitor regions without power as well as to show flooding during the aftermath of Hurricane Irene. A public view was placed in service in time for both of these events (<http://mema.maryland.gov/current/Pages/Osprey.aspx>).

While working with FirstNet on the NPSBN, Maryland is also working with the States within FEMA Region III to develop plans for a regional deployment of the network. The consortium, known as MACINAC, has held several meetings with the Region III SWICs to assure interoperability is addressed during the planning and deployment of this new technology. In conjunction with OEC, Maryland held a Broadband workshop in March 2012 to introduce the new Broadband Network to State and local agencies and to begin planning our approach. We also conducted the OEC Broadband Planning Workshop in October, 2013 to inform stakeholders of the guidelines for requirements development.

Table 4 outlines Maryland's goals and initiatives for technology.

Table 4: Technology Goals and Initiatives

Technology Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
5. Add nationwide interoperability channels and establish related	5.1 Work with local partners to identify strategic locations	State PMO, local partners	

Technology Goals and Initiatives			
process or structure to tie the channels into the new statewide 700 megahertz (MHz) system	5.2 Final SOG on how nationwide interoperability channels will be used	State PMO; MEMA; Maryland State Police (MSP)	October 31, 2013
6. Provide Plan for access to the NPSBN for all Maryland first responders and emergency management partners	6.1 Secure grant funds to start planning for NPSBN in Maryland that serves the needs of local, State, Federal, and regional partners for daily operations and is capable of expanding to meet the needs of large scale events	State PMO	Funds awarded - August 2013

5.4 Training and Exercises

The Training and Exercises section of the SCIP explains Maryland's approach to ensure that emergency responders are familiar and remain familiar with interoperable and emergency communications equipment and procedures and are better prepared for responding to real-world events.

Maryland is developing interoperability-focused training and exercise plans that will be joined with the State's broader emergency response training and exercise program. It will build on resources, tools, and programs that already exist. These current capabilities include the Maryland Exercise and Training Integration Committee (MD ETIC), the annual Training and Exercise Planning Workshops and subsequent Three Year Exercise and Training Plan, current capability-based planning initiatives, the Homeland Security Exercise and Evaluation Program (HSEEP) to include the Corrective Action Program, and current programs to train and exercise components of the Statewide Communications System.

Table 5 outlines Maryland's goals and initiatives for training and exercises.

Table 5: Training and Exercises Goals and Initiatives

Training and Exercises Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
7. Coordinate the development of	7.1 Plan for development of regional interoperability exercise	MEMA Active Learning and	Fall 2013

Training and Exercises Goals and Initiatives			
regional communications-focused learning and exercises across the State	programs and coordination of regional and local exercises	Exercise Branch; SIEC Operations Committee	
	7.2 Plan for development of COML / COMT certification process	State PMO; MEMA	December 2014

5.5 Usage

The Usage section of the SCIP outlines the steps, plans, and policies to ensure responders adopt, utilize, and become familiar with the interoperable and emergency communications technologies, systems, and operating procedures that ensure the maintenance and establishment of interoperability in case of an incident.

The number of times that interoperability is required for regional incidents varies greatly across the State and from year to year. The most frequent need for interoperability occurs during major weather events. Additionally, real-world events, such as major sporting events, festivals, concerts, protests, National Special Security Events (e.g., Presidential Whistle-Stop Tour and Inauguration) and large-scale incidents like the Washington, D.C. sniper attacks, remind leaders of the importance of interoperability and force agencies to explore continual improvements.

Table 6 outlines Maryland's goals and initiatives for usage.

Table 6: Usage Goals and Initiatives

Usage Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
8. Encourage familiarity of communications systems (e.g., 700 MHz system), interoperability technology, and emerging technologies	8.1 Conduct regular SIEC and PSC meetings	State PMO	Reviewed on an annual basis
	8.2 Revise existing interoperability website. [Website could contain communications tools, educational and support materials, and PowerPoint presentations]	State PMO	June 30, 2013 (updates will be ongoing past completion date)
	8.3 Distribute 700 MHz system progress reports	State PMO	Quarterly (and as needed)
9. Enhance capabilities to share communications	9.1 Continued statewide support/promotion of existing information sharing systems (i.e., WebEOC)	MEMA and other existing system owners (with support from State PMO)	January 2013 (annual updates)

Usage Goals and Initiatives			
-related emergency information in real time	9.2 Expand the use of existing state notification systems for communications and radio system managers	MEMA	December 2013 (annual updates)

5.6 Outreach and Information Sharing

The Outreach and Information Sharing section of the SCIP outlines Maryland's approach for building a coalition of individuals and emergency response organizations statewide to support the SCIP vision and for promoting common emergency communications initiatives.

Maryland has made it a priority to promote interoperable communications. At the State level, the SIEC developed an outreach component. Every locality across the State has been made aware of the importance of interoperability, as well as the statewide interoperability vision and its eventual capabilities. Additionally, a representative from each of Maryland's five interoperability regions has been appointed by the Governor to a seat on the SIEC to bring expert local perspective and input to State projects. In the past year, interoperability leadership has briefed members of the legislature, representatives from every county, every State agency involved with radio communications, and NGO representatives from every spectrum of public safety and emergency management representation. On local levels, interoperability is addressed during joint exercises, radio committee meetings, and training sessions.

Outreach and information sharing has been identified by Maryland has an opportunity for improvement, primarily due to a shortage of stakeholders carrying the weight of outreach and information sharing efforts. The State plans to conduct enhanced outreach to educate stakeholders on the State's new statewide 700 MHz system, as well as through the development of a more broad interoperability communications website (for more information, see *Usage Goals and Initiatives* in section 5.5).

Table 7 outlines Maryland's goals and initiatives for outreach and information sharing.

Table 7: Outreach and Information Sharing Goals and Initiatives

Outreach and Information Sharing Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
10. Working in partnership with local jurisdictions and other mutual aid partners, Maryland FiRST is identifying and providing access to an unprecedented number of critical radio channels across agency and county lines	10.1 Monthly PSC meetings to share information about MD FiRST, outreach meeting with State and local agencies 10.2 MD FiRST Operations Committee formed to develop Statewide Maryland Assistance Channel (MAC) and other SOPs	State PMO	- Phase 1 (Maryland Transportation Authority, MSP) Completed - Phase 2 (all other applicable State agencies) Ongoing

5.7 Life Cycle Funding

The Life Cycle Funding section of the SCIP outlines Maryland's plan to fund existing and future interoperable and emergency communications priorities. Funding is a major priority in the State of Maryland – primarily due to the elimination of a significant portion of grant funds. Specifically, Maryland has identified a need for funding to address the long-term viability of legacy regional communications systems, ongoing maintenance and system administration costs of the new statewide 700 MHz system once the current maintenance contract with Motorola expires in 2015, and training and exercise needs.

Table 8 outlines Maryland's goals and initiatives for life cycle funding.

Table 8: Life Cycle Funding Goals and Initiatives

Life Cycle Funding Goals and Initiatives			
Goals	Initiatives	Owner	Planned Completion
11. Invest to build a state-of-the-art computer aided dispatch and records management (CAD/RMS) system for Maryland's State law enforcement agencies and share real-time data on emergency service dispatches and critical records with local jurisdictions	11.1 Initiative	MSP CAD Steering Committee	December, 2014
12. Develop a process to establish a long-term funding plan for the operations maintenance and system administration of the 700 MHz System and current LMR systems while addressing the long-term needs of the state (Life Cycle Funding)	12.1 Governor has sponsored legislation to create a Radio Control Board to develop long-term funding plan for communications needs	Radio Control Board	December 13, 2014

6. IMPLEMENTATION

6.1 Management of Success

The Management of Success section describes the iterative, repeatable method Maryland will follow to add, update and refine the measures of success.

Maryland already conducts a measurement of success evaluation of interoperable communications goals in coordination with the governor's office. The tool Maryland uses for the evaluation of its interoperability goals and objectives is called StateStat – a performance-measurement and management tool implemented by the governor's office. The table below identifies current measures of success are reported in reference to the first phase of the Maryland FiRST system as of December 2012. The same measures will be used for each phase of the build out of the system.

Table 9: Maryland FiRST Phase 1 Measures of Success

December 2012							
			Start		Complete		
	Completed	Total	Estimated	Actual	Estimated	Actual	
1 Radio Towers Upgraded	24	24	February 2012	February 2012	May 2012	May 2012	
2 Coverage Area Tested	6,000	6,000	June 2012	June 2012	August 2012	August 2012	
3 In-Building Facilities	100	100	August, 2012	August, 2012	September, 2012	September, 2012	
4 New Radios Purchased	1,451	1,451	July 2011	July 2011	July 2012	July 2012	
5 MOUs Completed	6	6	February, 2012	February 2012	June, 2012	January, 2013	
6 Fleetmaps Completed	4	4	February, 2012	February 2012	June, 2012	September, 2012	
7 Cut Overs Completed	7	7	November 2012	October 2012	December 2012	December 2012	
8 Funds Spent (Build Out +	\$55,237,952.72	\$55,237,952.72	December 2010	December 2010	December 2010	December 2012	

Through a process of continuous evaluation of State performance at the highest level, including by way of bi-weekly meetings of the SWIC with the governor and the governor's executive staff and the submission of weekly comprehensive executive briefings, overall performance trends, progress, and priority initiatives are analyzed and evaluated. Maryland will continue to follow this successful model to evaluate the SCIP Goals and Initiatives included in the State's 2013 SCIP.

6.2 Strategic Plan Review

The Strategic Plan Review section outlines the process Maryland will use to conduct reviews of the SCIP to ensure it is up to date and aligned with the changing internal and external interoperable and emergency communications environment as well as to track and report progress against the defined initiatives and measures of success.

The SWIC will review and revise the initial draft of the revised 2013 SCIP. The document will then be sent to members of the PSC and the SIEC during a 30 day review period to collect input from all applicable stakeholders.

Maryland conducts a review of SCIP on an annual basis and updates goals and initiatives accordingly to ensure the plan is up to date and aligns with the changing internal and external interoperable and emergency communications environment. This revised SCIP will have a lifecycle of 4 years and will undergo a revision process in 2017.

In addition, Maryland will develop the SCIP APR on an annual basis starting in 2014 and prepare for submission by the specified deadline. The State PMO Office (SWIC) will collect input on the annual APR submission from a broad range of stakeholders.

7. REFERENCE DOCUMENTS

Table 10: SCIP Reference Documents

Title	Description	Document
<i>PMO Website</i>	<i>The Interoperability PMO maintains a web site that lists the various activities and progress towards our goals.</i>	<i>http://pilot.doit.maryland.gov/marylandfirst/Pages/default.aspx</i>

APPENDIX A: LIST OF ACRONYMS

APR	Annual Progress Report
BWI	Baltimore Washington International (Airport)
CAD	Computer Aided Dispatch
CMARC	Central Maryland Area Radio Communications System
CAPWIN	Capital Wireless Information Net
COML	Communications Unit Leader
COMT	Communications Unit Technician
DHS	U.S. Department of Homeland Security
EDACS	Enhanced Digital Access Communications System
FCC	Federal Communications Commission
FY	Fiscal Year
FiRST	First Responder Interoperable Radio System Team
FirstNet	First Responder Network Authority
FOG	Field Operations Guide
GEMAC	Governor's Emergency Management Advisory Council
GIS	Geographic Information Systems
GOHS	Governor's Office of Homeland Security
HSEEP	Homeland Security Exercise and Evaluation Program
MHz	Megahertz
LMR	Land Mobile Radio
MACINAC	Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications
MD ETIC	Maryland Exercise and Training Integration Committee
MDTA	Maryland Transportation Authority
MEMA	Maryland Emergency Management Agency
MESIN	Maryland Eastern Shore Interoperability Network
MIEMSS	Maryland Institute for Emergency Medical Services Systems
MOU	Memorandum of Understanding
MSP	Maryland State Police
NCR	National Capital Region
NECP	National Emergency Communications Plan

NG911	Next Generation 911
NIMS	National Incident Management System
NGO	Non-Governmental Organization
NPSBN	Nationwide Public Safety Broadband Network
OEC	Office of Emergency Communications
OMBN	One Maryland Broadband Network
PMO	Program Management Office
PPD	Presidential Policy Directive
PSAP	Public Safety Answering Point
PSC	Practitioner Steering Committee
RACES	Radio Amateur Communications Emergency Services
RECCWG	Regional Emergency Communications Coordination Working Group
RMS	Records Management System
SCIP	Statewide Communication Interoperability Plan
SIEC	Statewide Interoperability Executive Committee
SMIEC	Southern Maryland Interoperable Communications
SOG	Standard Operating Guideline
SOP	Standard Operating Procedure
SWIC	Statewide Interoperability Coordinator
SYSCOM	Systems Communications Center
TEP	Training and Exercise Plan
TEPW	Training and Exercise Planning Workshop
TICP	Tactical Interoperable Communications Plan
UHF	Ultra High Frequency
VHF	Very High Frequency
WAGIN	Washington Allegany Garrett Interoperability Network
WebEOC	Web Based Emergency Operations Center