



Commission to Advance NG911 Across Maryland
Year Three Report
“Strengthening the 9-1-1 System in Maryland”

Submitted December 2020

Table of Contents

Letter from the Commission Chair.....	1
Executive Summary.....	3
The Problem	3
Maryland Actions.....	3
Next Steps.....	4
Recommendations.....	4
1 Introduction.....	9
1.1 Overview of NG911.....	9
2 Terminology.....	11
3 Commission Background	12
3.1 Year One Commission Work	12
3.2 Year Two Commission Work	14
3.3 Year Three Commission Work.....	14
3.4 Maryland 9-1-1 Structure and Actions.....	15
4 Finance & Structure.....	15
4.1 Background	15
4.2 2020 Priorities	16
4.2.1 Financial Impact	16
4.2.1.1 Carrier Audit Status.....	17
4.2.2 Structure of the 9-1-1 Board	18
4.2.2.1 Background & Overview	18
4.2.3 Placement of the 9-1-1 Board	20
4.2.4 Statewide 3-1-1 System	21
5 Oversight & Accountability.....	22
5.1 Background	22
5.2 2020 Priorities	22
5.2.1 9-1-1 Board Job Classification and Staff Salary	23
5.2.2 Enforcement of Kari’s Law	24
5.2.3 9-1-1 Outage Notification	25
6 Staffing & Training.....	27
6.1 Background	27
6.2 2020 Priorities	27
6.2.1 Training Standards	27
6.2.1.1 Resiliency.....	27
6.2.1.2 Operational, Social, Technological, and Cultural	28
6.2.2 Workers’ Compensation	29
6.2.3 Recruiting	30

6.2.3.1	Recruitment Support.....	30
6.2.3.2	Funding Recruitment	31
7	Technology & Cybersecurity.....	31
7.1	Background	31
7.2	2020 Priorities	31
7.2.1	Geographic Information Systems.....	31
7.2.1.1	Jurisdictional Agreements.....	32
7.2.1.2	GIS Coordination	33
7.2.1.3	GIS Standardization.....	33
7.2.1.4	Location Accuracy	33
7.2.2	Remote Call-Taking Capabilities.....	34
7.2.3	Domestic Violence Support.....	35
7.2.4	Swatting Bill Amendments.....	35
8	Commission Recommendations.....	36
9	Conclusion	40
	Appendix A: Glossary of Terms	46
	Appendix B: Maryland NG911 Vendor Contract Status by County.....	49
	Appendix C: Letter to the Maryland Comptroller Re: Audits.....	50
	Appendix D: State 9-1-1 Board Locations	51
	Appendix E: 9-1-1 Board Responsibilities and Salary Comparison	52
	Appendix F: Letter to the Department of Budget & Management Re: 9-1-1 Board Staff Job Classifications and Salaries	55
	Appendix G: Letter to the Federal Communications Commission Re: Outage Notification.....	58
	Appendix H: Letter to the Federal Communications Commission Re: Phones for Domestic Violence Victims ...	61

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Re: Next Generation 9-1-1 Commission's 3rd Annual Report per Chapter 302, 2018 (MSAR #11656)

Inspired by the death of Rockville activist and District 17 resident Carl Henn when 9-1-1 failed, I have chaired the Maryland Next Generation 9-1-1 (NG911) Commission for the past three years. We previously released two annual reports in [2018](#) and [2019](#) that were incorporated into nine laws with bipartisan support. As a result of our efforts, Maryland is a national leader as we transition to NG911. As my Senate colleague Ed Reilly frequently says, "Our 9-1-1 system is one of the most important services the government provides. It can literally mean the difference between life and death."

On August 20th, 2020 Maryland launched a statewide "text to 9-1-1" program to request emergency assistance. Those in need of police, fire, or paramedics should always **call** if they can but can now **text** if they can't. With the assistance and leadership of the Maryland Association of Counties' Emergency Communications Committee, "all boats rose together," leaving no jurisdiction behind.

As you'll see in this 65-page report, there are 22 recommendations, many of which will be included in 2021 legislation. We tried to write in plain English so as to be accessible even to those who are not familiar with 9-1-1 jargon. While most acronyms are translated, we've also included a glossary.

Issues were debated and approved by our four subcommittees: Finance & Structure; Oversight & Accountability; Staffing & Training; and Cybersecurity & Technology, and then voted on by the full Commission. Among the highlights are:

- Requiring training for 9-1-1 Specialists regarding psychological well-being and resilience;
- Conducting a study to determine whether Workers' Compensation should be extended to 9-1-1 Specialists for exposure to trauma;
- Modifying the membership of the 9-1-1 Board to include specified NG911 experts;
- Authorizing the 9-1-1 Board to fund recruitment programs for 9-1-1 Specialists;

- Encouraging organizations assisting domestic violence victims to provide cell phones with full-service access;
- Ensuring that county NG911 contracts require providers to use standardized geographic data;
- Allowing individual counties to designate enforcement authority for Kari's Law;
- Updating procedures to notify 9-1-1 centers, the 9-1-1 Board, and the public during certain 9-1-1 outages; and
- Shifting the Maryland Emergency Management Agency (MEMA) to a Cabinet-level entity and housing the 9-1-1 Board within MEMA.

The [Congressional NG911 Caucus](#) is another partner in our policymaking. I am gratified that seven of our ten federal legislators are members. Thanks to Senator Van Hollen and Representatives Brown, Mfume, Raskin, Ruppersberger, Sarbanes, and Trone for their awareness and support. I am hopeful that Maryland will be the first state to have its entire delegation join the Caucus.

Vice Chair Steve Souder continues to be an invaluable partner and deserves special acknowledgment for his 53 years of 9-1-1 expertise. I am deeply grateful to the Commissioners and observers; subcommittee Chairs Richard Brooks, Randy Cunningham, and Charlynn Flaherty; my legislative colleagues Senator Ed Reilly and Delegates Michael Jackson and Susan Krebs; Kevin Kinnally of the [Maryland Association of Counties](#); [Mission Critical Partners](#) and other consultants; my legislative staff; industry experts; and the devoted public servants who respond to 9-1-1 calls every day.

In our third year, some Commissioners had a “shift change.” Cybersecurity & Technology Chair Bill Ferretti retired as Montgomery County’s 9-1-1 Emergency Communications Center Director. Wayne Darrell, Emergency Services Director at Kent County, stepped down from the Commission. Oversight & Accountability Chair Richard Brooks retired as Cecil County’s Director of Emergency Services on December 4th. I wish them well in their next chapter; their public safety expertise will be missed.

Despite the progress that has been made to improve our 9-1-1 emergency response systems, there is more work to be done. [SB47/HB44](#) extended the Commission’s tenure for an additional two years, giving us more time to ensure the success of Next Generation 9-1-1.

Please don’t hesitate to contact me if you have any questions or need more information. We are united in our commitment to saving lives as we modernize Maryland’s emergency services.

Respectfully submitted,

Cheryl C. Kagan

Cheryl C. Kagan
 Senator, District 17 (Rockville & Gaithersburg)
 NG911 Commission Chair

PS: If you want to learn more about Steve Souder, he was a guest on my “Kibbitzing with Kagan” podcast. You can watch the episode here: <https://youtu.be/nnMaX9cmtDE>.

Executive Summary

The Commission to Advance Next Generation 9-1-1 Across Maryland “All Boats Rise Together”

The Problem

Technology is changing at a pace that is far ahead of 9-1-1. Maryland residents use their wireless devices to place calls; take pictures; watch videos; find rides; order pizza; etc., so it is natural that they expect 9-1-1 to have the same capabilities—especially the ability to easily locate a caller. Unfortunately, this is far from true and 9-1-1 has a long path ahead before these capabilities are commonplace.

The infrastructure supporting 9-1-1 is aging and needs to be replaced by Next Generation 9-1-1 (NG911). These systems are Internet Protocol (IP)-based and broadband-enabled. They provide Public Safety Answering Points (PSAPs) with the ability to improve emergency response capabilities by receiving images, videos, and data. This information is critical to providing Public Safety Communications Specialists (9-1-1 Specialists) with enhanced capabilities and improved situational awareness when helping individuals in need.

In August of 2020, Maryland took a big step with the statewide launch of text-to-9-1-1. While calling 9-1-1 is the best method for requesting help, residents and visitors can now text when calling is not an option. In addition, all 24 PSAPs are progressing with efforts to deploy NG911. In Maryland, NG911 is being deployed on a county-by-county basis. To date, 18 of the 24 (23 counties and Baltimore City) PSAPs have selected a vendor to provide Next Generation Core Services (NGCS) and are moving forward with implementation. The remaining six have a plan for procurement and vendor selection in 2021. See Appendix B for details by county. These are two BIG steps to advancing NG911; however, there is still much work to do to ensure the foundational elements—funding, oversight, staffing, training and technology—are in place to adequately support the transition and sustain ongoing operations.

Maryland Actions

In 2018, the Commission to Advance Next Generation 9-1-1 Across Maryland (the Commission) was established by law to facilitate the transition to NG911 statewide. This dedicated group worked tirelessly to address issues and develop recommendations integral to furthering NG911 in Maryland. The Commission’s nationally recognized efforts resulted in 2019 legislation that laid an important foundation for Year Two of the Commission’s work, and 2020 legislation that further shaped 9-1-1 in Maryland.

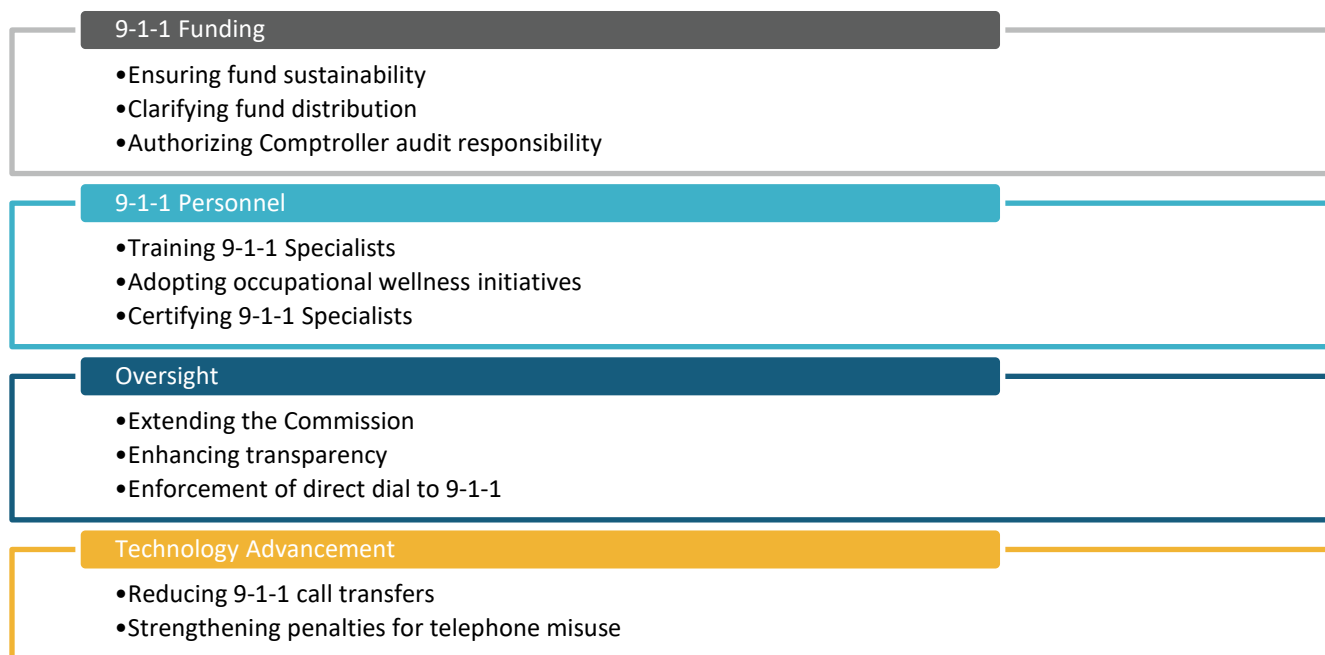


Figure 1: 2020 Legislative Efforts

Next Steps

In 2020 (Year Three), the Commission reconvened to focus on reinforcing the 9-1-1 framework in Maryland. The Commission began in the midst of the coronavirus (COVID-19), and while it presented some challenges, it did not deter the group's effort. Some priority issues the Commission addressed were understanding the impacts of increased funding; updating representation and placement of the 9-1-1 Board to enable them to continue their work in advancing NG911; providing support and care for job-related stress to improve the resiliency of 9-1-1 Specialists; enabling remote support that allows continued operations outside the PSAP; and utilizing technology and geographic information systems (GIS) to help improve location accuracy with 9-1-1 requests for assistance.

The Commission addressed these issues through four subcommittees: Finance & Structure; Staffing & Training; Technology & Cybersecurity; and Oversight & Accountability.

Recommendations

The 2020 Commission has approved 22¹ recommendations to help advance the life-saving missions of the PSAPs and 9-1-1 Specialists serving Maryland's residents and visitors. Each item underwent a thorough review

¹ Individuals with a potential conflict of interest on a recommendation recused themselves from voting on some of these recommendations.

and voting process that began in the subcommittees. Once approved there, recommendations were brought to the full Commission²³, where members could question and amend the wording.

Number	Category	Commission Recommendations
1	Financials	To accurately assess the impact of the revised funding on our counties, additional budget information will need to be gathered during PSAP inspections in 2021.
2	Audits	The Finance & Structure Subcommittee noted the importance of the Comptroller's office conducting audit activity. The four legislators serving on the Commission sent a letter to the Comptroller emphasizing the need to proceed. The Commission is encouraged that on November 4, 2020, the Comptroller indicated a plan to notify the Governor of their intention to begin the audit of the 9-1-1 fees and would commence such work 30 days following that notice.
3*	Structure of the 9-1-1 Board	<p>Add or change the following membership of the Maryland 9-1-1 Board:</p> <ul style="list-style-type: none"> • Change county representatives to PSAP directors and increase from two to four. The directors shall represent the four regions of the state, one each: National Capital Region (NCR), Central Region, Western Region, and the Eastern Shore Communications Alliance (ESCA); • Add one representative with cybersecurity expertise; • Add one representative with county finance expertise; • Add one State accessibility representative appointed by the Maryland Department of Disabilities; • Add one county 9-1-1 Specialist; • Add one representative from the ECC of MACo; • Change the term "police services" to "law enforcement services;" • Change the wireline and wireless industry representatives to non-voting, advisory members; and • Reduce emergency management representation to one voting member and one non-voting advisory representative from the Maryland Emergency Management Agency (MEMA).

² October 22, 2020 Full Commission Meeting: <https://youtu.be/OQEhr37CAoM>

³ November 18, 2020 Full Commission Meeting:

Number	Category	Commission Recommendations
4*	Placement of the 9-1-1 Board	The Commission recommends that MEMA become a Cabinet-level entity reporting directly to the Governor. In conjunction with this shift, the Commission recommends that the 9-1-1 Board be housed within MEMA to strengthen the support to local jurisdictions before, during, and after crises. The intent of the Commission is that the 9-1-1 Board retain its autonomy in terms of authority, enforcement, structure, training, and funding—including the management and distribution of grants.
5*	Statewide 3-1-1 System	Explore a Maryland initiative to create a Statewide 3-1-1 system. This will help: <ul style="list-style-type: none"> • Provide a consistent level of customer service throughout Maryland; • Potentially reduce the number of calls to 9-1-1 for administrative or non-emergency requests for community-related information; • Offer a potential career path to the 9-1-1 Specialist profession and a possible retirement path or light duty opportunity for those in the profession; • Relieve administrative calls to local government offices, freeing time to allow a focus directly on their jobs; • Observe public query trends; and • Contribute to consistent and coordinated government public information messaging.
6	9-1-1 Board Job Classification and Salary	The four legislators serving on the Commission sent a letter on behalf of the Commission supporting a revision to the job classification and an increase in salary for the 9-1-1 Board Executive Director, Deputy Executive Director, and Training Coordinator positions to be more in line with similar positions throughout the country.
7*	Kari's Law	A County shall designate enforcement authority for this statute. Absent any designated County authority, the Office of the State Fire Marshal, Assistant State Fire Marshals, and Special Assistant State Fire Marshals shall have the enforcement authority over this statute.
8*	Outage Notification	The following is proposed: <ul style="list-style-type: none"> • The State shall require carriers to notify the PSAP(s) and the Maryland Joint Operations Center (MJOC) of a 9-1-1 outage lasting more than thirty (30) minutes; • The 9-1-1 Board shall create a standard operating procedure for the MJOC to follow regarding notifications;

Number	Category	Commission Recommendations
		<ul style="list-style-type: none"> • Telecommunications providers are required to provide a report at the next 9-1-1 Board meeting after a 9-1-1 outage lasting longer than thirty (30) minutes; and • The 9-1-1 Board shall create a Crisis Communications Plan template for those PSAPs without a plan in place.
9	Outage Notification	The Commission sent a letter to the Federal Communications Commission (FCC) urging enforcement of the carrier notification requirement and access to the Network Outage Reporting System (NORS) and Disaster Information Reporting System (DIRS).
10*	Training Standards	The training programs mandated in the Code of Maryland Regulations (COMAR) chapter 12.11.3.10 shall be expanded to include psychological well-being and resilience as a required training topic.
11	Training Standards	As operational, social, technical, and cultural issues arise or evolve, the 9-1-1 Board shall establish new training criteria for 9-1-1 Specialists on an <i>ad hoc</i> basis; fund initial and continuing education training on these topics; and audit PSAPs at the annual inspection for compliance.
12*	Workers' Compensation	The State shall conduct a study on current Maryland Workers' Compensation laws to understand whether benefits should be awarded to 9-1-1 Specialists for the direct or indirect exposure to audible or visual trauma. This would be similar to claims that can already be filed by other public safety personnel for job-related illness. The study shall determine whether the audible or visual trauma culminates in impaired mental wellness, emotional awareness, or cognitive functioning. Study results will be valuable for discussion of the merit and cost of extending coverage for Maryland's 9-1-1 Specialists.
13	Recruitment	To help address the persistent shortage of 9-1-1 Specialists in Maryland's 24 PSAPs, the 9-1-1 Board will create an information hub offering recruiting guidance, best practices, and strategies; fund recruitment projects for 9-1-1 Specialists; and identify a centralized website that links to job opportunities for 9-1-1 Specialists in the state.
14*	Recruitment	Update 9-1-1 Board eligible expenditures to authorize 9-1-1 Specialist recruitment activities.
15	GIS	<p>The Commission encourages jurisdictions to create or modify existing memorandums of agreement (MOAs) between entities:</p> <ul style="list-style-type: none"> • To include geographic information systems (GIS) data maintenance accuracy; • To update scheduling standards necessary to support NG911; and

Number	Category	Commission Recommendations
		<ul style="list-style-type: none"> Within their service area (i.e., municipalities, county, State, federal, and college campuses) that are involved in the required GIS data creation and maintenance.
16	GIS	<p>To preserve operational integrity with multiple emergency services IP network (ESInet) vendors, the Commission recommends that jurisdictions:</p> <ul style="list-style-type: none"> Continue to coordinate with the Maryland Department of Information Technology (DoIT); and Provide their NG911 GIS data for statewide validation prior to updating any GIS data with ESInet providers.
17	GIS	Counties entering contracts for Next Generation Core Services (NGCS) shall require that NG911 service providers accept the National Emergency Number Association (NENA) i3 standardized and validated data.
18	GIS	DoIT, in coordination with the county jurisdictions, shall develop and distribute a statewide sustainable, standardized structure for each value-added GIS dataset identified by the MACo ECC as beneficial to improving emergency incident location.
19#	Remote Call-Taking Capabilities	Expand broadband infrastructure in underserved rural areas to benefit public safety remote emergency call-taking and dispatching capabilities.
20	Victim Support	Encourage programs that offer mobile devices to domestic violence victims and any other vulnerable populations to provide phones with full-service access to voice and data.
21	Victim Support	Urge the FCC to revisit efforts to address the use of non-service initialized (NSI) phones and explore alternatives such as low-cost options for wireless service.
22*	Swatting	<p>Update the 2020 version SB 837/HB 1024 to include a definition of “equipment” and “data file” as a possible use of malicious intent.</p> <ul style="list-style-type: none"> Equipment is any device that can contact 9-1-1 (i.e., computer, application, peripheral device, etc.) Include “data file” with “telephone facilities or equipment” in the list of possible uses of malicious intent.

* These recommendations require legislative change.

The Commission is supporting MACo’s legislative effort on this topic.

1 Introduction

1.1 Overview of NG911

On February 16, 1968, the first 9-1-1 call was made in Haleyville, Alabama. Since then, 9-1-1 has become the universal number for requesting emergency assistance. Approximately 8,500 Maryland residents and visitors contact 9-1-1 each day. It is imperative that the 9-1-1 system works and keeps pace with today's evolving technology. Unfortunately, the system has lagged, and the capabilities do not always meet the expectations of those requesting emergency assistance.

The legacy 9-1-1 infrastructure, still in place across the nation and Maryland, uses antiquated systems and technology that are nearing end of life. These systems require a transition to Next Generation 9-1-1 (NG911) technology utilizing an Emergency Services Internet Protocol (IP) network (ESInet) for call transport and Next Generation Core Services (NGCS) for location identification and call routing.

Through the work of the Commission to Advance Next Generation 9-1-1 Across Maryland (the Commission), the Maryland 9-1-1 Board (9-1-1 Board)⁴, the Emergency Communications Committee (ECC), and the Maryland Association of Counties (MACo), Maryland is making great strides toward advancing NG911 across the state. As illustrated in the 2018 (Year One) and 2019 (Year Two) Commission Reports, NG911 creates a robust and flexible infrastructure that will deliver 9-1-1 service today and into the future. It will process all call types—including voice, text-to-9-1-1, and crash notification—as well as photos and videos. The image below demonstrates the progression of 9-1-1 in a constantly evolving, technologically savvy society.

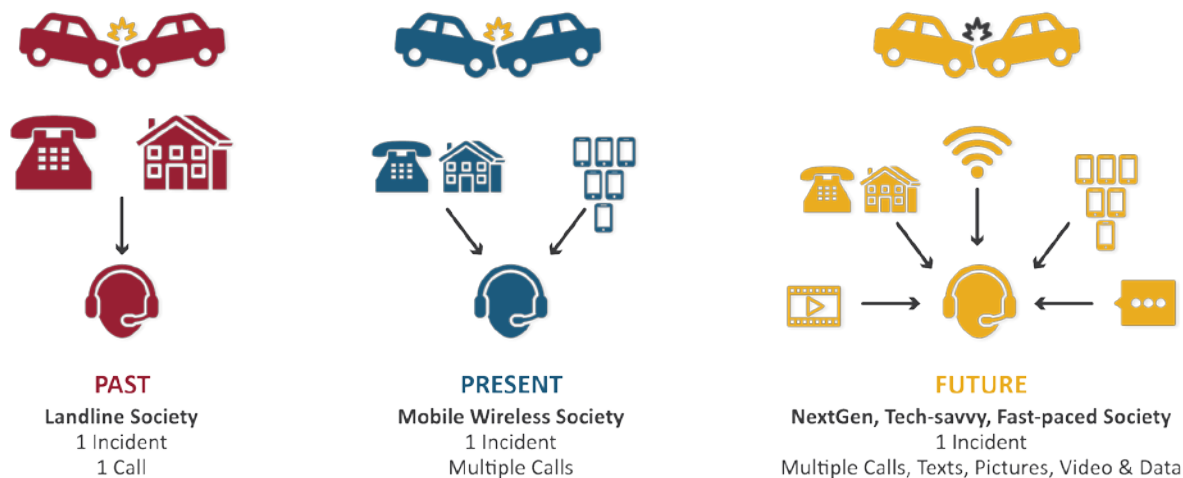


Figure 1: 9-1-1 Technology Progression

⁴ The Maryland 9-1-1 Board, formerly known as the Emergency Numbers Systems Board (changed in law in 2020), is responsible for distributing State 9-1-1 funding and coordinating the installation and enhancement of county 9-1-1 emergency systems.

The Commission was established in 2018 to identify the steps needed to help advance the implementation of NG911 across the state. Commission members, comprised of 9-1-1 professionals, government representatives, industry and technology experts, and legislators, have worked diligently over the past three years to recognize changes and legislative action needed to help evolve 9-1-1 service in Maryland.

YEAR THREE – CONTINUING TO STRENGTHEN 9-1-1 IN MARYLAND

On August 20, 2020, all 24 Public Safety Answering Points (PSAPs) in Maryland announced the ability to take requests for assistance using text-to-9-1-1. This program was completed after years of effort and helped further advance PSAPs' support for Maryland residents. Senator Kagan and the Commission are committed to the principle that "all boats rise together." This accomplishment allows a resident or visitor located anywhere in the state to now text 9-1-1 – enabling the message – *call when you can, text when you can't*.

***One highlight of
2020 was the
statewide launch of
text-to-9-1-1***

In 2020, the Commission continued its important work as a result of a two-year extension addressed by Senate Bill (SB) 47 and House Bill (HB) 44. The Commission still has considerable work ahead to further advance NG911 in Maryland. The year brought many challenges due to the outbreak of Coronavirus (COVID-19), including an abbreviated legislative session. Despite this, the Commission's recommendations resulted in four additional bills being passed:

- SB 47/HB 44 – extending the Commission for two years;
- SB 61/HB 6 – authorizing the Comptroller's Office to audit 9-1-1 fees;
- SB 838/HB 934 – the Omnibus bill from the work of the Commission addressing such items as 9-1-1 fee use and diversion, 9-1-1 Specialist training and support, and direct dialing of 9-1-1; and
- SB 363/934 – expanding the Open Meetings Act to increase transparency.

COVID-19 also created issues in the PSAPs, which forced the need to quickly identify emergency plans to continue operations in the face of the pandemic. The work done by the ECC and the 9-1-1 Board to procure remote call-taking equipment for the PSAPs helped immediate operational needs. However, it also highlighted the reality of limited broadband internet Statewide and the importance of expanding access to allow for remote support. 9-1-1 Specialists, also known as 9-1-1 call-takers or telecommunicators, answering emergency requests for assistance need remote call-taking capabilities to continue operations and maintain 9-1-1 service during operational crises.

9-1-1 Specialists, often recognized as the *first, First Responders*, are silently suffering as a result of their duties. We MUST support their mental health needs by expanding training and exploring workers' compensation laws. PSAPs are struggling to keep people in this position, so there is a dire need to identify the right people for the job; recognize the strain of the position; and help their well-being.

As NG911 is being implemented, it highlights the importance of geographical information system (GIS) data validation, consistency, and advancements. GIS data is used to identify call-routing decisions as 9-1-1 Specialists determine the location of the caller. Statewide support and county-to-county cooperation are integral to the successful management of this data, which should help avoid tragic delays in locating those in need of help.

Technology, training, and operations are all supported by 9-1-1 funding. In 2019 with the passing of “Carl Henn’s Law,” the State 9-1-1 fee increased. This also expanded the 9-1-1 Board’s list of eligible expenditures. In 2020, the 9-1-1 Board increased project funding for the PSAPs; however, additional time and financial data are needed to help evaluate the operational impact of the 9-1-1 fee adjustments.

This Commission report (Year Three) builds upon years one and two, enhancing the additional technology, staffing, finance, structure, and oversight needed to advance NG911 in Maryland.

2 Terminology

Throughout this report, there are terms common in the public safety community. Some are highlighted below; a full glossary can be found in Appendix A.

Table 1: Year Three Report Terminology

Terminology	Definition
9-1-1 Request for Assistance	The means by which the public communicates a need for help. With the current “legacy system,” such requests have been solely via a telephone call, but with NG911, individuals will also use other technologies.
County	Maryland’s 23 counties and the independent jurisdiction of Baltimore City.
Legacy Technology	For this report, “legacy technology” is the traditional 9-1-1 infrastructure currently used by PSAPs and 9-1-1 service providers.
Maryland 9-1-1 Board [Formerly known as the Emergency Number Systems Board (ENSB)]	The entity that distributes funding and coordinates installation and enhancement of county 9-1-1 emergency systems. It issues guidelines and evaluates county plans for these systems; performs PSAP inspections; oversees auditing of 9-1-1 Trust Fund accounts; and sets criteria for reimbursing counties.
Maryland Association of Counties (MACo)	A nonprofit, nonpartisan organization that serves Maryland’s 23 counties and Baltimore City by advocating for the needs of local government.
Maryland Emergency Management Agency (MEMA)	The government agency that provides Maryland residents, organizations, and emergency management partners with expertise, programmatic activities, and leadership supporting resiliency across Maryland.

Terminology	Definition
Maryland Joint Operations Center (MJOC)	A Statewide communications hub for emergency responders and local emergency management run 24x7x365 by MEMA.
Next Generation 9-1-1 (NG911)	An Internet Protocol (IP)-based system comprised of managed Emergency Services IP networks (ESInets), hardware, software, and databases that replicate traditional 9-1-1 service and enables enhanced capabilities for PSAPs (i.e. data, video, images, text).
Public Safety Answering Point (PSAP)	A Center that receives 9-1-1 requests for assistance and processes them according to established protocols and operational policies. There are 24 primary PSAPs that are eligible for funding in Maryland.
9-1-1 Specialist	Professionals within a PSAP responsible for answering, triaging, and dispatching 9-1-1 requests for service. With NG911, they will be asked to manage emergency requests for service via text, video, and voice. They are often the “first, First Responders” who provide the emergency response, either directly or through communications with the appropriate law enforcement, fire, or emergency medical services (EMS) agencies.

3 Commission Background

3.1 Year One Commission Work

The Commission made great strides in a short period of time in 2018 by forming four subcommittees that worked tirelessly to identify distinct areas of focus: Finance; Staffing; Technology & Cybersecurity; and Oversight & Accountability.⁵

⁵ In subsequent years the Commission saw shifts in focus areas, with the Finance Subcommittee becoming Finance & Structure and the Staffing Subcommittee becoming Staffing & Training.



The work of the subcommittees resulted in 23 recommendations⁶ that were unanimously approved⁷ by the Commission; many of these were included in 2019 legislation that passed the General Assembly and were signed into law by the Governor—SB 339/HB 397 (“Carl Henn’s Law”), SB 284/HB 1090 (9-1-1 Specialist compensation and benefits), and SB 5/HB 215 (Public Information Act – 9-1-1 Communications). The recommendations addressed a variety of topics, including:

- Fee Adjustment
- Cybersecurity
- Emerging Technology
- Liability
- Records Retention
- Funding Distribution
- Interconnectivity
- Public Education
- Data Collection
- Support & Guidance
- Staffing Levels
- Standards
- Certification
- 9-1-1 Specialist Recognition
- Privacy Protection
- Compensation
- Education Programs & Resources
- County Funding

⁶ [2018 Commission Report](#)

⁷ Individuals with a potential conflict of interest on a recommendation recused themselves from voting on some specific recommendations.

3.2 Year Two Commission Work

In 2019, the four subcommittees resumed where they left off, adding to the foundational elements of Year One and further strengthening the 9-1-1 system in Maryland. In Year Two, the Commission approved 25 recommendations that resulted in new legislation, including the continuation of the Commission for an additional two years. The priority issues addressed in the recommendations included:

- Clarifying 9-1-1 Fund Distribution for the 24 PSAPs
- Comptroller Audit Authorization
- State 9-1-1 Board Name & Responsibilities
- Setting Rules for 9-1-1 Reserves
- Recruitment & Retention of 9-1-1 Specialists
- NG911 Training for 9-1-1 Specialists
- Adopting Occupational Wellness
- Certifying 9-1-1 Specialists
- Telephone Misuse Penalties
- Enforcement of Kari's Law & Monitoring RAY BAUMS Act
- Reducing 9-1-1 Call Transfers
- Enhancing Transparency

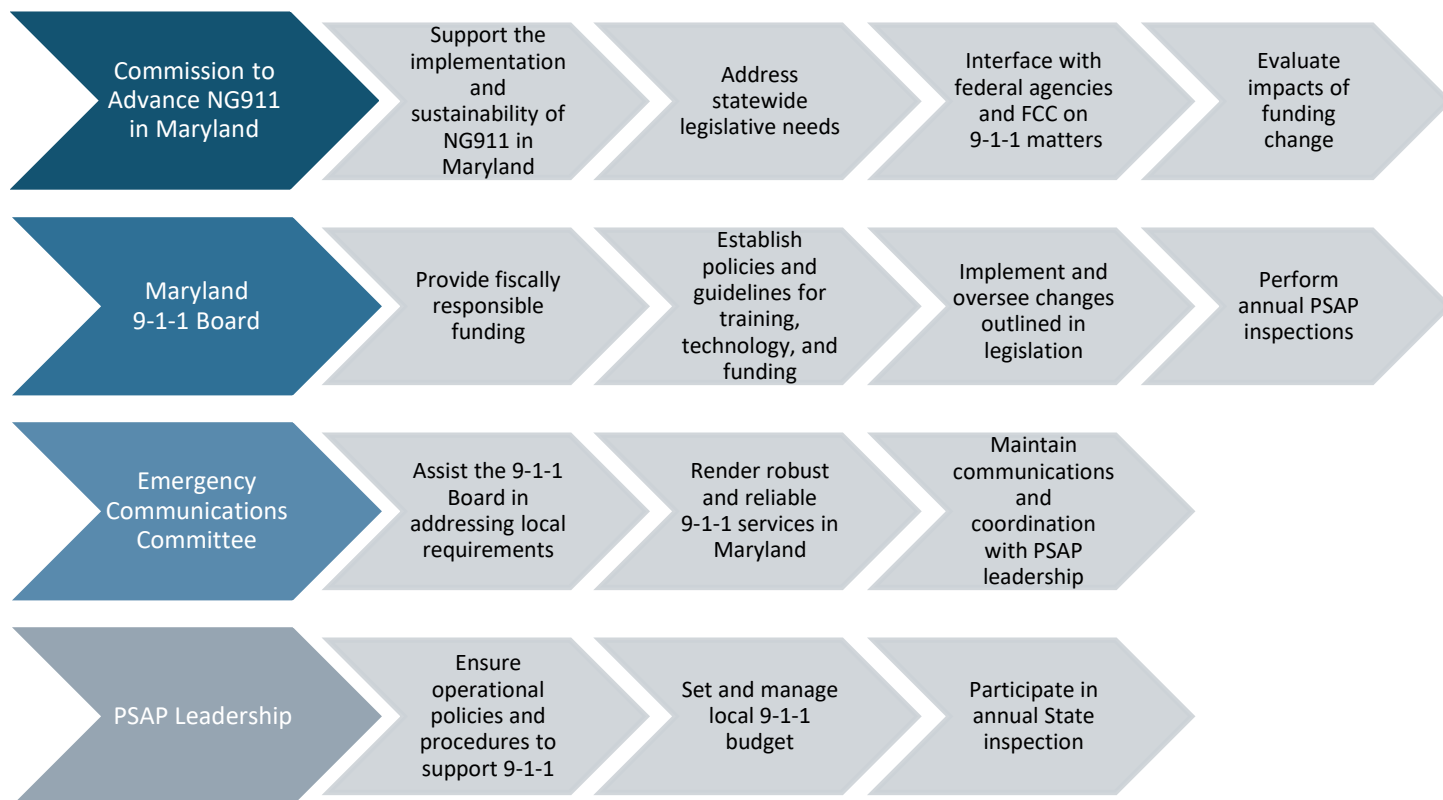
3.3 Year Three Commission Work

In 2020, COVID-19 introduced a challenge, but the Commission continued to meet virtually. The first two years of collaboration helped establish a level of understanding and respect among the members of the Commission, making remote participation a non-issue as they addressed many difficult topics. Year Three allowed the subcommittees more time to tackle topics that had been deferred or that needed more research from years past.

- Proceeding with Carrier Audits
- 9-1-1 Board Staff Job Classification & Salary
- Kari's Law Enforcement Authority
- 9-1-1 Outage Notification
- Training Standards
- Workers' Compensation
- Recruitment
- Placement of 9-1-1 Board
- Composition of 9-1-1 Board
- Statewide 3-1-1 Center
- Domestic Violence Technology Access
- GIS Technology
- Remote Call-Taking
- Swatting Amendments

3.4 Maryland 9-1-1 Structure and Actions

The Commission, 9-1-1 Board (formerly known as the ENSB), ECC, and PSAP leadership all work diligently to address the evolving needs of 9-1-1 in Maryland. The cascading approach to implementing change has proven effective over the past three years with the different focus highlighted below.



4 Finance & Structure

4.1 Background

In 2018, the Finance Subcommittee focused on revising the funding model to ensure the 24 Maryland PSAPs would be capable of updating to NG911. In 2019, the team added “structure” to the name of the subcommittee to reflect its mission. Per the Commission’s legislative mandate, in 2019 the Finance & Structure (F&S) Subcommittee reviewed the current statutory and regulatory framework for the management and funding of Maryland’s 9-1-1 system including audits, 9-1-1 fund distributions, and rules for 9-1-1.

4.2 2020 Priorities

In 2020, the F&S Subcommittee looked at the impact of the funding changes to the Maryland 9-1-1 system. The Subcommittee also focused on the composition and placement of the Maryland 9-1-1 Board to determine how it could best serve its broad and evolving missions. It also considered 3-1-1 as an option to alleviate call volume in the PSAPs.



4.2.1 Financial Impact

In 2018, data provided by the Maryland 9-1-1 Board staff and MACo revealed that existing 9-1-1 revenues covered an average of 37.5% of the costs of the current 9-1-1 system and would not fund an updated NG911 system. Largely as a result of the work by the F&S Subcommittee in 2018, “Carl Henn’s Law” was enacted in 2019. This law implemented four funding modifications:

Table 2: Funding Changes in “Carl Henn’s Law”

Focus Area	Legislative Change
Fee Adjustment	Adjusted the funding model to increase the State portion of the 9-1-1 fee from \$.25 to \$.50. For one device, this meant an increase from \$1.00 to \$1.25 per month.
Fee Collection (Closed Loophole)	Amended the statutory language to update the fee-collection methodology for multiple devices on one invoice.
Funding Distribution	Based on funding available, the 9-1-1 Board can include eligible expenses such as recurring costs for the maintenance of NG911.
Fee Collection (County)	Counties are authorized to increase their county \$.75 fee up to an additional \$.75 if audits reveal an ongoing shortfall.

The F&S Subcommittee members expressed concern that county revenues from the modified fee structure are not as high as anticipated. This could be attributed to several factors, including the current economic downturn and potential carrier error in collection and remittance. The table below contains the 9-1-1 revenue for fiscal years 2019 and 2020.

Table 3: 9-1-1 Fee Collections

	FY2019	FY2020
County Fee Collections	\$42,153,317.62	\$62,910,929.41
State Fee Collections	\$13,535,830.35	\$39,437,777.46
Totals	\$55,689,147.97	\$102,348,706.87

Information provided by the Maryland 9-1-1 Board Staff on November 5, 2020.

Based on increased revenue from raising the State fee from \$0.25 to \$0.50 per device per bill and the expansion of eligible expenses, the 9-1-1 Board significantly increased the amount of funds granted to counties in both FY2020—by over 100%—and the first quarter of FY2021. The table below illustrates the awards made during fiscal years 2019, 2020, and the first quarter of FY2021.

Table 4: 9-1-1 Board County Grant Distribution

Funding Type	FY2019 Awards	FY2020 Awards	FY2021 Awards^
Phone Systems	\$8,305,682.62	\$20,151,268.68	\$6,231,151.54
9-1-1 Specialist Training		\$459,993.00	\$106,263.00
Mapping	\$762,571.52	\$2,488,964.99	\$377,701.00
Other	\$3,794,403.44	\$1,307,433.22	\$1,133,916.64
Maintenance & Recurring Charges*		\$3,297,054.59	\$3,150,916.39
NG911 Implementation		\$745,218.76	\$2,333,783.82
Totals	\$12,862,657.58	\$28,449,933.24	\$13,333,732.39

Information provided by the Maryland 9-1-1 Board Staff on November 5, 2020

*In FY2020, only six months of Maintenance & Recurring Charges were eligible for reimbursement.

^Represents the grant funds awarded for the first quarter of FY2021 (July, August, and September).

To accurately assess the impact of the revised funding on our counties, additional budget information will need to be gathered during PSAP inspections in 2021. The increased 9-1-1 Board awards for maintenance and recurring charges are expected to reduce the amount of local funds spent on 9-1-1. The impacts will be determined based on the county financial records and the budgetary information gathered from PSAPs.

4.2.1.1 Carrier Audit Status

In the Year Two report, issued in 2019, the F&S Subcommittee identified a need to verify that the 9-1-1 fee is collected and remitted by approximately 200 carriers according to statute. Emergency legislation was pre-filed transferring audit responsibility to the State Comptroller.

Before the Comptroller began the audits, the COVID-19 outbreak delayed staff from initiating carrier audits. The Commission voted to authorize its four legislators to send a letter to the Comptroller of Maryland formally requesting that audits resume and emphasizing the need to proceed. The letter was sent on October 30, 2020. The Commission is encouraged that on November 4, 2020, the Comptroller indicated they plan to notify the Governor of their intention to begin the audit of the 9-1-1 fees and would commence such work 30 days following that notice. See Appendix C for a copy of the letter.

4.2.2 Structure of the 9-1-1 Board

4.2.2.1 Background & Overview

Since the ENSB, now the Maryland 9-1-1 Board, was established in 1979, few changes have been made to its composition. In the December 2019 report, the F&S Subcommittee and Oversight & Accountability (O&A) Subcommittee recommended revisions to the structure of the 9-1-1 Board to support NG911 and the expanded responsibilities. Those recommendations were initially included in legislation but were amended out of the final bill.

Discussion regarding membership of the 9-1-1 Board continued this year, and, at the October 22, 2020, Commission meeting, there was consensus to modify the composition of the 9-1-1 Board. This proposed change allows for broader representation and reflects the changes presented by NG911 systems currently being planned or implemented. It will result in an increase from 17 to 21 voting members and will require legislative action.

RECOMMENDATION

Add or change the following membership of the Maryland 9-1-1 Board:

- **Change county representatives to PSAP directors and increase from two to four. The directors shall represent the four regions of the state, one each: National Capital Region (NCR), Central Region, Western Region, and the Eastern Shore Communications Alliance (ESCA);**
- **Add one representative with cybersecurity expertise;**
- **Add one representative with county finance expertise;**
- **Add one State accessibility representative appointed by the Maryland Department of Disabilities;**
- **Add one county 9-1-1 Specialist;**
- **Add one representative from the ECC of MACo;**
- **Change the term “police services” to “law enforcement services;”**
- **Change the wireline and wireless industry representatives to non-voting, advisory members; and**
- **Reduce emergency management representation to one voting member and one non-voting advisory representative from the Maryland Emergency Management Agency (MEMA).**

Table 5: 9-1-1 Board Current and Proposed Composition

Current 9-1-1 Board Composition (as listed in statute)	Current Voting Members	Recommended 9-1-1 Board Composition	Proposed Voting Members
One member shall represent a telephone company operating in the State	1	CHANGE: Change to non-voting advisory representation	0
One member shall represent the wireless telephone industry in the State	1	CHANGE: Change to non-voting advisory representation	0
One member shall represent the Maryland Institute for Emergency Medical Services Systems	1	No change	1
One member shall represent the Department of State Police	1	No change	1
One member shall represent the Public Service Commission	1	No change	1
One member shall represent the Association of Public–Safety Communications Officials International, Inc.	1	No change	1
Two members shall represent county fire services in the State, with one member representing career fire services and one member representing volunteer fire services	2	No change	2
One member shall represent police services in the State	1	CHANGE: Change terminology from police services to law enforcement services; no change in representation number	1
Two members shall represent emergency management services in the State	2	CHANGE: Change to one member shall represent emergency management services in the State;	1
		NEW: One member shall represent the Maryland Emergency Management Agency as an ex-officio advisory non-voting member	0
One member shall represent a county with a population of 200,000 or more	1	CHANGE: Increase to four members, one from each Maryland region (National Capital Region, Western Region, Central Region, Eastern Shore Communications Alliance)	4
One member shall represent a county with a population of less than 200,000	1		
One member shall represent the Maryland chapter of the National Emergency Numbers Association	1	No change	1

Current 9-1-1 Board Composition (as listed in statute)	Current Voting Members	Recommended 9-1-1 Board Composition	Proposed Voting Members
One member shall represent the Geographical Information Systems in the State	1	No change	1
Two members shall represent the public	2	No change	2
		NEW: one person with cybersecurity expertise	1
		NEW: one person with county finance expertise	1
		NEW: one person representing State accessibility services	1
		NEW: one person representing county 9-1-1 Specialists	1
		NEW: one person representing the Emergency Communications Committee of Maryland Association of Counties	1
Total Current Members	17	Proposed Total Members	21

4.2.3 Placement of the 9-1-1 Board

In 2019, the O&A Subcommittee was tasked with addressing the legislative requirement regarding “the ideal role and placement for the 9-1-1 Board within State government to best service its broad and evolving mission.”

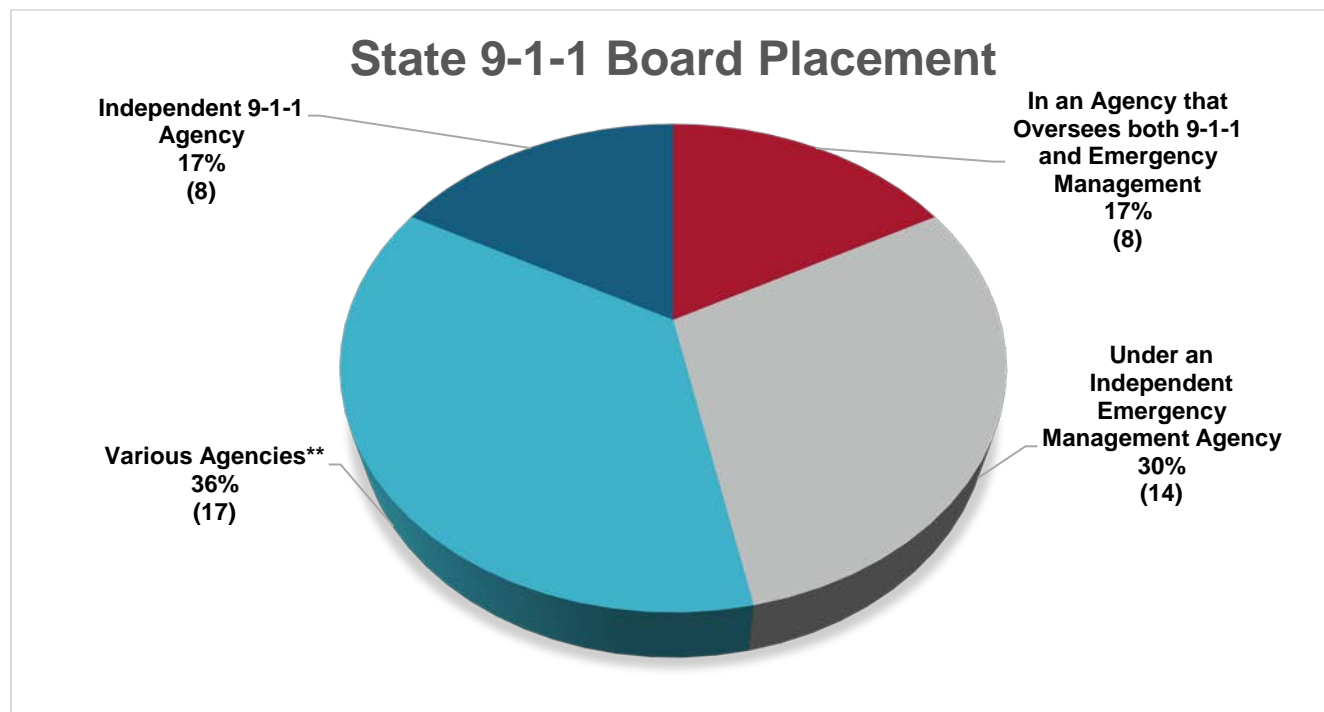
Today, the 9-1-1 Board is housed under the Department of Public Safety and Correctional Services (DPSCS). Support is provided by DPSCS in the way of human resources (HR) guidance, legal, accounting, and administrative assistance. The 9-1-1 Board, and the ENSB before it, have been well-served through its relationship with DPSCS, and the desire to relocate the 9-1-1 Board should not be interpreted as any dissatisfaction with DPSCS.

In July of 2020, the Commission continued the discussion by considering the placement of other states’ 9-1-1 boards and advisory committees.

In considering the proper placement, the Commission identified three priorities to support a decision:

- Priority One: ensure the agency’s autonomy and visibility;
- Priority Two: remain a nimble and efficient State agency; and
- Priority Three: seek an appropriate parent organization for the 9-1-1 Board with coordinated activities and one that more closely identifies with the mission of the 9-1-1 Board.

With these priorities in mind, the Commission evaluated how other states have structured the governance of their state-level 9-1-1 authorities. The chart below illustrates the placement of 9-1-1 across the U.S. A list of the respective states by category can be found in Appendix C.



** Examples include: Administration, IT, Homeland Security, Public Safety, and Finance
Colorado and Wyoming have no state 9-1-1 program

RECOMMENDATION

The Commission recommends that MEMA become a Cabinet-level entity reporting directly to the Governor. In conjunction with the shift, the Commission recommends that the 9-1-1 Board be housed within MEMA to strengthen the support to local jurisdictions before, during, and after crises. It is the intent of the Commission that the 9-1-1 Board retain its autonomy in terms of authority, enforcement, structure, training, and funding—including the management and distribution of grants.

4.2.4 Statewide 3-1-1 System

As a result of COVID-19 and the challenges presented to staffing 9-1-1 centers, the F&S Subcommittee considered ways to help reduce call volume. The use of 3-1-1 was considered; however, it is not available statewide, and some counties do not have the resources to implement the service.

3-1-1 is a number designated for inquiries about non-emergency public service needs, such as questions about trash pickup, water issues, etc. Many times, people call 9-1-1 to ask these questions, taking valuable time away

from supporting emergencies. Therefore, exploring an initiative to create a statewide 3-1-1 system may benefit Maryland residents by providing another common number to support their inquiries.

RECOMMENDATION

Explore a Maryland initiative to create a Statewide 3-1-1 system. This will help:

- **Provide a consistent level of customer service throughout Maryland;**
- **Potentially reduce the number of calls to 9-1-1 for administrative or non-emergency requests for community-related information;**
- **Offer a potential career path to the 9-1-1 Specialist profession and a possible retirement path or light duty opportunity for those in the profession;**
- **Relieve administrative calls to local government offices, freeing time to allow a focus directly on their jobs;**
- **Observe public query trends; and**
- **Contribute to consistent and coordinated government public information messaging.**

5



Oversight & Accountability

5.1 Background

Governance, policy, and proper protections at the state, local, and provider level were the primary topics addressed by the Oversight & Accountability (O&A) Subcommittee in 2018 and 2019. In 2019, the subcommittee tackled the need for greater transparency and highlighted important elements needed from the 9-1-1 Board to support the effective implementation of NG911.

5.2 2020 Priorities

The advancement of NG911 is a process that requires consideration of many disparate topics—all required for successful operation of a 9-1-1 system. The O&A Subcommittee and the F&S Subcommittee combined numerous video meetings in 2020 to address the priorities identified in each subcommittee and facilitate open dialogue with a broader set of Commissioners.

9-1-1 Board Positions
(Job Classification &
Salary)

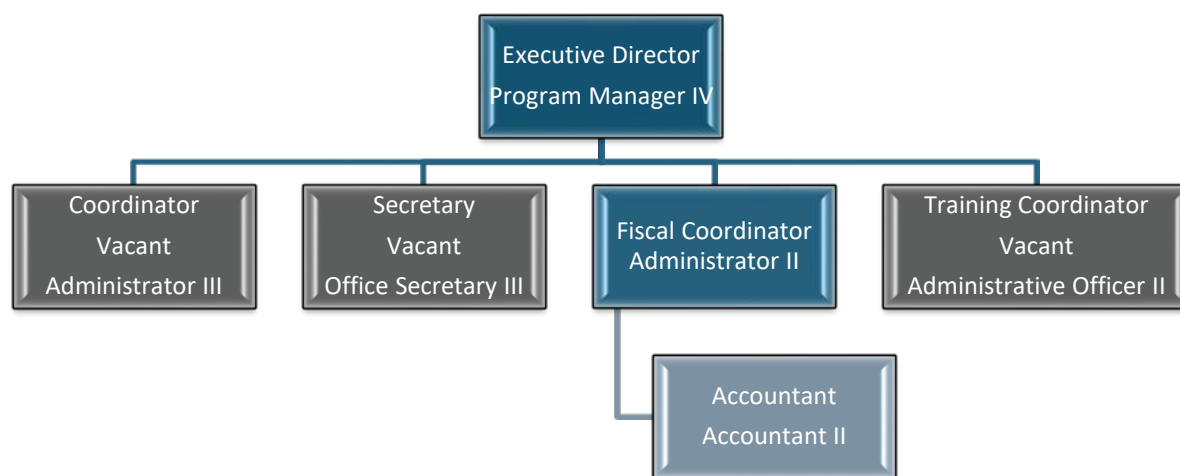
Enforcement of
Kari's Law

Outage Notification

5.2.1 9-1-1 Board Job Classification and Staff Salary

The new Maryland laws have added responsibility and duties to the 9-1-1 Board and its staff. These include assisting with statewide education and training initiatives; reviewing expanded PSAP inspection items; establishing minimum standards; and providing technical requirements and guidance for PSAP improvements based on best practices and new requirements. In addition to the expanded responsibilities, the 9-1-1 Board now oversees distribution of more than a 10% increase in funds for an expanded list of eligible project and program requests, including statewide projects and county maintenance expenses.

The organizational chart below illustrates the current staff structure of the Board.



As seen above, the 9-1-1 Board staff is lean, and several vacancies have existed for some time. The Administrator III – Assistant Program Coordinator is a position that was created in late 2018, but never filled. The Administrative Officer I – Training Coordinator has been vacant since 2018. Both positions were classified in accordance with DPSCS HR policies by the Maryland Department of Budget and Management (DBM) in 2019.

The Executive Director is authorized to fill both coordinator vacancies. The Executive Director has received qualified lists from which to schedule interviews with numerous candidates for each position. Experience has demonstrated that these vacancies have been difficult to fill, partially due to salary levels that have not attracted the caliber of individual needed to successfully and efficiently conduct the tasks.

While there is a salary range established for all approved positions, latitude is granted to the appointing authority to bring a new hire into the organization at a salary level up to the mid-level step of the pay range with appropriate justification.

The Commission is concerned about the inability to fill these positions. These vacancies compromise the Board's ability to carry out its mission and adequately support the 9-1-1 program in Maryland.

The Commission conducted research on comparable Executive Director positions in other states of similar size and budget, and compared the program responsibilities to that of the Maryland 9-1-1 Board. In those states where there was an alignment, a salary comparison was completed. The results of the analysis can be found in Appendix D. During this process, it was learned that the Executive Director classification and position description has not been reviewed since at least 2014.

Following this assessment, the Commission concluded that a compensation study is required to better align the requirements of the positions with updated position descriptions, job classifications, and assurances that salary compensation is competitive and in keeping with responsibilities for all positions of the 9-1-1 Board.


With that goal in mind, the Commission authorized its four legislators to send a letter to the Secretary of DBM asking that they review the job classification and salary of the positions. The letter was sent on November 4, 2020.

RECOMMENDATION

The four legislators serving on the Commission sent a letter on behalf of the Commission supporting a revision to the job classification and an increase in salary for the 9-1-1 Board Executive Director, Deputy Executive Director, and Training Coordinator positions. Since delivery of the letter, the Secretary of the DBM responded and noted they would look into this request. See Appendix F for a copy of the letter.

5.2.2 Enforcement of Kari's Law

Maryland proactively adopted legislation, SB 576/HB 1080, in 2015 to implement Kari's Law. Maryland was the first state in the nation to adopt this law. Kari's Law applies to multi-line telephone systems (MLTS) in office buildings, campuses, and hotels, and requires that users of MLTS can dial 9-1-1 without a prefix to reach a PSAP. In 2019, Kari's Law was enacted at the federal level with the intent to improve access to 9-1-1 and location information for MLTS.



Kari's Law applies to multi-line telephone systems (MLTS) in office buildings, campuses, and hotels, and requires that users of MLTS can dial 9-1-1 without a prefix to reach a PSAP.

In the Year Two Commission report, the Commission acknowledged that Kari's Law was a significant advancement in protecting Marylanders, but needed greater enforcement and public education. Each county in Maryland is responsible for enforcing the multi-line statute but efficient administration and proper implementation are of concern to PSAP directors and the 9-1-1 Board.

Building inspections conducted in order to award Usage and Occupancy (U&O) compliance permits for new construction was an effective solution and

solved one of the matters. But this solution only covered new building construction, and the O&A Subcommittee recognized the need to address existing structures as well. The State Fire Marshal was invited to participate in O&A Subcommittee discussions. The State Fire Marshal’s duties and responsibilities provided a convenient and effective method to add MLTS compliance to the building inspections conducted by the Office of the State Fire Marshal, Assistant State Fire Marshals, and Special Assistant State Fire Marshals—if a county does not have another method of conducting compliance enforcement. MACo and the ECC were involved in these discussions and agreed that this solution would help lighten workloads where needed.

RECOMMENDATION

A county shall designate enforcement authority for this statute. Absent any designated county authority, the Office of the State Fire Marshal, Assistant State Fire Marshals, and Special Assistant State Fire Marshals shall have enforcement authority over this statute.

5.2.3 9-1-1 Outage Notification

According to the Federal Communications Commission’s Eleventh Annual Report to Congress on State Collection and Distribution of 011 and Enhanced 911 Fees and Charges⁸, approximately 74% of the nearly five million 9-1-1 calls made in Maryland annually are from wireless devices, like smartphones and cell phones. Therefore, an outage on a wireless carrier’s network can have substantial impacts on 9-1-1 service—making notification to PSAPs, and eventually residents, critical.

The reliability of the 9-1-1 network is essential to all those involved in providing, overseeing, or supporting 9-1-1. When an outage in carrier networks results in subscribers being unable to contact 9-1-1, Maryland’s 24 PSAPs must be informed quickly and consistently. Unfortunately, it has been the PSAPs’ experiences that notifications are not always provided in a timely manner—if at all.

Best Practices and Policies

The O&A Subcommittee reviewed three existing Maryland policies or practices to identify additional support required. Two focused on PSAP-to-PSAP notifications, and the third was issued to provide notification expectations for service providers.

1. The 9-1-1 Board issued a policy on September 26, 2019. This provides guidance on the agreed-upon process for significant event notification to all PSAPs.
2. The MACo ECC has established a document titled the “Policy For PSAP-to-PSAP Notifications for Significant Events,” which outlines the steps to follow when PSAPs are impacted by outages or other issues.
3. The National Capital Region (NCR) 9-1-1 Directors Group issued a guideline for wireline and wireless service provider on September 14, 2018. This document outlines the expectations of PSAPs in the

⁸ <https://www.fcc.gov/files/11thannual911feereport2019pdf>

region regarding notification timelines and updates and gives the service providers contact information for the PSAPs in the region.

Current Regulation and Oversight

The O&A Subcommittee also reviewed the Federal Communications Commission's (FCC's) Part 4 Rules and Maryland Public Service Commission (PSC) rules.

1. FCC Part 4 Rules require originating 9-1-1 service providers to notify PSAPs of any outages affecting 9-1-1. The FCC has authority for licensing wireless and Voice over Internet Protocol (VoIP) providers, and has a requirement in place for notifying PSAPs in the event of a 9-1-1 outage.
2. Wireline providers in Maryland are governed and monitored by the Maryland PSC. A telephone utility wishing to serve customers in the state must meet specified criteria established by the PSC in order to provide service, file a tariff, and receive a certificate of authority to do business in the state.

9-1-1 outages impact the public's ability to reach 9-1-1 in an emergency, and despite the local efforts and the FCC rules, Maryland PSAPs are not provided with what they need. Inconsistent notification practices of telecommunications providers cause operational and communications problems. PSAPs require timely and consistent notification so they can react; implement alternative communications methods; and properly notify the public.

PSAPs require timely and consistent notification so they can react; implement alternative communications methods; and properly notify the public.

RECOMMENDATIONS

Based on this information, the Commission recommends the following actions:

- **The State shall require carriers to notify PSAP(s)* and MEMA's Maryland Joint Operations Center (MJOC) of a 9-1-1 outage lasting more than thirty (30) minutes;**
- **The 9-1-1 Board shall create a standard operating procedure for the MJOC to follow regarding outage notifications;**
- **Telecommunications providers are required to report to the 9-1-1 Board after a 9-1-1 outage lasting longer than thirty (30) minutes; and**
- **The 9-1-1 Board shall create a Crisis Communications Plan template for those PSAPs without a plan in place.**

*Note that the PSAPs are the primary contact due to the operational impact of outages.

In addition, the Commission sent a letter to the FCC, urging enforcement of the carrier notification requirement, and access to the Network Outage Reporting System (NORS) and the Disaster Information Reporting System (DIRS). See Appendix G for a copy of the letter.

6



Staffing & Training

6.1 Background

Each day in Maryland, more than 1,300 9-1-1 Specialists answer emergency requests for service. The Staffing & Training (S&T) Subcommittee's focus since 2018 has been to recognize the importance of these hard-working 9-1-1 Specialists; secure the training they require to deliver the highest standard of service; and support them as they navigate the stresses of their job. On July 1, 2019, SB 284/HB 1090 became law, expanding eligibility of an existing local property tax credit and appropriately classifying and compensating 9-1-1 Specialists—the individuals who process those requests for service as part of the public safety infrastructure in Maryland. This recognition was an important first step in ensuring these professionals have the training, resources, and protections they need to deliver the best service to those who rely on them in an emergency.

6.2 2020 Priorities

In 2020, the S&T Subcommittee focused much of its work on the impacts of stress on Maryland's 9-1-1 Specialists. The subcommittee worked on initiatives that both mitigate stress before it becomes a chronic issue and that address potential repercussions from frequent, repetitive, and cumulative exposure to job-related trauma.

Training Standards
(Resiliency, Social,
Cultural Issues)

Workers'
Compensation

Recruiting

6.2.1 Training Standards

6.2.1.1 Resiliency

The Year Two Commission report identified that 9-1-1 Specialists are exposed to high levels of stress and that there is a need to equip 9-1-1 Specialists with tools to help them cope.

A multitude of studies, surveys, and reports demonstrate that First Responders (law enforcement, EMS, fire and 9-1-1) experience suicidal thoughts at a rate more than double the general population.⁹ Alarming, nearly a quarter suffer from work-related depression or would meet the cut-off for probable post-traumatic stress disorder (PTSD).¹⁰ This depression is the result of repeated exposure to traumatic events.¹¹

⁹ <http://fcop5000.org/wp-content/uploads/2019/08/2019-Fairfax-County-Police-Pilot-Survey-Summary.pdf>

¹⁰ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4792921/>

¹¹ <http://fcop5000.org/wp-content/uploads/2019/08/2019-Fairfax-County-Police-Pilot-Survey-Summary.pdf>

Industry expert and founder of the 9-1-1 Wellness Foundation¹², Jim Marshall, MA, offers strategies for preventing PTSD, decreasing suicides, and increasing happiness in the First, First Responders. Marshall advocates teaching 9-1-1 Specialists about psychological resilience to help reduce the risk of PTSD and suicide and offers strategies for increasing happiness.¹³

RECOMMENDATION

Because of the frequent, repetitive, and cumulative psychological impact of receiving and processing 9-1-1 requests for assistance, the S&T Subcommittee recommends that the Code of Maryland Regulations (COMAR), chapter 12.11.3.10, be expanded to include psychological well-being and resilience as a required training topic.

Further, after the topic is added to COMAR, the S&T Subcommittee urges the 9-1-1 Board to fund and require that each newly hired 9-1-1 Specialist complete a minimum of eight hours of initial evidence- and science-based training or other activities that support psychological resilience. The S&T Subcommittee also recommends that the 9-1-1 Board fund and require that each 9-1-1 Specialist complete a minimum of six hours of continuing education on the subject annually. This training will help increase understanding and awareness about the impact of job-related stress on mental health and how to cope. This training requirement is designed to help improve the retention rate of 9-1-1 Specialists.

6.2.1.2 Operational, Social, Technological, and Cultural

Over the years, social and cultural beliefs and behaviors have evolved. As they advance, individuals and organizations must also expand and redefine themselves and their values. Organizations—including our PSAPs—also must reexamine and redefine their values to reflect this evolution. The 9-1-1 Board must adjust and modify its training criteria for 9-1-1 Specialists to ensure they are aligned to best support residents and the concerns of the era. For example, throughout 2020, society confronted issues of social justice, police reform, and racial inequality, all in the midst of a public health pandemic. These unique and emerging circumstances may result in the need for new training for 9-1-1 Specialists. The *Recommended Minimum Training Guidelines for the Telecommunicator*¹⁴ supports this flexibility for changing training criteria as issues arise, stating that “each telecommunicator should understand the roles and responsibilities of their position as it relates to the stakeholders, citizens, and community served.”

The COVID-19 outbreak highlighted the need for the 9-1-1 Board to have the flexibility to alter training requirements accordingly. During this time, Maryland PSAPs had to adapt on the fly to learn the best way to triage 9-1-1 callers in order to serve the public while protecting law enforcement, fire, and EMS First Responders from potential exposure.

¹² <https://www.911training.net/911-wellness-foundation>

¹³ <https://www.ems1.com/mental-health/articles/quick-take-building-first-responder-resilience-Sbry5uXvvboCp71g/>

¹⁴ Recommended Minimum Training Guidelines for the Telecommunicator Section I –, <https://www.apcointl.org/download/recommended-minimum-training-guidelines-for-the-9-1-1-telecommunicator-pdf/>

Additionally, Maryland PSAPs face constantly evolving technologies and advancements, which will only change more frequently with the deployment of NG911. It is important that 9-1-1 Specialists are trained on current call delivery, processing methods, and dispatch infrastructure. For example, when Maryland PSAPs rolled out statewide text-to-9-1-1, each 9-1-1 Specialist had to learn new methods to process calls.

To ensure that Maryland 9-1-1 Specialists remain able to provide high-quality service to those seeking emergency assistance, the 9-1-1 Board must be able to adapt State training requirements. This will ensure that proper help and support are provided to the public with appropriate sensitivity to social issues and cultural challenges.

RECOMMENDATION

As operational, social, technical, and cultural issues arise or evolve, the 9-1-1 Board shall establish new training criteria for 9-1-1 Specialists on an *ad hoc* basis; pay for initial and continuing education training on these topics; and audit PSAPs at the annual inspection for compliance.

6.2.2 Workers' Compensation

9-1-1 Specialists, without warning, hear violence, tragedy, and suffering in their headsets.¹⁵ The effects of trauma will only worsen as Maryland PSAPs accept images and videos of traumatic events. The exposure to an audible or visual adverse experience or series of experiences leaves 9-1-1 Specialists vulnerable to the risk of psychological trauma.

Industry expert, Dr. Michelle Lilly, conducted a study on duty-related trauma exposure in 9-1-1 telecommunicators and concluded that they are at heightened risk for conditions such as depression and PTSD.

“9-1-1 telecommunicators are exposed to duty-related trauma that may lead to the development of PTSD, and that direct, physical exposure to trauma may not be necessary to increase risk for PTSD in this population (Lilly, et. al., 2012).”¹⁶

States such as Colorado have expanded workers' compensation laws, making it possible for 9-1-1 Specialists to seek benefits when the exposure to trauma culminates in impaired physical or mental wellness, emotional awareness, or cognitive functioning.¹⁷

¹⁵ <https://www.911training.net/unique911stressors>

¹⁶ https://www.researchgate.net/publication/223980094_Duty-related_trauma_exposure_in_911_telecommunicators_Considering_the_risk_for_posttraumatic_stress/citation/download

¹⁷ <https://leg.colorado.gov/bills/sb20-026>

The S&T Subcommittee recommends that the State conduct a study, similar to the efforts that led to the creation of the Firefighter Jess McCullough’s Cancer Protection Law¹⁸, to determine whether workers’ compensation laws should be amended to include visual and audible traumatic events as a compensable injury for 9-1-1 Specialists.

RECOMMENDATION

The State shall conduct a study on current Maryland Workers’ Compensation laws to understand whether benefits should be awarded to 9-1-1 Specialists for the direct or indirect exposure to audible or visual trauma. This would be similar to claims that can be filed by other public safety personnel for job-related illness. The study shall determine whether audible or visual trauma culminates in impaired mental wellness, emotional awareness, or cognitive functioning. Study results will be valuable for discussion on the merit and cost of extending coverage for Maryland’s 9-1-1 Specialists.

6.2.3 Recruiting

6.2.3.1 Recruitment Support

The 9-1-1 profession has historically faced recruitment challenges for a variety of reasons, including the lengthy hiring and training process; insufficient pay for the demands of the job; work schedules and mandatory overtime; background checks; and competition from other public safety disciplines. The 9-1-1 profession also suffers from high employee turnover for some of the same reasons.

This combination often leaves PSAPs struggling to keep positions filled and calls answered. While 9-1-1 jobs in a legacy 9-1-1 environment are already emotionally taxing and stressful, the higher stress of an NG911 environment will likely result in even higher turnover. In anticipation, PSAP managers will need a robust resource that identifies recruiting best practices and offers a low-cost/high-impact tool for improving recruitment.

The 9-1-1 profession has historically faced recruitment challenges which will only increase with the implementation of NG911.

RECOMMENDATION

To help address the persistent shortage of 9-1-1 Specialists in Maryland’s 24 PSAPs, the 9-1-1 Board will create an information hub offering recruiting guidance, best practices, and strategies; fund recruitment projects for 9-1-1 Specialists; and identify a centralized website that links to job opportunities for 9-1-1 Specialists in the state.

¹⁸ MD SB646 Workers' Compensation - Medical Presumptions for Diseases and Cancer - Eligibility (Firefighter Jesse McCullough's Cancer Protection Law)

6.2.3.2 Funding Recruitment

Expanding and improving recruitment efforts for 9-1-1 Specialists comes at a financial price for Maryland PSAPs. To help offset the cost of recruiting, legislation should be updated to include recruitment activities for 9-1-1 Specialists as an eligible expense, that can be reimbursed by the 9-1-1 Board.

RECOMMENDATION

Update State 9-1-1 Board eligible expenditures to authorize 9-1-1 Specialist recruitment activities.

7



Technology & Cybersecurity

7.1 Background

The advancement of NG911 technology in Maryland requires a broad focus including infrastructure, systems, and policy. The Technology & Cybersecurity (T&C) Subcommittee addressed various elements of these topics in 2018 and 2019 including cybersecurity needs; GIS data management; emerging technologies; and reducing call transfers. This is foundational, as all counties in Maryland are in the process of implementing NG911 or planning their procurement efforts.

7.2 2020 Priorities

As the Commission resumed in 2020, PSAPs in Maryland found themselves operating in the midst of the global COVID-19 pandemic. This resulted in a significant portion of the T&C Subcommittee's focus being directed at technologies that not only enhance the operation of NG911, but also address the issue of remote PSAP operations.

Geographic
Information Systems

Remote Call-Taking
Capabilities

Victim Support
Technology

Swatting Bill
Amendments

7.2.1 Geographic Information Systems

As discussed in the 2018 Commission report, high-quality, seamless, and timely geospatial data updates are essential for counties leveraging the benefit of new routing capabilities available in NG911. NG911 is being implemented on a county-by-county basis in Maryland. This approach has resulted in multiple ESInet providers

deploying NG911 services and requires close coordination when developing statewide data to ensure continuity across all counties.

GIS data drives NG911 call-routing decisions and requires common standards and operations. It is important that the data is accurate and current because it is critical for call delivery, caller identification, and directing emergency personnel to the correct location.

Lack of quality data can contribute to devastating results, as seen in the June 2020 drowning of teen, Fitz Thomas, on the border of Loudoun County, Virginia, and Montgomery County, Maryland¹⁹. Many factors contributed to this tragedy, but the inability to verify the location delayed ambulance arrival—taking 36 minutes to arrive on scene. Counties need a plan both individually and with neighboring jurisdictions to address effective support and use of GIS in the implementation of NG911 technologies.

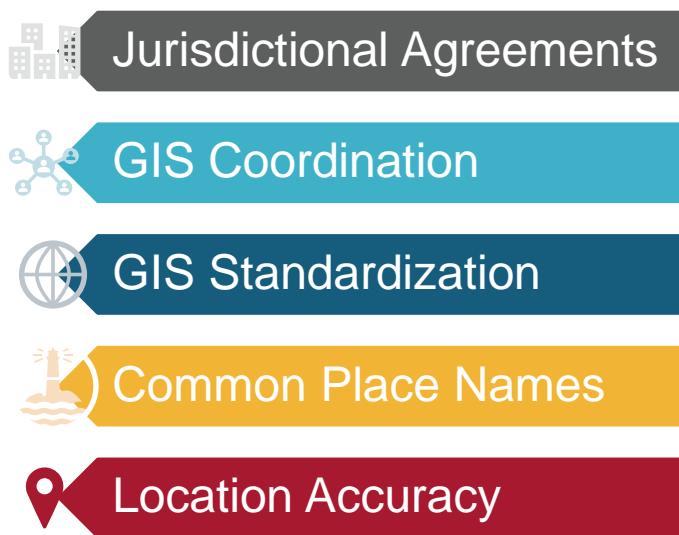


Figure 2: GIS Considerations

7.2.1.1 Jurisdictional Agreements

Seamless and accurate GIS data layers are important for NG911 call routing, and county-to-county agreements are needed to ensure there are no errors. A memorandum of agreement (MOA) will help counties set and agree upon expectations regarding communications, operational changes, and data maintenance.

RECOMMENDATION

The Commission encourages jurisdictions to create or modify existing MOAs between entities:

- **To include GIS data maintenance accuracy;**
- **To update scheduling standards necessary to support NG911; and**

¹⁹ <https://www.washingtonpost.com/dc-md-va/2020/08/21/drowning-death-911-response/?arc404=true>

- **Within their service area (i.e., municipalities, county, State, federal, and college campuses) that are involved in the required GIS data creation and maintenance.**

7.2.1.2 GIS Coordination

The Maryland Department of Information Technology (DoIT) provides a central point for aggregation and management of county GIS data. DoIT helps coordinate statewide standards for GIS, and its validation supports the consistency of the GIS data used for call-routing decisions and instruction. In Maryland’s multi-ESInet provider environment (see Appendix B for current status), DoIT’s involvement is critical to the successful coordination among counties and with ESInet providers.

RECOMMENDATIONS

To preserve operational integrity with multiple ESInet vendors, the Commission recommends that jurisdictions:

- **Continue to coordinate with DoIT; and**
- **Provide their NG911 GIS data to DoIT for statewide validation prior to updating any GIS data with ESInet providers.**

7.2.1.3 GIS Standardization

Counties are implementing NG911 at a local level, and this allows them the opportunity to choose their NG911 provider using respective procurement rules and processes. This approach brings some challenges, as the NG911 service providers do not manage GIS data in the same way. While DoIT has set State expectations, at times, NG911 vendors ask the counties to submit data in a format that is inconsistent with DoIT guidelines—resulting in inconsistencies and difficulty managing valid statewide data.

The National Emergency Number Association (NENA) developed the i3 solution to standardize the end-to-end IP connectivity and NGCS used to deploy NG911. The standards for the NENA i3 solution include GIS data specifications and, while they may change over time, it provides a foundation that DoIT is using as they develop State guidelines. As such, counties are encouraged to require their NG911 vendors to accept their NENA i3 standardized data, supporting consistency statewide.

RECOMMENDATION

Counties entering contracts for NGCS shall require that NG911 service providers accept NENA i3 standardized and validated data.

7.2.1.4 Location Accuracy

As seen in the Loudoun County, Virginia and Montgomery County, Maryland drowning, location accuracy plays a critical role in emergency response. In partnership with DoIT, jurisdictions will create statewide sustainable,

standardized data, such as place names (i.e. Twin Lakes Boat Launch), that will be coordinated and distributed for all to incorporate into their operations.

RECOMMENDATION

DoIT, in coordination with the county jurisdictions, shall develop and distribute a statewide sustainable, standardized structure for value-added GIS data identified by the MACo ECC as beneficial to improving emergency incident location.

7.2.2 Remote Call-Taking Capabilities

In 2020, PSAPs across the nation and in Maryland have experienced unprecedented operational challenges due to COVID-19. PSAPs quickly sought means to continue functioning while accommodating the need for social distance. Protecting the health and safety of 9-1-1 Specialists, while providing a high level of service, took many forms. Some agencies separated telecommunicators into pods, while others employed technical solutions allowing individual telecommunicators to work remotely from their homes; a number of entities set telecommunicators up in areas not designed to support 9-1-1 operations, such as conference rooms, to limit exposure. In Maryland, the 9-1-1 Board and ECC worked together to procure remote call-taking equipment for each of the 24 PSAPs. This allowed 9-1-1 Specialists the option of taking 9-1-1 calls outside of the PSAP, such as in their homes.

Remote call-taking includes many considerations—not only the ability to take a 9-1-1 call. In many areas of the state, 9-1-1 Specialists do not have proper internet bandwidth in their area to support remote call-taking and the various tasks involved in processing a 9-1-1 request for service. High-speed broadband connections are critical to remote 9-1-1 support.

While 2020 remote solutions were an immediate response to COVID-19, it raises questions regarding liability. Protection for the county and individuals needs to be addressed to ensure that actions taken by local agencies are flexible enough to enable this emergency action. Some items to consider include the handling of dropped calls, call-taker distraction, following local policies, collaboration and assistance from colleagues and managers, and equipment liability. The T&C Subcommittee will address this in greater detail during Year Four of the Commission, but, at the same time, agencies should consider these topics to prepare for remote call-taking in future emergencies.

RECOMMENDATION

Expand broadband infrastructure in underserved rural areas to benefit public safety remote emergency call-taking and dispatching capabilities.

7.2.3 Domestic Violence Support

Nonprofit and social service organizations have long supported residents in need by using donated cell phones. These devices are typically provided, at no cost, to domestic violence victims, the homeless, and other vulnerable populations, in order to access emergency services. Unfortunately, many of these devices are non-service initialized (NSI) phones, which can dial 9-1-1 without the supporting cellular phone plan. Without a plan, 9-1-1 calls are delivered to the 9-1-1 Specialist without a telephone number or location of the caller. The requirement for these devices to have access to 9-1-1 is outlined in the 1996 FCC E911 First Report and Order.²⁰ At the time of the ruling, cell phone use was not near the level it is today, and with over 74% of 9-1-1 calls being made from a wireless device, the lack of information delays emergency response.

The T&C Subcommittee and Commission applaud efforts extended by these vital social agencies to support the needs of vulnerable individuals; however, NSI phones lack many of the technological capabilities that allow these residents the best protection, such as providing the location of the caller and allowing text-to-9-1-1. The cost of basic plans has dramatically reduced over the years with the increased use of wireless phones. There are programs in place, such as the Lifeline program²¹ offered by the FCC, that provide low-cost cell phones with limited plans while still enabling access to life-saving technologies.

Furthermore, access and the use of NSI phones can present significant challenges to 9-1-1 operations when in the hands of individuals with malicious intent. These devices can tie up telecommunication resources and First Responders when used in Telephony Denial of Service (TDoS)²² attacks and other nefarious activities, making locating these bad actors a challenge for the public safety community.

Protecting these vulnerable people is important, but the Commission encourages the distribution of full-service devices to improve service for those in need of 9-1-1 assistance.

RECOMMENDATIONS

- **Encourage programs that offer mobile devices to domestic violence victims and any other vulnerable populations to provide phones with full-service access to voice and data.**
- **Urge the FCC to revisit efforts to address the use of NSI phones and explore alternatives such as low-cost options for wireless service.** See Appendix H for a copy of the letter.

7.2.4 Swatting Bill Amendments

NG911 enhances 9-1-1 service while also introducing the need for a greater focus on cybersecurity. In 2019, the T&C Subcommittee addressed the issue of telephone misuse by recommending legislation to help close

²⁰ <https://transition.fcc.gov/Bureaus/Wireless/Orders/1996/fcc96264.txt>

²¹ <https://www.fcc.gov/lifeline-consumers>

²² <https://www.dhs.gov/publication/st-tdos-fact-sheet>

gaps regarding Telephony Denial of Service (TDoS)²³ attacks and distributed denial of service (DDoS)²⁴ attacks; define issues with providing false information to a PSAP; and enhance penalties for such acts. As a result of the condensed legislative session due to COVID-19, the bills that addressed this change, SB 837/HB 1024, were not passed.

The Subcommittee reviewed the language from the 2019 bill and recommended enhancing the language to include a definition of “equipment” and “data file” as a possible use of malicious intent.

RECOMMENDATION

Update the 2020 version SB 847/HB 1024 to include a definition of “equipment” and “data file” as a possible use of malicious intent.

- **Equipment is any device that can contact 9-1-1 (i.e., computer, application, peripheral device, etc.).**
- **Include “data file” with “telephone facilities or equipment” in the list of possible uses of malicious intent.**

8 Commission Recommendations

The 2020 subcommittee work resulted in 22 Commission-approved²⁵ recommendations. Each item underwent a thorough review and voting process that began in the subcommittees. Once approved there, recommendations were brought to the Commission, where members could question and amend the wording.

Number	Category	Commission Recommendations
1	Financials	To accurately assess the impact of the revised funding on our counties, additional budget information will need to be gathered during PSAP inspections in 2021.
2	Audits	The Finance & Structure Subcommittee noted the importance of the Comptroller’s office conducting audit activity. The four legislators serving on the Commission sent a letter to the Comptroller emphasizing the need to proceed. The Commission is encouraged that on November 4, 2020, the Comptroller indicated a plan to notify the Governor of their intention to begin the audit of the 9-1-1 fees and would commence such work 30 days following that notice.

²³ TDoS is an illegal attack targeting the telephone network by generating numerous 9-1-1 calls, tying up the network and preventing legitimate calls from being answered.

²⁴ DDoS is a cyber-attack where the source is more than one, often thousands of, unique IP addresses that are used to flood the bandwidth or resources of a targeted system.

²⁵ Individuals with a potential conflict of interest on a recommendation recused themselves from voting on some of these recommendations.

Number	Category	Commission Recommendations
3*	Structure of the 9-1-1 Board	<p>Add or change the following membership of the Maryland 9-1-1 Board:</p> <ul style="list-style-type: none"> • Change county representatives to PSAP directors and increase from two to four. The directors shall represent the four regions of the state, one each: National Capital Region (NCR), Central Region, Western Region, and the Eastern Shore Communications Alliance (ESCA); • Add one representative with cybersecurity expertise; • Add one representative with county finance expertise; • Add one State accessibility representative appointed by the Maryland Department of Disabilities; • Add one county 9-1-1 Specialist; • Add one representative from the ECC of MACo; • Change the term “police services” to “law enforcement services;” • Change the wireline and wireless industry representatives to non-voting, advisory members; and • Reduce emergency management representation to one voting member and one non-voting advisory representative from the Maryland Emergency Management Agency (MEMA).
4*	Placement of the 9-1-1 Board	<p>The Commission recommends that MEMA become a Cabinet-level entity reporting directly to the Governor. In conjunction with this shift, the Commission recommends that the 9-1-1 Board be housed within MEMA to strengthen the support to local jurisdictions before, during, and after crises. The intent of the Commission is that the 9-1-1 Board retain its autonomy in terms of authority, enforcement, structure, training, and funding—including the management and distribution of grants.</p>
5*	Statewide 3-1-1 System	<p>Explore a Maryland initiative to create a Statewide 3-1-1 system. This will help:</p> <ul style="list-style-type: none"> • Provide a consistent level of customer service throughout Maryland; • Potentially reduce the number of calls to 9-1-1 for administrative or non-emergency requests for community-related information; • Offer a potential career path to the 9-1-1 Specialist profession and a possible retirement path or light duty opportunity for those in the profession; • Relieve administrative calls to local government offices, freeing time to allow a focus directly on their jobs; • Observe public query trends; and

Number	Category	Commission Recommendations
		<ul style="list-style-type: none"> Contribute to consistent and coordinated government public information messaging.
6	9-1-1 Board Job Classification and Salary	The four legislators serving on the Commission sent a letter on behalf of the Commission supporting a revision to the job classification and an increase in salary for the 9-1-1 Board Executive Director, Deputy Executive Director, and Training Coordinator positions to be more in line with similar positions throughout the country.
7*	Kari's Law	A County shall designate enforcement authority for this statute. Absent any designated County authority, the Office of the State Fire Marshal, Assistant State Fire Marshals, and Special Assistant State Fire Marshals shall have the enforcement authority over this statute.
8*	Outage Notification	<p>The following is proposed:</p> <ul style="list-style-type: none"> The State shall require carriers to notify the PSAP(s) and the MJOC of a 9-1-1 outage lasting more than thirty (30) minutes; The 9-1-1 Board shall create a standard operating procedure for the MJOC to follow regarding notifications; Telecommunications providers are required to provide a report at the next 9-1-1 Board meeting after a 9-1-1 outage lasting longer than thirty (30) minutes; and The 9-1-1 Board shall create a Crisis Communications Plan template for those PSAPs without a plan in place.
9	Outage Notification	The Commission sent a letter to the Federal Communications Commission (FCC) urging enforcement of the carrier notification requirement and access to the Network Outage Reporting System (NORS) and Disaster Information Reporting System (DIRS).
10*	Training Standards	The training programs mandated in the Code of Maryland Regulations (COMAR) chapter 12.11.3.10 shall be expanded to include psychological well-being and resilience as a required training topic.
11	Training Standards	As operational, social, technical, and cultural issues arise or evolve, the 9-1-1 Board shall establish new training criteria for 9-1-1 Specialists on an <i>ad hoc</i> basis; fund initial and continuing education training on these topics; and audit PSAPs at the annual inspection for compliance.
12*	Workers' Compensation	The State shall conduct a study on current Maryland Workers' Compensation laws to understand whether benefits should be awarded to 9-1-1 Specialists for the direct or indirect exposure to audible or visual trauma. This would be similar to claims that can already be filed by other public safety personnel for job-related illness. The study shall determine

Number	Category	Commission Recommendations
		whether the audible or visual trauma culminates in impaired mental wellness, emotional awareness, or cognitive functioning. Study results will be valuable for discussion of the merit and cost of extending coverage for Maryland's 9-1-1 Specialists.
13	Recruitment	To help address the persistent shortage of 9-1-1 Specialists in Maryland's 24 PSAPs, the 9-1-1 Board will create an information hub offering recruiting guidance, best practices, and strategies; fund recruitment projects for 9-1-1 Specialists; and identify a centralized website that links to job opportunities for 9-1-1 Specialists in the state.
14*	Recruitment	Update 9-1-1 Board eligible expenditures to authorize 9-1-1 Specialist recruitment activities.
15	GIS	The Commission encourages jurisdictions to create or modify existing memorandums of agreement (MOAs) between entities: <ul style="list-style-type: none"> • To include geographic information systems (GIS) data maintenance accuracy; • To update scheduling standards necessary to support NG911; and • Within their service area (i.e., municipalities, county, State, federal, and college campuses) that are involved in the required GIS data creation and maintenance.
16	GIS	To preserve operational integrity with multiple emergency services IP network (ESInet) vendors, the Commission recommends that Jurisdictions: <ul style="list-style-type: none"> • Continue to coordinate with the Maryland Department of Information Technology (DoIT); and • Provide their NG911 GIS data for statewide validation prior to updating any GIS data with ESInet providers.
17	GIS	Counties entering contracts for Next Generation Core Services (NGCS) shall require that NG911 service providers accept the National Emergency Number Association (NENA) i3 standardized and validated data.
18	GIS	DoIT, in coordination with the county jurisdictions, shall develop and distribute a statewide sustainable, standardized structure for each value-added GIS dataset identified by the MACo ECC as beneficial to improving emergency incident location.
19#	Remote Call-Taking Capabilities	Expand broadband infrastructure in underserved rural areas to benefit public safety remote emergency call-taking and dispatching capabilities.

Number	Category	Commission Recommendations
20	Victim Support	Encourage programs that offer mobile devices to domestic violence victims and any other vulnerable populations to provide phones with full-service access to voice and data.
21	Victim Support	Urge the FCC to revisit efforts to address the use of non-service initialized (NSI) phones and explore alternatives such as low-cost options for wireless service.
22*	Swatting	Update the 2020 version SB 837/HB 1024 to include a definition of “equipment” and “data file” as a possible use of malicious intent. <ul style="list-style-type: none"> • Equipment is any device that can contact 9-1-1 (i.e., computer, application, peripheral device, etc.) • Include “data file” with “telephone facilities or equipment” in the list of possible uses of malicious intent.

* These recommendations require legislative change.

The Commission is supporting MACo’s legislative effort on this topic.

9 Conclusion

Once again, in 2020, the Commission came together and collaborated to address topics that present challenges with the implementation and ongoing support of NG911. **The residents of Maryland have high expectations for the level of service received when contacting 9-1-1, and the evolution of technology requires a broad focus ranging from 9-1-1 oversight to the important details of validating GIS data and caring for Maryland 9-1-1 Specialists.** Legislation enacted in 2019 and 2020 has helped make major strides in strengthening 9-1-1 in the state, and the recommendations in this report will further advance Maryland’s 9-1-1 system.

Being Year Three, the Commission addressed numerous difficult topics, which had been deferred from the previous two years, and many had strong opinions about the outcomes of the recommendations. It was important that every voice was heard throughout the process, and the **Honorable Senator Cheryl Kagan**, Commission Chair, and **Mr. Steve Souder**, Commission Vice Chair and nationally respected 9-1-1 expert, worked diligently to hear individuals’ opinions and reach agreement on the best path forward.

Each subcommittee was led by a designated Chair who was integral in facilitating the discussions and developing recommendations that were approved by the respective subcommittee followed by the full Commission.

Table 6: Commission Subcommittee Chairs

Subcommittee Chair	Representing
The Honorable Senator Cheryl C. Kagan	<ul style="list-style-type: none"> Commission Chair Finance & Structure Subcommittee Chair
Chief Richard K. Brooks, III, Director	<ul style="list-style-type: none"> Oversight & Accountability Subcommittee Chair Cecil County Department of Emergency Services
Randall Cunningham, Director	<ul style="list-style-type: none"> Technology & Cybersecurity Subcommittee Harford County 9-1-1
Charlynn Flaherty, Deputy Director	<ul style="list-style-type: none"> Staffing & Training Subcommittee Chair Prince George's County Office of Homeland Security

Contributing Commission members played an integral role in the discussions and recommendations to help further solidify the 9-1-1 system in Maryland.

Table 7: Appointed Commission Members

Appointed Commission Member	Representing
The Honorable Senator Cheryl C. Kagan, Chair	Maryland State Senate
Mr. Steve Souder, 9-1-1 Expert and Maryland Resident, Vice Chair	Mid-Eastern Chapter of the Association of Public Safety Communications Officials, International (APCO)
The Honorable Senator Edward "Ed" Reilly	Maryland State Senate
The Honorable Delegate Michael A. Jackson	Maryland House of Delegates
The Honorable Delegate Susan W. Krebs	Maryland House of Delegates
Cecilia Warren, Director of Emergency Preparedness Policy	Maryland Department of Disabilities
Scott Roper, Executive Director	Maryland 9-1-1 Board
Jack Markey, Director, Division of Emergency Management, Frederick County	County Public Safety Answering Point *
Julia Fischer, Acting Chief of Applications and Maryland Geographic Information Officer (GIO)	Maryland Department of Information Technology (DoIT)
Anthony Myers, Executive Director	Maryland Public Service Commission (PSC)
Chief Richard K. Brooks, III, Director of Department of Emergency Services, Cecil County	County Public Safety Answering Point*

Appointed Commission Member	Representing
Randall Cunningham, Public Safety Manager, Department of Emergency Services, Harford County	County Public Safety Answering Point*
Charlynn Flaherty, Deputy Director, Office of Homeland Security Public Safety Communications, Prince George's County	County Public Safety Answering Point*
Bardona Woods, Emergency Medical Dispatch Instructor, Priority Dispatch Corporation and retired, Director of Communications, Division of Emergency Services, Washington County	Maryland Chapter of the National Emergency Number Association (NENA)
Tracy German, Emergency Communications Manager, Frederick County Emergency Communications	9-1-1 Public Safety Telecommunicators*
Jonathan Seeman, Director of Budget, Finance, and Information Technology, Queen Anne's County	County Purchasing and Finance*
Erin Sher Smyth, Project Manager of Public Safety and ERP Parallel Projects, City of Baltimore	County Purchasing and Finance*
Anna Sierra, Director, Emergency Services, Caroline County	Eastern Shore Communications Alliance
Tony Rose, Deputy Director, Emergency Services, Charles County	Metropolitan Washington Council of Governments
J. Kevin Aftung, Director, County Office of Emergency Management, Anne Arundel County	Baltimore Metropolitan Council of Governments
Scott L. Brillman, Captain, 9-1-1 Director, Baltimore City Fire Department, City of Baltimore	Maryland 9-1-1 Board
Sean Looney, Vice President, State Government Affairs, Comcast NBC Universal	Broadband Industry^
Colton O'Donoghue, Director of Network Engineering, Verizon	Wireless Communications Industry^

*Denotes Commissioners appointed by MACo

^Denotes non-voting member

The Commission is open to all who are dedicated to improving Maryland’s 9-1-1 system. The Commission would like to thank the following individuals and other key supporters who were integral to our conversations and provided valuable input throughout its work.

Table 8: Contributing Commission Members

Contributor	Representing
Kevin Kinnally, Legislative Director	Maryland Association of Counties (MACo)
Michael Sanderson, Executive Director	Maryland Association of Counties (MACo)
Ross Coates, Communication Manager, Harford County	MACo Emergency Communications Committee
Bryan Ebling, Retired Director of Emergency Services, Caroline County	Maryland 9-1-1 Board
Sean Scott, Chief Technical Officer	SecuLore Solutions
William (Ernie) Jenkins, Police Communications Support Division	Maryland State Police
Dean Rohan, Statewide Communications Trainer	Maryland State Police
Rebecca Wimmer, Applications Training Coordinator	Maryland State Police
Legislative Staff Support	Representing
Ryan Kirby, Chief of Staff	Senator Kagan’s Office
Abigail Snyder, Legislative & Communications Director	Senator Kagan’s Office

The following individuals presented at Commission meetings and/or provided guidance by answering questions of Commission members.

Table 9: Commission Experts

Commission Experts	Representing
Jeff Cohen, Chief Counsel and Director of Government Relations	Association of Public-Safety Communications Officials (APCO)
Brian Fontes, Chief Executive Officer	National Emergency Number Association (NENA)
David Furth, Deputy Chief	Federal Communications Commission

Commission Experts	Representing
Brian Geraci, State Fire Marshal	Office of the Maryland State Fire Marshal
Lisae Jordon, Executive Director & Counsel	Maryland Coalition Against Sexual Assault (MCASA)
Amanda Katz, Executive Director	Jewish Coalition Against Domestic Abuse (JCADA)
Jim Marshall, Co-Founder and Director of 9-1-1 Training Institute	9-1-1 Training Institute
Chris Riley, Director, Comptroller's Compliance Division	Maryland Comptroller's Office
Russell Strickland, Executive Director	Maryland Emergency Management Agency

Mission Critical Partners, LLC (MCP) provided consulting services and subject-matter expertise in support of the Commission's work. The following staff members were a valuable part of the Commission's proceedings and were assigned to specific subcommittees.

Table 10: MCP Personnel

Staff Member	Subcommittee Assignment
Chad Brothers, PMP, ENP	Technology & Cybersecurity
John Chiaramonte, PMP, ENP	Subject Matter Expert
Molly Falls, ENP	Project Manager
Karyn Henry	Oversight & Accountability
Sherri Griffith Powell, ENP	Finance & Structure
Joshua Jack	Technology & Cybersecurity
Heather McGaffin, ENP	Staffing & Training
Nancy Pollock, ENP	Oversight & Accountability
Nicki Tidey, ENP	Staffing & Training
Nicole Unger	Oversight & Accountability

Three full Commission meetings were held in 2020 and can be viewed by clicking on the links below. Subcommittee meetings were not live-streamed.

Table 11: 2020 Commission Meeting Links

Meeting Date	Link to Meeting
Wednesday, July 8, 2020	https://youtu.be/3FtEjbLWbMg
Thursday, October 22, 2020	https://www.youtube.com/watch?v=QQEhr37CAoM
Wednesday, November 18, 2020	https://www.youtube.com/watch?v=V2FoF9HIVMo

Appendix A: Glossary of Terms

Term	Definition
9-1-1 Request for Assistance	The means by which the public communicates a need for help. With the current “legacy system,” such requests have been solely via a telephone call, but with NG911, individuals also will use other means.
9-1-1 Specialists	Professionals responsible for answering, triaging, dispatching 9-1-1 calls, and the Maryland Public Information Act (MPIA) redactions. With NG911, they will be asked to manage emergency requests for service via text, video, and voice. They are often the “first, First Responders” who provide the emergency response, either directly or through communication with the appropriate law enforcement, fire, or emergency medical services (EMS) agencies.
Association of Public-Safety Communications Officials (APCO)	APCO is the world’s oldest and largest nonprofit professional organization dedicated to the enhancement of public safety communications.
Critical Incident Stress Management (CISM)	Crisis intervention to provide support to those who have experienced traumatic events.
Computer-Aided Dispatch (CAD)	A computer-based system that aids PSAP telecommunicators by automating selected dispatching and record-keeping activities.
Core Service	The specific and essential functions within the 9-1-1 community. Examples include call-routing, processing, dispatching, and logging.
County	Maryland’s 23 counties and the independent jurisdiction of Baltimore City.
Customer Premises Equipment (CPE)	Communications or terminal equipment located in PSAP facilities (e.g., the 9-1-1 telephone equipment at the PSAP).
Distributed Denial of Service (DDoS)	A cyber-attack where the source is more than one, often thousands of, unique Internet Protocol (IP) addresses that are used to flood the bandwidth or resources of a targeted system.
Emergency Medical Dispatch (EMD)	Refers to a system that enhances services provided by 9-1-1 Specialists by allowing them to quickly narrow the caller's type of

Term	Definition
	medical or trauma situation to better dispatch emergency services, and to provide quality instruction to the caller before help arrives.
Emergency Services Internet Protocol (IP) Network (ESInet)	An IP-based network dedicated to public safety operations. An ESInet can route 9-1-1 calls to a PSAP and support other methods of data-sharing between public safety agencies. An ESInet cannot be proprietary to a specific core service product or group of products.
Federal Communications Commission (FCC)	An independent U.S. government agency overseen by Congress that is responsible for implementing and enforcing America’s communications law and regulations.
Geographic Information System (GIS)	A system for capturing, storing, displaying, analyzing, and managing data and associated attributes that are spatially referenced.
Legacy Technology	For this report, “legacy technology” is the traditional 9-1-1 infrastructure currently used by PSAPs and 9-1-1 service providers.
Local Exchange Carrier (LEC)	A company that provides the traditional telephone services (e.g., Verizon, AT&T, and CenturyLink).
Maryland 9-1-1 Board [Formerly known as the Emergency Number Systems Board (ENSB)]	The entity that distributes funding and coordinates installation and enhancement of county 9-1-1 emergency systems. It issues guidelines and evaluates county plans for these systems; performs PSAP inspections; oversees auditing of 9-1-1 Trust Fund accounts; and sets criteria for reimbursing counties.
Maryland Association of Counties (MACo)	A nonprofit, nonpartisan organization that serves Maryland’s 23 counties and Baltimore City by advocating for the needs of local government.
Maryland Emergency Management Agency (MEMA)	The government agency that provides Maryland residents, organizations, and emergency management partners with expertise, programmatic activities, and leadership supporting resiliency across Maryland.
Maryland Joint Operations Center (MJOC)	A statewide communications hub for emergency responders and local emergency management run 24x7x365 by MEMA.
National Emergency Number Association (NENA)	NENA is a nonprofit corporation established in 1982 to further the goal of “One Nation-One Number.” NENA is a networking source and

Term	Definition
	promotes research, planning, and training. NENA strives to educate; develop standards; and provide certification programs; legislative representation; and technical assistance for implementing and managing 9-1-1 systems.
Next Generation 9-1-1 (NG911)	An Internet Protocol (IP)-based system comprised of managed Emergency Services IP networks (ESInets), hardware, software, and databases that replicate traditional 9-1-1 service and enables enhanced capabilities for PSAPs (i.e. data, video, images, text).
Public Safety Answering Point (PSAP)	A center that receives 9-1-1 requests for assistance and processes them according to established protocols and operational policies.
Public Service Commission (PSC)	The Commission regulates public utilities and certain passenger transportation companies doing business in Maryland.
Swatting	The action of making a false report of a serious emergency so that a Special Weapons and Tactics (SWAT) team—a group of officers trained to deal with dangerous situations—will go to a person's home. Persons who engage in swatting want to frighten, upset, or cause problems for the person being swatted.
Telecommunicator Emergency Response Taskforce (TERT)	A team of public safety telecommunicators who respond, relieve, assist, and/or augment PSAPs affected by natural or human-caused disasters.
Telephony Denial of Service (TDoS)	An illegal attack targeting the telephone network by generating numerous 9-1-1 calls, tying up the network and preventing legitimate calls from being answered.
Transmission Control Protocol/Internet Protocol (TCP/IP)	A set of rules for communication between computers; it is also used as a standard for transmitting data over networks.

Appendix B: Maryland NG911 Vendor Contract Status by County

The table below provides an overview of NG911 progress for each of the counties in Maryland. The counties that have selected a vendor are either finalizing procurement or implementing NG911. Those that are planning will begin procurement and select a vendor in 2021.

County	Vendor Selected
Allegany	Implementing (Motorola)
Anne Arundel	Planning
Baltimore City	Planning
Baltimore County	Planning
Calvert	Implementing (AT&T)
Caroline	Procuring (AT&T)
Carroll	Planning
Cecil	Procuring (AT&T)
Charles	Implementing (AT&T)
Dorchester	Procuring (AT&T)
Frederick	Implementing (Motorola)
Garrett	Implementing (Motorola)
Harford	Planning
Howard	Implementing (Motorola)
Kent	Procuring (AT&T)
Montgomery	Implementing (AT&T)
Prince George's	Implementing (Motorola)
Queen Anne's	Procuring (AT&T)
St. Mary's	Implementing (AT&T)
Somerset	Procuring (AT&T)
Talbot	Procuring (AT&T)
Washington	Planning
Wicomico	Procuring (AT&T)
Worcester	Procuring (AT&T)

Appendix C: Letter to the Maryland Comptroller Re: Audits

October 20, 2020

Hon. Peter Franchot
Comptroller of Maryland
301 West Preston Street
Baltimore, MD 21201

Dear Comptroller Franchot:

We hope that you and your team are staying safe. We are writing as members of the Next Generation 9-1-1 Commission regarding audits of telephone carriers.

During the 2020 legislative session, the Commission endorsed six bills to improve our emergency response systems. Among these new laws was [SB61/HB6](#)-- an emergency bill that tasked your office with auditing the collection and remittance of 9-1-1 fees.

We have received a memo from your office indicating that your Assistant Attorney General has prohibited your staff from initiating or continuing any audits since the start of the Coronavirus pandemic. We are perplexed by this restriction as we watch other public and private employees safely work remotely. Our counties and 9-1-1 Call Centers depend on these fees to save the lives and property of our constituents.

Could you please clarify why your office has not yet begun conducting audits of telephone carriers... or *any* other oversight work? As our 24 counties prepare to shift to “Next Generation 9-1-1,” sufficient funding could literally mean the difference between life and death. Thank you for your consideration of this urgent issue. We look forward to hearing from you soon.

Best,

Cheryl

Sen. Cheryl C. Kagan
Chair, Next Generation 9-1-1 Commission

Ed

Edward R. Reilly

Michael

Del. Michael A. Jackson

Sue

Del. Susan W. Krebs

cc: Governor Larry Hogan
President Bill C. Ferguson, Senate President
Speaker Adrienne A. Jones, Speaker of the House
of Delegates Attorney General Brian E. Frosh
Members of the NG911 Commission
Michael Sanderson, Maryland Association of Counties (MACo)

Appendix D: State 9-1-1 Board Locations

Under an Independent Emergency Management Agency	In an Agency that Oversees both 9-1-1 and Emergency Management Separately	Various Other Agencies**	Independent 9-1-1 Agency
Arkansas*	California	Alaska	Alabama
Connecticut	Delaware	Arizona	Indiana
Georgia	Michigan	Florida	Kansas
Idaho	Minnesota	Hawaii	Massachusetts
Iowa	New Hampshire	Illinois	Tennessee
Louisiana	New York	Kentucky	Texas
Mississippi	South Dakota	Maine	Utah
North Dakota*	Wisconsin	Maryland***	Vermont
Oklahoma		Missouri	
Oregon		Montana	
Pennsylvania		Nebraska	
Virginia		New Jersey	
Washington		New Mexico	
West Virginia		North Carolina	
		Ohio	
		Rhode Island	
		South Carolina	

* Board is separate.

** Examples include: Administration; IT; Homeland Security; Public Safety; Finance.

Colorado and Wyoming have no statewide 9-1-1 program.

***Maryland is currently under the Maryland Department of Public Safety and Correctional Services (DPSCS), the Commission is looking to move this under an Independent Emergency Management Agency.

Appendix E: 9-1-1 Board Responsibilities and Salary Comparison

State 9-1-1 program responsibilities and salary comparison can be found on the pages that follow.

PROGRAM RESPONSIBILITIES																	
State	Population ²⁶	# of PSAPs ²⁷	Program Budget	Planning	Statewide Coordination	Distribute Funds	Grants to PSAPs	Technical Standards	Operational Standards	Training Requests or Standards	NG911 Network Design	Manage Contracts	GIS	Gov Bd	Statute & Rules Compliance	Report to Leg. or Gov	Audits
AZ	7.279m	74	\$1.3m ²⁸	X	X	X	X	X	X	X	X	X	X	None	X	X	X
GA	10.62m	154	UNK ²⁹	X	X	Direct to locals	Direct to locals	X	N/A	N/A	X	N/A	N/A	None	X	None	Local
IL	12.67m	191	\$2.2m ³⁰	X	X	X	X	X	X	X	X	X	X	X	X	X	None
IN	6.732m	91	\$13.1 ³¹	X	X	X ³²	X	X	X	X	X	X		X	X		
MD	6.046m	24	\$14.4m* ³³	X	X	X	X	X	X	X	--	X	--	X	X	--	X
MN	5.64m	97	\$13.0m ³⁴	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NE	1.934m	69	\$11.5m	X	X	X	X	X	QA	X	X	X		X	X	X	
OK	3.957m	131	\$1.2m	X	X	X	X	X	Best practices	X	X			X	X	N/A	X ³⁵
PA ³⁶	12.8m	63	\$4.9m ³⁷	X	X	X	X	X	X	X	X	X	X	X	X	X	X ³⁸
TN	6.829m	142	\$3.3 ³⁹	X	X	X	X	X	X	X	X	X	X	X	X	X	X
VA	8.536m	119	\$6.7m	X	X	X	X	X	X	Local	Genl	St wide	X	X	X	X	X ⁴⁰

*The program budget in Maryland will be much larger in FY20

²⁶ United States Census Bureau <https://www.census.gov/topics/population.html>; population is shown in millions.

²⁷ National Profile Database, November 2019, National 9-1-1 Program.

²⁸ Five percent of the Fund's annual revenues are set aside for administrative costs. Three percent of that amount is allocated to the Program, which must use these funds for Program costs directly related to 9-1-1 as well as a portion of ADOA's overhead; 2 percent is allocated to the system administrators for local contracted 9-1-1 network management costs. The remaining 95 percent of the revenues are used to cover each of the 9-1-1 system's approved budgets. FY 2018 budget was \$18,107,229.

SALARY COMPARISON											
STATE	AZ	GA	IL	IN	MD	MN	NE	OK	PA	TN	VA
Salary Range	\$80,000-\$110,000	UNK	UNK	UNK	\$68,901-\$110,635	UNK	UNK	\$80,000-\$120,000	UNK	UNK	UNK
Current Salary	Vacant	\$92,291	\$129,600	\$101,197	\$80,159	\$108,472	\$107,640	\$85,000	\$142,436	\$119,292	\$133,000
# of years in the position	Vacant	1yr	4yr	UNK	5yr	2.5yr ⁴¹	4yr	1.5yr	4yr	8yr	15+

²⁹ Beginning January 1, 2019, GECA and the Georgia Department of Revenue began collecting and disbursing all 9-1-1 fees to local governments. No data is yet available.

³⁰ Fiscal Year 2020 estimated in 2019 Annual Report of the Statewide 9-1-1 Advisory Board. Admin only.

³¹ Statewide 9-1-1 Board Financial Audit, 2018, Operating Expense.

³² The 2012 General Assembly changed the 9-1-1 fee statute in Indiana and required all 9-1-1 fee collections to be at the “state” and not by each county the guaranteed or “hold harmless” formula was included. The Indiana Statewide 9-1-1 Board was required to “average” the wireline and wireless 9-1-1 revenue for each county for the state’s fiscal years 2007, 2008, and 2009. This average became known as the “hold harmless” or guaranteed funding that each county would receive annually. Currently \$60,778,104.00 are guaranteed in annual disbursements to county auditors.

³³ DPSCS 2018 Annual Report: “The Department of Public Safety and Correctional Services FY 2018 annual budget appropriation for the Emergency Number Systems Board is approximately \$14.4 Million.”

³⁴ Biennial budget 2015-2016 latest available on website.

³⁵ Wireless only

³⁶ 2018 Annual Report

³⁷ PEMA may retain up to 2% of the surcharge revenue collected for agency expenses directly related to administering the provisions of the legislation. In 2018, PEMA retained \$6,324,334 of the surcharge revenue collected for agency administrative costs related to 9-1-1. Actual administrative costs and commitments in 2018 totaled \$4,896,227, leaving a balance of \$1,428,107. The total remaining balance from revenue allocated for PEMA administrative costs under Act 12 is \$6,051,853.

³⁸ PSAP and Provider

³⁹ TECB Annual Report, 2019. This amount reflects costs for administration, consultants, GIS & cost recovery; all costs under the purview of the state is \$31,827,128 (network, ANI/ALI, Telecomm Devices Access Program, ESInet management, etc.)

⁴⁰ Virginia Department of Taxation

⁴¹ Previously Statewide 9-1-1 Program Manager (aka Deputy Director) for 5 years

Appendix F: Letter to the Department of Budget & Management Re: 9-1-1 Board Staff Job Classifications and Salaries

November 4, 2020

Honorable David R. Brinkley
Department of Budget & Management
45 Calvert Street
Annapolis, MD 21401

Dear Secretary Brinkley:

We are writing as the legislators serving on Maryland's Next Generation 9-1-1 Commission regarding the Executive Director and the vacant staff positions to support the 9-1-1 Board. You likely haven't looked deeply into these jobs, and we believe they are under-classified and underpaid.

The work being done by the 9-1-1 Board is life-saving and requires extensive time and commitment. As we enact more laws based on the recommendations of the NG911 Commission, the expectations for the Executive Director have grown tremendously. In order to retain this dedicated member of the team, we believe that it is important to properly compensate for the work being done.

Though the list of priorities grows, having talented staff to manage it has proven hard to attract. Under the Executive Director, the three staff positions (Admin Officer I, Office Secretary I, & Administrator III) have not been filled. We believe that classifying these jobs simply as "administrative" might be limiting the field of applicants for the positions. These jobs encompass a wide range of responsibilities, and we believe that the listings should reflect this so as to attract qualified candidates.

Since 2018, the budget for the (then named) Emergency Number Systems Board has increased from [\\$14.4 million](#) to upwards of \$28 million, which could provide room for salary increases for the above-listed positions. Below is some data comparing our Executive Director's salary to those in other states.

We are grateful for the work you continue to do for our State as we grapple with budgetary challenges. Would you or a member of your team please look into these positions and share your thoughts by November 10th, prior to our next NG911 Commission meeting?

Best,

Cheryl

Sen. Cheryl C. Kagan
Chair, Next Generation 9-1-1 Commission

Ed

Edward R. Reilly

Michael

Del. Michael A. Jackson

Sue

Del. Susan W. Krebs

Attachment: Salary Chart

cc: Chair Guy Guzzone, Senate Budget & Taxation
Committee Chair Maggie McIntosh, House
Appropriations Committee
Vice Chair Steve Souder, Maryland's Next Generation 9-1-1
Commission Members, NG911 Commission

SALARY COMPARISON												
STATE	AZ	GA	IL	IN	MD	MN	NE	OK	PA	TN	VA	
Salary Range	\$80,000-\$110,000				\$68,901-\$110,635			\$80,000-\$120,000				
Current Salary	Vacant	\$92,291	\$129,600	\$101,197	\$80,159	\$108,472	\$107,640	\$85,000	\$142,436	\$119,292	\$133,000	
# of years in the position	Vacant	1yr	4yr	UNK	5yr	2.5yr ¹⁶	4yr	1.5yr	4yr	8yr	15+	

PROGRAM RESPONSIBILITIES																	
ST	Popu- lation ¹	# of PSAPs ²	Program Budget	PinK	State wide Coord	Distribute Funds	Grants to PSAPs	Tech Standards	Oper. Standards	Training Reqs or Standards	NC 911 Network Design	Manage Contracts	GIS	Gov Bd	Statute & rules compliance	Report to Leg. or Gov	Audits
AZ	7.279m	74	\$1.3m ³	X	X	X	X	X	X	X	X	X	X	None	X	X	X
GA	10.62m	154	UNK ⁴	X	X	Direct to locals	Direct to locals	X	N/A	N/A	X	N/A	N/A	None	X	None	Local
IL	12.67m	191	\$2.2m ⁵	X	X	X	X	X	X	X	X	X	X	X	X	X	None
IN	6.732m	91	\$13.1 ⁶	X	X	X ⁷	X	X	X	X	X	X	X	X	X	X	
MD	6.046m	24	\$14.4m ⁸	X	X	X	X	X	X	X	N/A	N/A	N/A	X	X	N/A	X
MN	5.64m	97	\$13.0m ⁹	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NE	1.934m	69	\$11.5m	X	X	X	X	X	QA	X	X	X	X	X	X	X	X ¹⁰
OK	3.957m	131	\$1.2m	X	X	X	X	X	Best practices	X	X		X	X	X	N/A	X ¹⁰
PA ¹¹	12.8m	63	\$4.9m ¹²	X	X	X	X	X	X	X	X	X	X	X	X	X	X ¹³
TN	6.829m	142	\$3.3 ¹⁴	X	X	X	X	X	X	X	X	X	X	X	X	X	X
VA	8.536m	119	\$6.7m	X	X	X	X	X	X	Local	Secul	St wide	X	X	X	X	X ¹⁵

Appendix G: Letter to the Federal Communications Commission Re: Outage Notification

December 11, 2020

Lisa M. Fowlkes
Bureau Chief of the Public Safety and Homeland Security Bureau
Federal Communications Commission
45 L Street NE
Washington, DC 20554

Dear Ms. Fowlkes:

The mission of the Maryland Commission to Advance Next Generation 9-1-1 (“Maryland Commission”) is to strengthen 9-1-1 service within the State. For the past two- and one-half years, the Commission has been working on improvements to best practices, policies, and procedures related to 9-1-1 in the State of Maryland to accomplish that mission.

During recent discussions, the events of a 9-1-1 service outage again raised concerns about the timely notification to 9-1-1 emergency communications centers (ECCs) and/or public safety answering points (PSAPs) when disruptions occur. The Maryland Commission applauds the Federal Communications Commission’s (FCC’s) recent efforts to consider expanding the Network Outage Reporting System (NORS) and the Disaster Information Reporting System (DIRS) framework in order to share critical communication outage information with state, and applicable local 9-1-1 authorities, as appropriate. This system access highlights the need for enforcement of the thirty-minute carrier notification requirements. PSAPs are not consistently receiving timely notification of outages impacting 9-1-1 service from wireless and Voice over Internet Protocol (VoIP) carriers.

We urge the FCC to move forward as soon as practical to enforce the outage notification requirements and implement an order to allow state and local access to these important planning and response tools.

- **LACK OF TIMELY OUTAGE INFORMATION JEOPARDIZES THE PSAP’S AND INCREASES RISK TO FIRST RESPONDERS AND TO THE PUBLIC**
 - The Maryland Commission believes the requirement for wireless and VoIP carriers to notify public safety within 30 minutes of an outage is essential to protecting the public and should be required for all communities.
 - Without current information on the impact, mitigation efforts, anticipated time to restore, extent of the service disruption, etc. the PSAP/ECC is unaware and cannot adequately inform or prepare first responders or the public. Unless the PSAP/ECC knows and understands the extent of impact, or what to inform their citizens, they are operating in a vacuum. Misinformation is almost as dangerous and confusing as no information.

- Messaging to properly inform constituents and first responders of the extent of the service disruption can protect responders and improve response services.
- **ACCESS TO NORS AND DIRS HAS SIGNIFICANT PUBLIC SAFETY BENEFITS**
 - The Maryland Commission agrees with the FCC that NORS and DIRS information sharing with state and federal agencies—in a manner that preserves the confidentiality of that information—would provide important public safety benefits.
 - Increased situational awareness assists local communities in maintaining continuity of service and ensures their public has the ability to contact emergency services.
- **SERVICE DISRUPTION INFORMATION HAS OPERATIONAL IMPACT FOR 9-1-1**
 - DIRS filings contain timely information about the operational status of service providers' networks and the associated infrastructure equipment, needed by 9-1-1 during disaster conditions.
 - DIRS filings also reflect a snapshot of whether specific service provider infrastructure equipment is running on backup power or out of service, as well as the operational status of 9-1-1 call centers. This is critical information supporting PSAP efforts to plan and prepare for continued operations.
 - As the FCC has found in past communications outages situations, information indicating which counties have a large percentage of its cell towers out of service can provide local and state authorities the situational awareness they need to appropriately address the communications needs of 9-1-1 callers in the affected areas and keep them informed.
- **DELAYED OR PARTIAL INFORMATION ON OUTAGES RESTRICTS THE 9-1-1 EMERGENCY COMMUNICATION CENTERS ABILITY TO EFFECTIVELY ADDRESS THE OUTAGE FOR ALL POPULATIONS, BUT PARTICULARLY FOR VULNERABLE POPULATIONS**
 - When the PSAP/ECC does not get timely or complete notification of outages, they cannot effectively initiate alternate means of communication and provide access for those populations impacted by the outage.
 - Public service messaging, crisis communications options, back up operations all require time to activate. When the PSAP/ECC is not informed in a thorough or timely manner, their ability to trigger alternative methods for their populations to contact emergency services is severely compromised.
- **NEED TO SAFEGUARD CONFIDENTIAL DATA**
 - NORS filings contain timely information on communications service disruptions or outages impacting a provider's network and may include useful information about the operational status of communications services or 9-1-1 elements that have been affected, as well as incident date, time, and location details.
 - Public safety should be required to meet all requirements with appropriate and sufficient safeguards to protect confidentiality of information and the protection of the carrier's data.

The Maryland Commission concurs with the FCC finding that sharing NORS and DIRS data with state, local, and federal agencies would best serve the public interest. We ask for notification enforcement and swift action in making access available to support the 9-1-1 community in allowing them to adequately serve their communities and protect their responders.

Thank you for your consideration.

Respectfully submitted,

Cheryl C. Kagan

Sen. Cheryl C. Kagan
(District 17)
Chair, Maryland NG911 Commission

Steve Souder

Steve Souder
Member at-Large, Maryland 9-1-1 Board
Vice Chair, Maryland NG911 Commission

cc: Bureau Chief, FCC Public Safety and Homeland Security Bureau
David Furth, Deputy Chief, FCC Public Safety and Homeland Security Bureau

Appendix H: Letter to the Federal Communications Commission Re: Phones for Domestic Violence Victims

December 11, 2020

Marlene Dortch
Office of the Secretary
Federal Communications Commission
45 L Street NE
Washington, DC 20554

Re: 9-1-1 Call-Forwarding Requirements for Non-Service-Initialized Phones (PS Docket No. 08-51)

Dear Ms. Dortch:

Upon recognition that PS Docket 08-51 was quietly closed on October 29, 2020, without action, the Maryland Commission to Advance Next Generation 9-1-1 (Maryland Commission) appeals to the Federal Communications Commission (“FCC”) to take meaningful action and inspire further dialogue into the obstacles and mitigation of non-service initialized (NSI) devices. Nearly 25 years ago, the First E911 Report and Order⁴² mandated the capability of connecting to 9-1-1 for service and NSI devices. Since that 1996 legislation, the number of NSI calls have increased, impacting our nations’ 9-1-1 centers. The vast majority of calls originating from those devices are false calls that take valuable (and limited) resources away from the actual handling of emergencies.

Today, many subscribers obtain new phones at least bi-annually, causing an increase in NSI devices being made available through donation programs and hand-downs. Many of them have pre-activated emergency auto-dial features, which can lead to unintentional dialing of 9-1-1, even with locked keypads. Use of these phones leads to complications for 9-1-1 centers due to the lack of information including Automatic Number Identification (ANI), Automatic Location Identifier (ALI) and/or location of the caller.

NSI devices are actively being sold and distributed for access to 9-1-1, perpetuating concerns of the 9-1-1 center. New devices that rely on the NSI requirement to enable their basic operations are being sold for the express purpose of being able to call 9-1-1. In addition, used wireless devices are being provided to individuals in need of access to mobile service. Recipients of such devices include but are not limited to children, ride-share drivers, mail carriers, community watch groups, and frequently, domestic violence victims.

While the beneficiaries of donated phones gain the ability to place 9-1-1 calls, they lack access to modern wireless and data services important for today’s communication needs. For example, domestic violence victims

⁴² See E911 First Report and Order, CC Docket No. 94-102, 11 FCC Rcd 18676 (1996), adopted June 12, 1996 and Memorandum Opinion and Order, CC Docket No. 94-102, 12 FCC Rcd 22665 (36), adopted December 1, 1997.

need the ability to text or silently send an alert so as not to bring attention to their call for help. We know that texting to 9-1-1 from an NSI device is not currently possible. For these reasons, we firmly believe the use of programs that offer low-cost, fully functional devices to eligible applications, such as the FCC's Lifeline⁴³ Program, is the best option for both the recipient and the public safety community.

Training of basic call-taking standards have resolved how to properly handle an NSI call; however, until the FCC addresses this issue, NSI devices will continue to plague public safety answering points (PSAPs) nationwide with their profound, adverse effect on public safety. On behalf of the PSAPs in Maryland, the Maryland Commission urges the FCC to revisit attempts, dating back to April 1, 2015, to address the use of NSI devices.

The strain on PSAP operations from NSI devices is well-documented in numerous comments to the Commission in previous Notice of Inquiries ("NOI"). The Maryland Commission seeks to understand from the FCC whether additional data would benefit future action. If so, to help advance understanding of the current impact, Maryland PSAPs are willing to complete a study to gather accurate statewide NSI call data. If the collected data confirms that NSI devices negatively impact PSAP operations, the Maryland Commission strongly recommends drastically reducing the usage of NSI devices.

In addition to a long-term goal of phasing out NSI devices completely, the Maryland Commission identifies low-cost service-initialized devices that provide the features and functionality consumers rightly and reasonably expect as the optimal path forward to reduce NSI device usage. The Maryland Commission recommends that the FCC continue to enhance its Lifeline program, further reducing the monthly fees on service-initialized devices, thus potentially encouraging more participation in the program.

Thank you for your consideration regarding this very important matter.

Respectfully submitted,

Cheryl C. Kagan

Sen. Cheryl C. Kagan
(District 17)
Chair, Maryland NG911 Commission

Steve Souder

Steve Souder
Member at-Large, Maryland 9-1-1 Board
Vice Chair, Maryland NG911 Commission

cc: Lisa M. Fowlkes, Bureau Chief, FCC Public Safety and Homeland Security Bureau
David Furth, Deputy Chief, FCC Public Safety and Homeland Security Bureau

⁴³ <https://www.fcc.gov/general/lifeline-program-low-income-consumers>