# Emergency Number Systems Board

# 9-1-1

# ANNUAL REPORT 2013

| Martin O'Malley | Anthony G. Brown | Greg Hershberger |
|---|---|---|
| Governor | Lt. Governor | Secretary - DPSCS |

**DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONAL SERVICES**

MARYLAND 9-1-1 EMERGENCY NUMBER SYSTEMS BOARD

MARYLAND
9-1-1
EMERGENCY
NUMBER SYSTEMS BOARD

**Department of Public Safety and Correctional Services**

**Emergency Number Systems Board**
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**STATE OF MARYLAND**

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GOVERNOR

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SCOTT ROPER
TRAINING COORDINATOR

March 25, 2014

Secretary Greg Hershberger
Department of Public Safety and Correctional Services
300 East Joppa Road - Suite 1000
Baltimore, MD 21286

Dear Secretary Hershberger:

I am pleased to provide you with the Annual Report of the Emergency Number Systems Board (ENSB or Board) for Fiscal Year 2013. The Board has convened monthly, and more frequently in sub-committees, to consider a variety of 9-1-1 related issues and projects. The attached report outlines the collective efforts of the Board and the larger 9-1-1 community in making Maryland a safer place for its residents, businesses, and visitors.

Maryland continues to benefit from an effective 9-1-1 system. Recent Board statewide efforts include working with Verizon, Maryland PSAP personnel, and the Maryland Public Service Commission to review the implementation of policies and standards adopted by the Federal Communications Commission and ENSB to minimize disruptions to 9-1-1 service caused by power outages and network failures. Ongoing Board activities include providing a vigorous 9-1-1 training program throughout the state, working with vendors to improve 9-1-1 service delivery, and continuing research, planning, and implementation of "Next Generation" technologies.

The Board remains focused on the enhancement of 9-1-1 and the critical role it plays in public safety. On behalf of the members of the Emergency Number Systems Board and the more than nine hundred call takers around the State, I thank you for your support and the diligent assistance your staff routinely provides.

The attached document and appendices constitute the 2013 Annual Report of the Emergency Number Systems Board as required by the Public Safety Article.

Sincerely,

A Myers

Anthony Myers, Chairman
Emergency Numbers Systems Board

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## APPENDIX

## ENSB MISSION STATEMENT

***THE EMERGENCY NUMBER SYSTEMS BOARD WORKS COOPERATIVELY WITH THE COUNTIES TO PROVIDE AN EFFECTIVE AND EFFICIENT MARYLAND 9-1-1 SYSTEM THROUGH THE ADMINISTRATION OF THE 9-1-1 TRUST FUND REVENUES.***

**The Board achieves its goals through implementation of the following principles:**

## ENSB VISION STATEMENT

***THE EMERGENCY NUMBER SYSTEMS BOARD IS DEDICATED TO ENSURING MARYLAND'S 9-1-1 SYSTEM REMAINS ROBUST AND RESPONSIVE TO THE PUBLIC-SAFETY NEEDS OF OUR CITIZENS AND VISITORS. THE BOARD IS COMMITTED TO PROVIDING FISCALLY RESPONSIVE FUNDING TO MAINTAIN A TECHNOLOGICALLY ADVANCED 9-1-1 SYSTEM STAFFED WITH APPROPRIATELY TRAINED EMERGENCY OPERATORS. THROUGH A PARTNERSHIP WITH THE 9-1-1 COMMUNITY, THE BOARD WILL PROVIDE LEADERSHIP AND GUIDANCE FOR MARYLAND TO BE RECOGNIZED NATIONALLY FOR EXCELLENCE IN PROVIDING 9-1-1 SERVICE.***

The Emergency Number Systems Board's (ENSB or Board) duties are defined by Sections §1-301 through §1-312 of the Public Safety Article of the Annotated Code of Maryland. Further clarity of direction and explicit responsibilities of the Board are provided in the Code of Maryland Regulations (COMAR) Title 12, Subtitle 11, Chapter 03. Those duties include coordinating the enhancement of County 9-1-1 systems and the oversight of the 9-1-1 Trust Fund. This report details the activities of the Board during calendar year 2013 and Trust Fund expenditures of fiscal year 2013 (July 1, 2012 to June 30, 2013).

The Public Safety Article requires that the following six topics be included in the annual report:

This report goes significantly beyond these six areas in an effort to provide additional insight into the work of the Emergency Number Systems Board. As the communications industry introduces new technological enhancements, Maryland's 9-1-1 system continues to evolve to ensure that Maryland's citizens and visitors are afforded a robust and responsive system when they call 9-1-1.

The current direction of the Board is to evaluate and fund local, regional, and statewide plans for enhancements consistent with the Public Safety Article, Board guidelines, the availability of 9-1-1 Trust Fund dollars, and technological advancements. The Board is examining the following current issues:

- Integrating "Next Generation (NG)" Internet Protocol (IP) based 9-1-1 service delivery of voice, text, data, and video messaging into the 9-1-1 System;
- Examining current local and national policies, standards, and legislation to identify best practices evolving from governance, planning, regulatory, policy, and funding issues arising from a statewide transition to a NG 9-1-1 environment;
- Working with our 9-1-1 System service providers to establish standards, policies, and procedures that will enhance the redundancy, resilience, and survivability of 9-1-1 service in Maryland;
- Establishing adequate back-up 9-1-1 facilities and furthering other Homeland Security initiatives;
- Working with the Department of Informational Technology (DoIT) to coordinate the development of a "public safety network" that will utilizing IP based connectivity for sharing emergency data between all 9-1-1 primary and secondary Public Safety Answering Point (PSAP or 9-1-1 Center) facilities;
- Funding "protocol" training and software enhancements that promote standardization of 9-1-1 call processing throughout the State;
- Exploring advancements in geographical information systems (GIS) to enhance 9-1-1 related mapping, caller location, prioritized call answering, and emergency response routing methodologies;
- Implementing remote 9-1-1 workstations at Secondary PSAPs to provide enhanced caller information associated with transferred 9-1-1 calls; and
- Examining technological advancements that permit regional sharing of 9-1-1 related equipment for call delivery to Primary, Back-Up, and Secondary PSAPs in an IP network environment.

The engagement of local leadership has created a positive and constructive working relationship among Maryland's PSAP community, its legislative delegations, its first responder community, and the Department of Public Safety and Correctional Services to collectively address these issues.

Questions regarding this report and its content should be forwarded to the ENSB Office of the Executive Director at 115 Sudbrook Lane – Suite 201, Pikesville, Maryland 21208.

The ENSB web site is: www.dpscs.maryland.gov/ensb

# EXECUTIVE SUMMARY

Maryland's Public Safety Article §1-305 defines the membership of the seventeen member Emergency Number Systems Board. Board members are drawn from private and public sectors representing various aspects of public safety and the citizens they serve. The current membership of the Board includes a diverse group of police, fire, emergency management, regulatory, and communications industry professionals. The members serve a Governor appointed, Senate confirmed four-year term without compensation. While only required to meet quarterly, the ENSB meets at least monthly to examine current trends and funding needs of Maryland's Public Safety Answering Points (PSAP).

The existing 9-1-1 infrastructure has performed admirably for decades; however, new data rich communications devices and services are driving the existing 9-1-1 infrastructure towards its operational limits. Consumers are increasingly relying on enhanced wireless and IP-based communications technologies, which offer expanded data capabilities such as text, picture, and video messaging. Many public-safety related service providers are also seeking to share crash notification data, personal health, family, and other pertinent records with emergency responders utilizing the 9-1-1 system.

The Board continues to examine and monitor national standards surrounding the development of Next Generation 9-1-1 system elements that would capture the benefits of expanding mobile and data communications technologies, as well as continuing to provide or enhance existing 9-1-1 functionality.

Some of the more prominent achievements and current activities of the ENSB include:

- Exploring technology and costs associated with the delivery and processing of Next Generation 9-1-1 services (NG 9-1-1) to our primary and secondary PSAPs;
- Working with Frederick County, Verizon Wireless, and TeleCommunications Systems (TCS) to deploy a text-to-9-1-1 pilot project that will provide texting to 9-1-1 from those utilizing Verizon Wireless service within Frederick County;
- Working with PSAP personnel and Verizon representatives to review causal circumstances surrounding 9-1-1 service disruptions, augment notification procedures, improve customer service issues, and seek enhancements that will improve Maryland's 9-1-1 Systems;
- Providing funding to upgrade and refresh 9-1-1 enhanced IP enabled phone systems for 5 Primary PSAPs and three (3) back-up PSAPs.
- Providing back-up power equipment (generator and/or UPS) for four primary PSAP facilities located in Talbot , Caroline , Cecil, and Allegany Counties;
- Requiring and funding "power monitoring systems" for PSAPs, which will alert (visual and audible) PSAP personnel when changes occur affecting their current power source (commercial, generator, or UPS battery power).
- Providing ongoing training on new 9-1-1 technologies and evolving 9-1-1 service delivery techniques by offering 54 training sessions attended by 1123 students;
- Securing statewide regulatory compliance through annual PSAP inspections;

- Interacting with federal agencies and national organizations to consider evolving 9-1-1 issues, develop service standards, understand the impact of social media, and explore funding resources;
- Encouraging counties to secure additional funding resources to augment the 9-1-1 Trust Fund;
- Assisting Maryland counties to update and maintain the accuracy of their mapping capacity by providing new ortho-photography, which is being renewed on a three year cycle; and
- Furthering the Managing for Results (MFR) goal and objectives to implement emergency police and fire protocol systems at Maryland PSAPs to provide 9-1-1 caller interrogation consistency coupled with an established quality assurance program.

To further facilitate the execution of the mission of the ENSB, the Board established several sub-committees comprised of Board members and supporting consultative membership from outside the Board. These subcommittees include:

- **Training and Education** – to provide and enhance entrance level and in-service training opportunities for 9-1-1 call takers;
- **Standards** – to provide guidance on best practices and funding guidelines for selecting and purchasing PSAP equipment;
- **Policy/Legislative** – to establish and publish policy guidance for ENSB membership and PSAP Directors and to make recommendations for Legislative changes; and
- **Technology** – to investigate and educate the Board on current and future technological advancements impacting the delivery of 9-1-1 services.

By statutory requirement, the Board also enjoys membership and actively participates on the following Maryland Board:

- **Statewide Emergency Medical Systems Advisory Council (SEMSAC) –** to assist the SEMSAC Board, comprised of representatives from organizations involved in providing emergency medical care services.

The ENSB remains committed to enhancing Maryland's 9-1-1 system and taking advantage of proven technological advances in service delivery. Maryland continues to be a national leader in providing enhanced emergency wireline, wireless, and VoIP services. With the advancements made in IP based telephony equipment, Maryland is again poised to embrace a new technology and work towards a smooth transition as Next Generation 9-1-1 system and related service is realized.

The Maryland Public Safety Article (Title-1, Subtitle-3) is the enabling legislation that established the 9-1-1 Trust Fund and the Emergency Number Systems Board. It was originally crafted to create a funding mechanism and oversight Board to provide for the orderly installation, maintenance, and operation of 9-1-1 systems in Maryland, and establish the three-digit number, 9-1-1, as the primary emergency telephone number to summon emergency assistance. The Public Safety Article remains responsive to the needs of the Maryland's citizens.

The legislation established the Maryland 9-1-1 Surcharge, derived from a monthly surcharge levied on each telephone bill, to provide a constant funding source for enhancing and maintaining Maryland's 9-1-1 system. The 9-1-1 Surcharge was initially comprised of two separate fees designated to offset 9-1-1 related capital and operational costs. The first portion of the Maryland 9-1-1 Surcharge is the "9-1-1 state fee." The state fee is distributed to the Maryland counties at the discretion of the Emergency Number Systems Board in response to county 9-1-1 system enhancement requests. The level of the second portion is the "Additional Charge" is determined by each county through local resolution. The Public Safety Article limits the "Additional Charge" to a maximum of $0.75. Legislation requires that the amount of the additional charges received may not exceed a level necessary to cover the total eligible maintenance and operation costs of the county. The Public Safety Article further defines that maintenance and operation costs may include telephone company charges, equipment costs, equipment lease charges, repairs, utilities, personnel costs, and appropriate carryover costs from previous years. To ensure compliance, the Board shall provide for an audit of each county's expenditures for the maintenance and operation of the county's 9-1-1 system. All Maryland counties have taken advantage of this legislative authority and have passed local resolutions establishing their "Additional Charge."

In 2003, the Public Safety Article was updated to provide the mandate and fiscal support for Maryland's 9-1-1 call takers to receive callback phone number and location information of wireless callers (defined as "enhanced wireless 9-1-1"). This milestone was achieved in June 2005 when Maryland became only the eighth state in the nation to receive and display enhanced wireless information, when available from a wireless carrier, at all primary Maryland PSAPs.

The 2003 revisions also expanded the definition of "9-1-1 accessible service" to include "telephone service or another communications service that connects an individual dialing the digits 9-1-1 to an established public safety answering point." This new definition expanded the communication service providers required to collect and remit the 9-1-1 surcharge to include carriers utilizing Internet Protocol technology (VoIP) for voice connectivity to 9-1-1 Centers.

In 2008, this legislation was revised to increase the membership of the Board from 15 to 17 members. Responding to technological advancements in geographical information

systems (GIS) and the integration of wireless location technology into the 9-1-1 system, this legislation established a new Board position to represent the State's GIS community. Since 2001, the role and capacity of local emergency management services (EMS) and nationwide homeland security efforts have increased significantly. Because 9-1-1 plays a vital role in identifying incidents where emergency management services are to be deployed, the Public Safety Article was amended to increase the EMS representation on the Board from one to two positions.

In 2012 (HB 1235), this legislation was expanded to include a definition of Next Generation 9-1-1 services as an Internet Protocol (IP)–based system, comprised of hardware, software, data, and operational policies and procedures, that:

- provides standardized interfaces from emergency call and message services to support emergency communications;
- processes all types of emergency calls, including voice, text, data, and multimedia information;
- acquires and integrates additional emergency call data useful to call routing and handling;
- delivers the emergency calls, messages, and data to the appropriate public safety answering point and other appropriate emergency entities;
- supports data or video communications needs for coordinated incident response and management; and
- provides broadband service to public safety answering points or other first responder entities.

This legislative change also tasked the Board with establishing planning guidelines for next generation 9–1–1 services system plans and deployment of next generation 9–1–1 services in accordance with this subtitle.

In 2012, Senate Bill 1301 changed how 9-1-1 Trust Fund interest is to be accrued. The new language amended the State Finance and Procurement Article Section §6-226 to include that "*net interest on all State money allocated by the State Treasurer under this section to special funds or accounts, and otherwise entitled to receive interest earnings, as accounted for by the Comptroller, shall accrue to the General Fund of the State*."

In 2013, Senate Bill 745 codified a third portion of the fee by extending the collection of the Maryland 9-1-1 Surcharge Fee ($0.60 per transaction) to the sales of pre-paid wireless service, collected at the point of sale (Maryland Pre-Paid Wireless E9-1-1 Fee). The amounts collected in this manner, minus a processing fee retained by retailors (3%), will be deposited to the State's 9-1-1 Trust Fund. The Maryland Pre-Paid Wireless E9-1-1 Fees collected will be utilized to fund 9-1-1 enhancement projects and offset PSAP recurring operational/maintenance costs in the same fashion as currently collected 9-1-1 fees.

**History:** The wireless industry is experiencing a significant change in how its service is being utilized by consumers. Nationally, over 30% of households have

elected to drop their traditional wireline phone service in favor of using wireless based communications. There has also been a shift in how communication services are being purchased with "pre-paid" wireless service becoming the fastest growing segment in the industry; capturing approximately 24% of the wireless market. Consumers are opting for prepaid wireless service whereby a specified number of minutes are purchased at retail outlets or online, rather than the traditional monthly-billed wireless service. This legislative change was requested because prepaid wireless service does not fit within current statutes/regulations regarding the collection and remittance of the 9-1-1 fee[1]. During the 2013 Legislative Session, the Department of Public Safety and Correctional Services introduced legislation that would establish the collection and remittance of 9-1-1 Surcharge fees by Maryland retail outlets, referred to as the "Point of Sale (POS) Collection Model." The POS model would add the 9-1-1 Surcharge to each retail transaction of prepaid wireless telecommunications service for any purpose other than resale. Ensuring that the 9-1-1 system is funded in a fair and equitable manner by those utilizing communication devices that provide accessible 9-1-1 service is a priority for the sustainability of Maryland's 9-1-1 system.

[1] The marketing of pre-paid wireless service is done through the purchase of "service minutes" from retail or on-line outlets, which does not produce monthly bills.

# THE CODE OF MARYLAND REGULATIONS

The Code of Maryland Regulations (COMAR) Title 12, Subtitle 11, Chapter 03 further codifies the activities of the Board and describes in detail its essential functions, responsibilities, and training standards. Previous recommendations made by the Emergency Number Systems Board's Policy Subcommittee for updating COMAR were adopted. Significant updates include:

- Redundant wording of items appearing in COMAR that were verbatim to the Public Safety Article were removed and language added to reference the reader back to the appropriate section of the Public Safety Article;
- The Board requires a majority of confirmed members to be present at a meeting to constitute a quorum;
- PSAPs shall provide access to services for individuals who do not speak or understand the English language[2];
- PSAPs shall have sufficient call takers and equipment to consistently answer incoming calls on a daily average, of 10 seconds or less[3];
- Within six months of hiring a Public Safety Answering Point call taker, a county shall train the new call taker using a curriculum adopted or approved by the Board[3];
- A county shall provide a Public Safety Answering Point call taker with yearly in-service training using a curriculum adopted or approved by the Board[3]; and
- In requesting funding from the Board, the county shall ensure that the county's procurement laws and policies are followed.

**COMAR is sufficient in its current content to be responsive to the needs of Maryland's 9-1-1 community and no further changes are recommended.**

[2] All PSAPs provide immediate language assistance through contractual translation services.
[3] Through the annual inspection process, all PSAPs were found to be compliant.

**1970s and 1980s**

- In March 1973, the White House's Office of Telecommunications issued a national policy statement that recognized the benefits of 9-1-1, encouraged the nationwide adoption of 9-1-1, and provided for the establishment of a Federal Information Center to assist units of government in planning and implementation.

- In 1972, Charles County was the first in Maryland to adopt 9-1-1, followed by Prince George's in 1973 and Montgomery in 1974.

- In 1979 Maryland became the second state in the nation to adopt 9-1-1 as the statewide universal number for emergency services access. The Emergency Number Systems Board was established to coordinate 9-1-1 implementation efforts.

- The emergency communications industry established standards for automatic number information (ANI) and automatic location information (ALI) to be presented with each 9-1-1 call. This automatic ANI/ALI data delivery to 9-1-1 call takers was designed to streamline the information gathering/dispatch processes and allow locating persons unable to identify their location or to verbally communicate.

- Maryland established a ten-cent phone bill surcharge to fund 9-1-1 development efforts.

- The Statute enabling the ENSB was amended to include authority for Counties to charge an "additional fee" via monthly phone bills to offset 9-1-1 operational expenses.

**1990s**

- By 1995, all Maryland counties had implemented enhanced wireline 9-1-1 service (ANI/ALI displayed with each 9-1-1 call).

- The 9-1-1 Surcharge fee was modified to encompass wireless telecommunication services and the ENSB was expanded to include a member of the wireless industry.

- The ENSB Training Sub-Committee and the Dundalk Community College developed a standardized 40-hour entrance level training course for 9-1-1 dispatchers.

**2000 - 2010**

- In 2002, Anne Arundel County is selected as the State's test site for providing enhanced wireless service and becomes Wireless Phase I operational (call back number displayed).

- In 2003, the 9-1-1 Surcharge is increased to 25 cents per bill per month and the County "Additional Fee" is increased from a maximum of 50 cents per bill per month to 75 cents. Board membership increased to 15 by adding representatives from the Maryland Emergency Number Association, a large county (population > 200,000), and a small county (population < 200,000), while deleting a public at large position.

- By 2004, in most jurisdictions, more than 50% of all 9-1-1 calls originated from wireless callers.

- By June 2005, all of Maryland's primary PSAPs become Wireless Phase II operational (ANI/ALI with all wireless calls), making Maryland, according to the National Emergency Number Association, only the eighth state in the nation to accomplish this milestone.

- The Governor established Homeland Security Core Goals and in response, the Board established "back-up" PSAP criteria, should the primary PSAP not fulfill its role because of power outages, telephone system interruptions, building evacuations, or other natural or manmade disasters. The Board began providing funding for each PSAP to have a viable back-up facility that met Board established standards.

- The Board encourages and funds the utilization of Emergency Protocol Systems to provide a standardized means to consistently query and process information from 9-1-1 callers. Currently, all Maryland primary PSAPs utilize emergency medical dispatch protocols, while 96% of primary PSAPs use emergency fire and/or police dispatch protocols.

- In 2008, Board membership increased to 17 members, adding representation from the Geographic Information Services (GIS) community and an additional representative from Emergency Management Services.

- In 2009, Board established policy to fund remote workstations at Maryland's secondary PSAPs, which receives transferred 9-1-1 calls. The Frederick City Police Department completed the first installation utilizing the Frederick County PSAP phone equipment and IP connectivity between facilities. Through this effort, the Board intends to advance the dissemination of enhanced 9-1-1 data to secondary PSAPs.

- In 2009, the Harford County PSAP became the first PSAP in the nation to be recognized by the National Academies of Emergency Dispatch as an accredited "Center of Excellence" in all protocol disciplines (police, fire, and EMS).

**2011 - 2013**

- In 2012, the enabling legislation was amended to include a definition of Next Generation 9-1-1 services and tasking the Board with developing guidelines for NG 9-1-1 deployment.

- In 2013, the enabling legislation was amended providing for the 9-1-1 Surcharge to be applied to the sale of pre-paid wireless service, to be collected at the point of sale (Maryland Pre-Paid Wireless E9-1-1 Fee).

- In 2013, Frederick County participated in a national pilot and offered text-to-9-1-1 services to Verizon Wireless customers within Frederick County borders. Texts were sent to the Frederick County PSAP via a web-portal system provided by TeleCommunication Services (TCS), a Maryland based company.

# BOARD MEMBERSHIP

The membership of the ENSB includes a diverse and technically astute group of professionals from the emergency services, the communications and public safety industries, as well as the public at large. The members serve a Governor appointed, Senate confirmed four-year term. While only required to meet quarterly, the ENSB has met at least monthly to examine current trends and needs of the twenty-four Public Safety Answering Points.

The Board has enjoyed the support of the Department of Public Safety and Correctional Services (DPSCS) fiscal offices in providing auditing and accounting support. In recognition of time demands, the ENSB through DPSCS has employed a full time fiscal coordinator and accountant to support the ENSB's efforts in administering the 9-1-1 Trust Fund.

The Board recognizes the need for entrance and in-service level training for call takers and supervisors. The Department established an administrative assistant position, working directly for the Office of the Executive Director, to advance the training efforts described in COMAR and handling special projects as assigned.

The following page outlines Board membership and the organization each member represents.

## DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONAL SERVICES

### Emergency Number Systems Board

### Board Member Listings

| Term | Represent | Member Name |
|---|---|---|
| 8/30/99 - 6/30/16 | Public Service Commission | Anthony Myers |
| 4/1/08 - 6/30/15 | MIEMSS[4] | Richard Berg |
| 7/1/04 - 6/30/16 | Volunteer Fire Service | Brian C. Ebling |
| 2/1/10 - 6/30/17 | Career Fire Service | Captain Colleen O'Neill |
| 9/07/11 - 6/30/15 | Public-At-Large | Scott Whitney |
| 9/07/11- 6/30/14 | Emergency Management Systems | Teresa Owens |
| 4/1/08 - 6/30/15 | Telephone Utility | Kevin M. Green |
| 10/1/08 - 6/30/17 | APCO[5] | Susan E. Greentree |
| 7/1/06 - 6/30/17 | Maryland State Police | Lt. Col. William Pallozzi |
| 4/26/11 - 6/30/14 | Police Services | Captain Peter Lazich |
| 7/1/04 - 6/30/16 | Public-At-Large | Roderick W. Hart |
| 12/29/03 - 6/30/17 | Large County | Andrew M. Johnston |
| 7/1/04 - 6/30/17 | Wireless Industry | Brian Josef |
| 11/10/03 - 6/30/14 | Small County | Steve Marshall |
| 4/1/08 - 6/30/15 | NENA[6] – Local Chapter | William A. Frazier |
| 10/1/08 - 6/30/16 | Emergency Management Systems | John E. Markey |
| 10/1/08 - 6/30/16 | Geographic Informational Systems | Ken Miller |

[4] Maryland Institute for Emergency Medical Services Systems
[5] Association of Public-Safety Communications Officials
[6] National Emergency Number Association

In the mid-1990s, all Maryland PSAPs achieved "enhanced" capability, successfully enabling each to display Automatic Number Information (ANI) and Automatic Location Information (ALI) for wireline 9-1-1 calls. Previously, emergency services were requested through unique local phone exchanges to police and fire service agencies or by dialing "0" for the operator. The caller's phone number and address were not displayed to the call taker.

The advent and proliferation of wireless communications caused the public safety community to demand the same "enhanced" capacity as their wireline counterparts. The Federal Communications Commission (FCC) required the wireless industry, by regulation, to provide ANI/ALI data of a wireless caller to the PSAP. Today, the wireless industry is in compliance with the FCC regulations and has been able to provide enhanced wireless service to technologically capable PSAPs. In June 2005, Maryland became only the eighth state in the nation to have all primary PSAP's (24) receive and display the ANI and ALI information from wireless 9-1-1 calls.

During 2013, the Board continued to approve project funding to upgrade various PSAP phone systems and mapping capacity to receive and display enhanced wireless data. The caller location information (ALI) provided through enhanced wireless service is received at the PSAP in measurements of latitude and longitude. Mapping of this information is required to facilitate meaningful application in processing the 9-1-1 call. The Board obtained statewide aerial-photography to assist Maryland counties to update and maintain the accuracy of their mapping capacity. This cooperative effort of providing current statewide aerial-photography to PSAPs is anticipated to be an ongoing project.

In coordination with the Board, Voice over Internet Protocol (VoIP) and Telematics emergency 9-1-1 services are now being directed through the Verizon selective router to the appropriate PSAP in the same fashion as traditional communication services, with caller related emergency information displayed to the call taker.

**Next Generation 9-1-1**

The Emergency Number Systems Board (Board) is currently exploring the feasibility of migrating to an IP network based 9-1-1 system for receiving voice, data, text, pictures, and video messaging; known as Next Generation 9-1-1 (NG 9-1-1). NG 9-1-1 is a system that includes network, hardware, software, database services, and operational policies and procedures. Each of these parts needs to be fully vetted, established, and, most importantly, funds identified to provide for initial capital expenditures and ongoing expenses.

In anticipation of this transition, all of the phone system hardware currently being funded by the Board is IP enabled and ready for transitioning to an established NG 9-1-1 environment. These NG 9-1-1 phone systems provide the ability to geo-diversely locate

core hardware connected via an IP network to share operational data and functionality by remotely connect workstations at multiple sites to one core system using a common network to answer 9-1-1 calls. These technologically advanced phone systems provide greater resiliency, redundancy, and back-up facilities for Maryland's 9-1-1 System. Within the next several years, all of Maryland's PSAPs will receive funding to purchase phone systems that will utilize this NG 9-1-1 technology.

It is also the goal of the Board that as these new phone systems are locally implemented, Secondary PSAPs that receive transferred 9-1-1 calls from a Primary PSAP may be eligible to receive funding for the purchase and installation of remote 9-1-1 workstations. These workstations will be connected via an IP network to the local 9-1-1 phone system core and receive all the functionality and data that is available to the Primary PSAP. Eventually, this local IP network connectivity from Primary PSAPs to their local Secondary PSAPs will be incorporated into the overall statewide Emergency Service IP Network (ESInet).

In March 2013, Frederick County was selected as part a national pilot to provide texting-to-9-1-1 services. Working together with Verizon Wireless, TeleCommunication Systems, and the Board, Frederick County became the first jurisdiction in the State of Maryland and one of the first in the nation to be able to provide text-to-9-1-1 service to county residents and visitors that subscribe to Verizon Wireless services. Its success will help the State of Maryland determine the impact of texting on a 9-1-1 center, identify operational "best practices", and provide the framework for other wireless carriers to implement text-to-9-1-1 solutions. This pilot will also discover any location accuracy issues surrounding 9-1-1 texting and study the impact of providing 9-1-1 texting services on the deaf community (Frederick County is home to the Maryland School for the Deaf and has a large speech and hearing impaired population).

By May 2014, the FCC has ordered that all major wireless carriers (Verizon, T-Mobile, Sprint, and AT&T) be able to provide text-to-9-1-1 services for all of their customers and to provide delivery to those PSAPs requesting to receive text-to-9-1-1 messages. Although text-to-9-1-1 will be offered by the wireless carriers by May 2014, it will take some time for the wireless carriers to implement the service as it will need to be rolled out on a PSAP by PSAP basis to account for PSAP boundaries and the routing of the messages. Working with each of Maryland's PSAPs, it is the goal of the Board that within the next 18 to 36 months to have text-to-9-1-1 service available throughout Maryland.

Network infrastructure with the capacity, resiliency, and redundancy to transport 9-1-1 calls and related data in a cost effective manner is the greatest challenge facing the implementation of NG 9-1-1 services. The current legacy system that delivers 9-1-1 calls has been reliable and sufficient to handle the demands of providing 9-1-1 emergency call delivery. It is critical that before transitioning to a Next Generation environment, the IP network delivery of emergency calls and data provides the same five nines (99.999%) of service reliability, redundancy, and sufficient bandwidth capacity experienced today. To

this end, the Board has been working with Network Maryland (DoIT) and other NG 9-1-1 IP network providers to ensure these elements can be realized in a cost efficient manner.

Efforts by the federal government to create a nationwide ESInet, identified as the FirstNet Project, are also being monitored. The Board has participated in regional FirstNet efforts but it is still to be determined by FirstNet partners if 9-1-1 calls will be part of this data transport scheme.

NG 9-1-1 delivery of services will be geographically based and require a transition from current address based data to new geo-based location technology. The Board and local counties are working with Maryland's Department of Information Technology and their Geographic Information Systems department to coordinate the creation of this required geo-based database. This process is on-going.

The Board is discovering that a significant impediment to implementing NG 9-1-1 in Maryland will be the recurring cost associated with securing an IP network with sufficient bandwidth, reliability, and redundancy for transport of 9-1-1 calls and data. Because of its design, NG 9-1-1 will cause a significant shift in one time up front (capital) and recurring monthly (expense) costs. Today, the ENSB funds capital projects while the PSAPs fund recurring expenses. At this point, it has not been determined how local government will absorb those escalated network related costs.

Nationally, the standards and policies surrounding the transmission and delivery of pictures and video have not yet been established; nor, has the FCC directed the carriers to provide that service by any identified date. Once available, PSAPs will need to interface this new data in their Computer Aided Dispatch (CAD) and recording systems before receiving photos and video, as well as, develop policies on handling these ancillary call resources.

Utilizing the current legacy 9-1-1 system, PSAPs are able to receive 9-1-1 related calls, data, and eventually text messaging without having to transition to IP Network. The capital and recurring costs associated with the current Maryland 9-1-1 System are known and are part of local and state ongoing budgetary projections. The cost associated with providing NG 9-1-1 services must be clearly identified and implemented with fiscal input from county and state entities. For fiscal planning, the Board and PSAP management must demand that Cost-Benefit Analysis be conducted for all requested and planned changes.

The Board will continue its strategy of adhering to standards adopted and recommended by the National Emergency Number Association (NENA) and the Association of Public Safety Communications Officials, International (APCO). Both are organizations representing 9-1-1. It is assumed these organizations will continue their leadership role in defining NG 9-1-1 services. The Board's strict adherence to national standards will assist in the avoidance of unnecessary expenses that could be associated with the replacement of non-standard software and hardware when transitioning to a NG 9-1-1 environment.

Considering the change in funding resources required in a NG 9-1-1 environment, the Board has begun the process of evaluating Maryland's current funding structure established by legislation. The current legislation may need to be amended to address fiscal deficiencies, once network related recurring costs are identified.

In summary, the Board will continue to plan for NG 9-1-1. Shortly, we will be working with wireless carriers to deliver text-to-9-1-1 services to Maryland PSAPs. It is anticipated that we will be looking for opportunities to utilize Network Maryland in a test environment to examine their network viability for 9-1-1 purposes. The Board is also looking forward to working with a pilot PSAP to transition to a NG 9-1-1 network in an isolated environment to identify bandwidth requirements and associated costs. Lessons learned and best practices identified through these controlled trials will better prepare Maryland as we move forward to embrace NG 9-1-1 services.

# Maryland 2013 PSAP Statistics[7]

## 9-1-1 Calls

| County | Director | Wireline | Wireless | Total |
|---|---|---|---|---|
| Allegany | Roger Bennett | 12,401 | 35,702 | 48,103 |
| Anne Arundel | Lt. Sara Schriver | 88,441 | 224,494 | 312,935 |
| Baltimore City | Captain Scott Brillman | 392,271 | 767,698 | 1,159,969 |
| Baltimore | Marie Whisonant | 193,520 | 397,781 | 591,301 |
| Calvert | Yvette Myers | 12,945 | 26,908 | 39,853 |
| Caroline | Bryan Ebling | 4,244 | 12,627 | 16,871 |
| Carroll | Randy Waesche | 28,858 | 35,270 | 64,128 |
| Cecil | Richard Brooks | 13,327 | 46,377 | 59,704 |
| Charles | Tony Rose | 20,375 | 51,491 | 71,866 |
| Dorchester | Kim Vickers | 4,593 | 14,930 | 19,523 |
| Frederick | Chip Jewel | 21,595 | 117,837 | 139,432 |
| Garrett | Kenneth Collins | 4,503 | 10,030 | 14,533 |
| Harford | W. Mitch Vocke | 27,121 | 71,519 | 98,640 |
| Howard | Lt. Edward Sprinkle | 68,699 | 92,075 | 160,774 |
| Kent | Wayne Darrell | 3,125 | 6,580 | 9,705 |
| Montgomery | Brian Melby | 142,671 | 331,769 | 474,440 |
| Prince George's | Charlynn Flaherty | 295,306 | 645,704 | 941,010 |
| Queen Anne's | Kevin Aftung | 5,258 | 16,484 | 21,742 |
| Somerset | Steve Marshall | 3,748 | 12,287 | 16,035 |
| St. Mary's | Robert Kelly | 12,018 | 31,877 | 43,895 |
| Talbot | Clay Stamp | 6,308 | 11,016 | 17,324 |
| Washington | Bardona Woods | 24,149 | 67,266 | 91,415 |
| Wicomico | David Shipley | 14,089 | 51,853 | 65,942 |
| Worcester | Fred Webster | 9,456 | 30,441 | 39,897 |
| **Maryland Total 9-1-1 Calls** | | **1,409,021** | **3,110,016** | **4,519,037** |

[7] **As reported by each County's PSAP Director**

# PSAP Inspections

In 2013, the Office of the Executive Director inspected each of Maryland's 24 PSAPs. Inspections are conducted annually to ensure each county's compliance with COMAR, to determine what areas need to be improved, and to learn about new trends in call handling that may have statewide implications.

Areas reviewed during the inspection process:

- The state of each county's mapping of wireless 9-1-1 calls;
- A review of each county's mapping data sets to aid the State of Maryland's Department of Information Technology's (DoIT) statewide mapping project;
- A review of each county's backup power capabilities (uninterruptable power supply (UPS) and generator);
- A review of Verizon service issues and concerns;
- A review of each county's Verizon *9-1-1 System Outage Notification List* to ensure that all contacts are up to date;
- A discussion of disaster planning exercises offered by Verizon;
- A discussion of ongoing efforts to implement Next Generation 9-1-1 technologies;
- A discussion regarding the Maryland State Police Next Generation 9-1-1 pilot project;
- A discussion of each county PSAP's involvement in county or regional disaster drills and exercises;
- A review of the Frederick County text to 9-1-1 pilot;
- Other sources of funding the counties may have used for communications related projects (radio, CAD, 9-1-1, mapping, etc.);
- A check of PSAP equipment at both the primary and backup (if applicable) locations to make certain that the equipment at each site meets COMAR requirements;
- A review of 9-1-1 call metrics to see if each county meets the COMAR requirement of answering 9-1-1 calls on a daily average of 10 seconds on a consistent basis;
- A discussion of staffing concerns;
- A review of each county's three-year plan;
- A review of training records to determine if each county meets the COMAR standards for entrance level and annual in-service training;
- A review of ENSB funded Emergency Telecommunicator Course (ETC) certifications of 9-1-1 operators;
- Any suggestions by the county to improve ENSB processes and training offered.

Where deficiencies were noted, the Office of the Executive Director has worked collaboratively with the county to achieve compliance with COMAR.

The Maryland Public Safety Article (§*1-310 & §1-311*) initially established two funding streams to support 9-1-1. The first is the State "9-1-1 Fee", which is $0.25 per subscriber per month. The second is the County "Additional Fee" in an amount determined by each county, through local ordinance, up to maximum of $0.75 per bill per month. All Maryland counties and Baltimore City currently have passed local ordinances establishing the "Additional Fee" at $0.75. Telephone companies, wireless carriers, and other 9-1-1 accessible service providers, collect and remit both portions of the 9-1-1 Surcharge to the State Comptroller, monthly, for deposit into the 9-1-1 Trust Fund. A third funding source was codified, effective July 1, 2013, when the Maryland Public Safety Article was amended extending the collection of the Maryland 9-1-1 Surcharge Fee to the sales of pre-paid wireless service ($0.60 per transaction), collected at the point of sale (Maryland Pre-Paid Wireless E9-1-1 Fee).

Quarterly, the County "Additional Fee" and the county portion of the Maryland Pre-Paid Wireless E9-1-1 Fee remittances is distributed to each county prorated in accordance with the level of fees collected in each jurisdiction (*Public Safety Article §1-309&§1-313*). Annually, the Secretary of the Department of Public Safety and Correctional Services requests a budget appropriation from the 9-1-1 Trust Fund in an amount sufficient to carry out the purposes of the enabling legislation, pay administrative costs, and reimburse counties for the cost of enhancing their 9-1-1 system (*Public Safety Article §1-309*). Through this budget appropriation process, the State "9-1-1 Fee" is distributed from the 9-1-1 Trust Fund to the Maryland counties at the discretion of the Emergency Number Systems Board in response to county 9-1-1 enhancement requests.

Maryland has established written criteria identifying the allowable uses of all 9-1-1 related funds collected. Money collected from the State "9-1-1 Fee" and 25% of all collected Maryland Pre-Paid Wireless E9-1-1 Fee may be used to reimburse counties for the cost of enhancing Maryland's 9-1-1 system through payment to a third party contractor (*Public Safety Article §1-308*). COMAR (*12.11.03.12*) further defines equipment qualifying for funding or reimbursement. Money distributed quarterly to the counties from the collection of the County "Additional Fee" and Maryland Pre-Paid Wireless E9-1-1 Fee may be spent on the installation, enhancement, maintenance, and operation of a county or multi-county 9-1-1 system. Maintenance and operation costs may include telephone company charges, equipment costs, equipment lease charges, repairs, utilities, personnel costs, and appropriate carryover costs from previous years (*Public Safety Article §1-312*).

The following chart indicates the 9-1-1 Surcharge fees associated with each jurisdiction and the date of resolution modifying the county fee (i.e., additional fee).

## Maryland 9-1-1 Surcharge Fees

| County | State Fee[8] | County Additional Fee[9] | Pre-Paid Wireless[10] | Effective Date[11] |
|---|---|---|---|---|
| Allegany | $0.25 | $0.75 | $0.60 | October 1, 2003 |
| Anne Arundel | $0.25 | $0.75 | $0.60 | July 1, 2005 |
| Baltimore City | $0.25 | $0.75 | $0.60 | June 23, 2004 |
| Baltimore | $0.25 | $0.75 | $0.60 | April 23, 2004 |
| Calvert | $0.25 | $0.75 | $0.60 | June 15, 2004 |
| Caroline | $0.25 | $0.75 | $0.60 | November 9, 2004 |
| Carroll | $0.25 | $0.75 | $0.60 | June 8, 2004 |
| Cecil | $0.25 | $0.75 | $0.60 | October 1, 2003 |
| Charles | $0.25 | $0.75 | $0.60 | January 1, 2004 |
| Dorchester | $0.25 | $0.75 | $0.60 | October 1, 2003 |
| Frederick | $0.25 | $0.75 | $0.60 | July 1, 2004 |
| Garrett | $0.25 | $0.75 | $0.60 | October 1, 2003 |
| Harford | $0.25 | $0.75 | $0.60 | May 4, 2004 |
| Howard | $0.25 | $0.75 | $0.60 | July 1, 2007 |
| Kent | $0.25 | $0.75 | $0.60 | January 30, 2004 |
| Montgomery | $0.25 | $0.75 | $0.60 | October 1, 2003 |
| Prince George's | $0.25 | $0.75 | $0.60 | March 5, 2004 |
| Queen Anne's | $0.25 | $0.75 | $0.60 | October 1, 2003 |
| Somerset | $0.25 | $0.75 | $0.60 | February 10, 2004 |
| St. Mary's | $0.25 | $0.75 | $0.60 | July 1, 2004 |
| Talbot | $0.25 | $0.75 | $0.60 | May 11, 2004 |
| Washington | $0.25 | $0.75 | $0.60 | October 21, 2003 |
| Wicomico | $0.25 | $0.75 | $0.60 | January 1, 2004 |
| Worcester | $0.25 | $0.75 | $0.60 | October 1, 2003 |

[8] The State fee is deposited to the State 9-1-1 Trust Fund for ENSB approved funding of capital projects
[9] The County Additional Fee is disbursed quarterly to Counties to offset operational costs
[10] The Maryland Pre-Paid Wireless E9-1-1 Fee (enacted July 1, 2013) is disbursed 25% to the 9-1-1 Trust Fund (similar use as the State Fee) and 75% to be disbursed quarterly in the same proportion as the County Additional Fee to each County
[11] Effective date of the County Additional Fee, passed by local ordinance

The chart below reflects the Fiscal Year 2013 distribution of the collected "additional charge" fees.

## FY 2013 County Fee (i.e., Additional Fee) Payments to the Jurisdictions

| County | Population[12] | FY 13 Disbursement | Percent of Total[13] |
|---|---|---|---|
| **Allegany County** | 75,087 | $488,925.15 | 1.26% |
| **Anne Arundel County** | 537,656 | $3,840,615.11 | 9.88% |
| **Baltimore City** | 620,961 | $3,940,801.95 | 10.14% |
| **Baltimore County** | 805,029 | $5,689,961.61 | 14.64% |
| **Calvert County** | 88,737 | $580,600.19 | 1.49% |
| **Caroline County** | 33,066 | $183,574.67 | 0.47% |
| **Carroll County** | 167,134 | $1,014,160.64 | 2.61% |
| **Cecil County** | 101,108 | $586,767.56 | 1.51% |
| **Charles County** | 146,551 | $995,638.48 | 2.56% |
| **Dorchester County** | 32,618 | $201,041.25 | 0.52% |
| **Frederick County** | 233,385 | $1,471,248.45 | 3.78% |
| **Garrett County** | 30,097 | $258,410.87 | 0.66% |
| **Harford County** | 244,826 | $1,580,552.46 | 4.07% |
| **Howard County** | 287,085 | $2,114,422.94 | 5.44% |
| **Kent County** | 20,197 | $127,968.90 | 0.33% |
| **Montgomery County** | 971,777 | $6,753,269.00 | 17.37% |
| **Prince George's County** | 863,420 | $5,935,085.73 | 15.27% |
| **Queen Anne's County** | 47,798 | $299,024.92 | 0.77% |
| **Somerset County** | 26,470 | $118,400.65 | 0.30% |
| **St Mary's County** | 105,151 | $596,432.07 | 1.53% |
| **Talbot County** | 37,782 | $254,032.65 | 0.65% |
| **Washington County** | 147,430 | $869,727.71 | 2.24% |
| **Wicomico County** | 98,733 | $550,849.43 | 1.42% |
| **Worcester County** | 51,454 | $422,190.26 | 1.09% |
| | | | |
| **TOTALS** | **5,773,552** | **$38,873,702.65** | **100.00%** |

[12] 2010 Actual Census (Maryland Manual)

[13] Percent of total disbursement - used to calculate disbursement of Wireless Pre-Paid funds

# ENSB Expenditures

The Department of Public Safety and Correctional Services FY 2013 annual budget appropriation for the Emergency Number Systems Board is approximately $ 14.4 M.

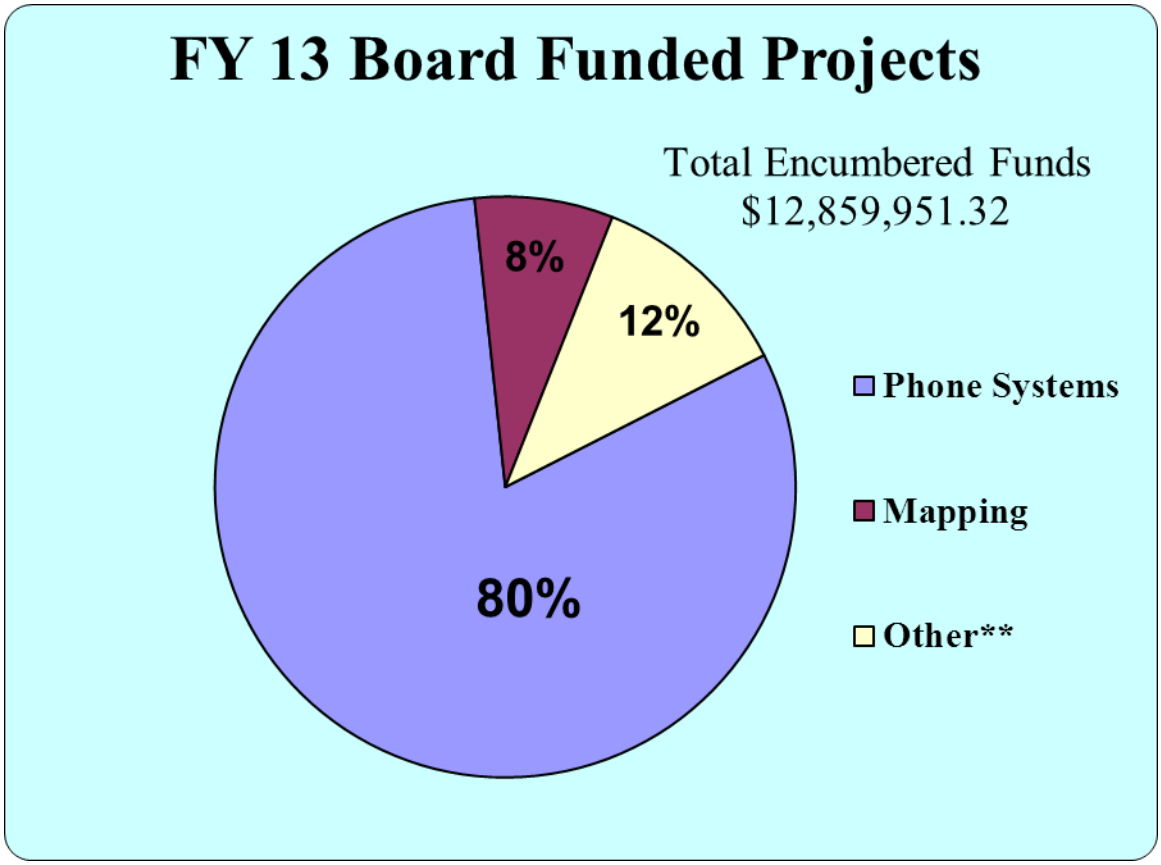
The technical nature of 9-1-1 communications has evolved over time to include the advent of computer-aided dispatch, multiple agencies providing emergency response, national standard setting organizations, wireless telephone communications, and most recently, IP based communication and telematics (automatic crash notification) services. These have brought about fundamental changes in the 9-1-1 infrastructure, and added training and equipment challenges.

Historically, the vast majority of funds are allocated to upgrading phone systems, keeping current with technological advances, providing adequate back-up facilities, and enhancing mapping capacity. Current phone systems funded by the Board must be IP capable and ready to accept next generation 9-1-1 data once national delivery and presentation standards have been established. All Maryland PSAPs now have the capability of mapping the position of 9-1-1 callers, when location information is received by the call taker.

Should circumstances arise that prevents a PSAP from receiving or processing emergency calls, it is critical that back-up 9-1-1 service and relocation strategies are in place and regularly exercised. During 2013, the Board funded several projects for PSAPs to enhance or establish capacity for back-up service and emergency relocation procedures. Referring to the Board's "back-up" PSAP guidelines, the Board works with noncompliant 9-1-1 Centers to establish approved back-up facilities with appropriate service functionality.

Utilizing technological advances in 9-1-1 phone systems and IP connectivity, the Board began the process of expanding the 9-1-1 system to encompass Secondary PSAPs. Through the use of remote workstations, linked directly to the primary PSAP via IP network connectivity, secondary PSAPs call takers experience the same functionality, mapping capacity and data delivery on all transferred 9-1-1 calls.

# The chart below reflects FY 13 Board expenditures




**** Other Funding:**

"Other" funding is comprised of capital expenditures related to 9-1-1 call processing or its enhancement. Some examples of these capital expenditures are listed below:

- 9-1-1 Center security;
- Back-up power systems;
- Redundant/diverse 9-1-1 call routing;
- Training – entry-level, in-service and supervisory/administrative;
- Lightning/surge protection; and
- Protocol call processing systems

## PHONE SYSTEM PROJECTS – FY 13

Receiving and processing 9-1-1 calls requires specialized phone system equipment to optimize voice, data, and location technologies. These complex phone systems leverage advances in communication equipment to provide responsive 9-1-1 call handling, data management, and mapping capacity, while maintaining enhanced 9-1-1 services with legacy systems. The NG 9-1-1 phone systems the Board is currently funding provide the ability to geo-diversely locate core hardware, connect the cores via an IP network to share operational data and functionality, and remotely connect workstations at multiple sites to one system using a common IP network to answer 9-1-1 calls. In response to technological advances in the communication industry, the Board anticipates updating PSAP phone equipment in five to six year cycles. During FY 13, the Board provided funding to upgrade and refresh 9-1-1 enhanced geo-diverse phone systems for four (4) primary PSAPs and three (3) back-up PSAPs.

## HIGHLIGHTED FY 13 PHONE SYSTEM UPGRADES

In 2013, the Board funded geo-diverse IP enabled phone systems for **Allegany, Howard, Calvert, and Anne Arundel Counties**. In each of these installations, the A-Side of the core system was located at the Primary PSAP while the B-Side of the core system was located at their Back-Up PSAP facilities. Each of these phone system cores (A & B) were connected via an IP network to provide real-time sharing of data and operations. Once linked and sharing data, the A or B Side can independently provide 9-1-1 service should the other core side fail or both sides can work in tandem, thus affording PSAPs with enhanced redundancy and increased capacity.

Should circumstances arise that prevents a PSAP from receiving or processing emergency calls, it is critical that back-up 9-1-1 service and relocation strategies are in place and regularly exercised. In 2013, the Board funded phone equipment at the designated Back-Up PSAP facilities in **Cecil, St. Mary's, and Kent Counties**. Each is exercised on a regular basis and can augment their Primary PSAP to significantly increase call answering capacity during emergency conditions.

The Public Safety Article requires each county to annually report to the Board how the monies received from the State 9-1-1 Trust Fund were spent. The Board is charged with the responsibility of evaluating the expenditures for compliance with applicable laws and regulations. To this end, the Board funds independent audits of county expenditures.

All of the audits for FY 13 were received and auditors compensated. The audits were reviewed and each county found in compliance with the spending limits articulated in the Public Safety Article. Operational expenses typically include 9-1-1 related personnel salaries/benefits, recurring maintenance and service fees, mapping maintenance/updating, network associated fees, and capital expenditures not covered by the Board.

| COUNTY | COUNTY 9-1-1 FEE REVENUES | COUNTY 9-1-1 EXPENSES[14] | % of 9-1-1 FEE OFFSET |
|---|---|---|---|
| Allegany County | $488,925.15 | $2,112,409.00 | 23% |
| Anne Arundel County | $3,840,615.11 | $6,453,540.00 | 60% |
| Baltimore City | $3,940,801.95 | $6,874,668.41 | 57% |
| Baltimore County | $5,689,961.61 | $13,488,607.00 | 42% |
| Calvert County | $580,600.19 | $2,433,303.00 | 24% |
| Caroline County | $183,574.67 | $1,070,053.00 | 17% |
| Carroll County | $1,014,160.64 | $2,233,090.00 | 45% |
| Cecil County | $586,767.56 | $1,986,296.00 | 30% |
| Charles County | $995,638.48 | $1,878,241.00 | 53% |
| Dorchester County | $201,041.25 | $1,365,961.00 | 15% |
| Frederick County | $1,471,248.45 | $5,148,541.00 | 29% |
| Garrett County | $258,410.87 | $822,956.00 | 31% |
| Harford County | $1,580,552.46 | $5,809,092.00 | 27% |
| Howard County | $2,114,422.94 | $4,376,385.00 | 48% |
| Kent County | $127,968.90 | $769,932.00 | 17% |
| Montgomery County | $6,753,269.00 | $9,884,589.00 | 68% |
| Prince George's County | $5,935,085.73 | $10,242,319.00 | 58% |
| Queen Anne's County | $299,024.92 | $1,900,342.00 | 16% |
| Saint Mary's County | $596,432.07 | $2,393,534.00 | 25% |
| Somerset County | $118,400.65 | $1,047,350.00 | 11% |
| Talbot County | $254,032.65 | $1,065,647.00 | 24% |
| Washington County | $869,727.71 | $3,661,142.00 | 24% |
| Wicomico County | $550,849.43 | $1,118,886.00 | 49% |
| Worcester County | $422,190.26 | $2,528,410.00 | 17% |

**Total Operational Cost Offset by 9-1-1 Fee 43%**

[14] 9-1-1 related operational costs as reported by County selected independent auditors

**DERECHO STORM (JUNE 29, 2012) – Ongoing Meetings with Verizon**

On June 29, 2012, the State of Maryland was struck by a fast moving storm with high winds known as a Derecho. The storm rapidly moved through Maryland and other parts of the Mid-Atlantic Region, causing widespread damage and disruptions of public utilities. Although Maryland did not experience the same catastrophic 9-1-1 system failures as Northern Virginia, the Derecho storm had a significant regional impact on the power infrastructure. The resulting power outages brought attention to the critical need for adequate and reliable backup power to be present at those facilities serving local emergency service providers. This became evident when Verizon Central Office (CO) generators failed and certain parts of Northern Virginia lost 9-1-1 service. Further exacerbating these circumstances was Verizon's inability to remotely diagnose and troubleshoot the problem. The Verizon CO power related 9-1-1 outages could have been prevented had appropriate maintenance been performed on a routine basis.

Verizon responded to the national attention focused on this event and has taken proactive steps to correct and improve 9-1-1 based facilities and service. Central Office power audits, 9-1-1 network design reviews and other actions taken by Verizon to identify and correct the underlying causes and problems should go a long way to prevent similar 9-1-1 service outages.

The Board's inquiries into this outage began shortly following the storm, and an interim report regarding the Board's investigation and finding was published on October 23, 2012. The Board has continued to work with Maryland's counties and Verizon to understand the issues that caused the 9-1-1 related outages and to take preventative measures to mitigate the possibility of those outages occurring in Maryland.

The Board has taken the following actions:

- The Board met with Verizon at each of its monthly public meetings since the Derecho storm:
  - Verizon appeared at these meetings to provide the Board with an update of the issues that occurred in Maryland, as well as the issues and remediation efforts that occurred in Northern Virginia;
- The Board issued a series of data requests to Verizon to gain a better understanding of what occurred in Maryland and Virginia, and to remediate any potential problems in Maryland;
- The Board participated in a number of meetings held by the Metropolitan Washington Council of Governments (MWCOG):
  - Chairman Anthony Myers provided updates to the MWCOG relative to the activities of the Board and the Maryland Public Service Commission (PSC) with regards to Verizon 9-1-1 service, as well as the power utilities regulated by the PSC;

- The Board shared best practices and lessons learned from previous Verizon outages with Virginia, the District of Columbia and other members of the MWCOG;

- The Board met with representatives from the Office of the Governor and the Maryland Emergency Management Agency (MEMA) to provide updates regarding the efforts of the Board and an overview of Maryland's 9-1-1 network;
- The Board issued a power survey to each of Maryland's 23 counties and Baltimore City to better understand the emergency backup power systems used at each primary and backup PSAP:
  - Through the Board's annual PSAP inspection process, members of the Office of the Executive Director discussed best practices for backup power maintenance, and reviewed the PSAP maintenance records for backup power systems to ensure that the equipment is properly maintained.

Verizon has taken the following actions since the storm, in cooperation with the Board:

- Verizon responded to a host of written and oral data requests made by the Board.
- The Board requested that Verizon examine and report on its electrical power backup systems in Maryland's central offices.
  - Verizon advised that there are no issues like those discovered in Virginia, nor are there any outstanding issues with emergency power in Maryland.
    - Verizon conducted a series of power audits in Maryland to determine vulnerabilities, and to remedy those vulnerabilities when discovered.
    - The audits and remediation efforts are scheduled for completion.
- Verizon will enhance its emergency power practices and procedures
  - Site specific back-up power system procedures at critical facilities will be designed so that anyone entering such a facility will be able to determine if the site is on emergency power.
  - Verizon developed site specific manual generator starting procedures, including prioritized system loads, to ensure a rapid start in case of the failure of automatic starting systems.
  - Verizon improved its training and testing compliance so that procedures are followed to ensure the rapid correction of issues that can compromise the individual offices.
- Verizon will conduct testing that involves the termination of commercial power into each central office. This process, known as blackout testing, assesses the emergency power's ability to automatically engage to keep the central office operating. This will be done on a continual basis starting in 2013.
- Verizon committed to the Board to review the network design for 9-1-1 trunks and ALI links to ensure, where physically possible and with PSAP concurrence, there are no "choke points" or single points of failure in a central office that may inhibit a PSAP from receiving 9-1-1 calls or location information. The following three step process was utilized:
  - High-level network drawings were developed to determine if the 9-1-1 trunk groups or ALI links intersect in a common piece of equipment within a Verizon central office, such as a router or switch.

        - The 9-1-1 trunks were traced from the PSAP to each of the tandems, and the ALI links were traced from the PSAP to the Freehold and Fairland data centers.
        - Drawings were completed for each PSAP (Primary and Back-Up), to be reviewed with each county PSAP Director.
    - Verizon engineers performed a detailed review of each 9-1-1 and ALI circuit to make certain that there are no single points of failure, and if diversity violations were discovered, to design solutions to create diversity within the network where physically possible.
        - The detailed reviews have all been completed and will continue on a periodic basis.
        - Verizon has developed an algorithm/macro to expedite the review process, which will continue on a periodic basis.
    - Verizon will follow-up with each county to review the findings and recommendations made by the engineering group.
        - Verizon will then schedule the remediation with each county at a time that minimizes the impact to the county PSAP operations.
        - This entire process is being done concurrently with Virginia.
        - The remainder of the Verizon footprint will be done sometime after Maryland, Virginia, and the District of Columbia are completed.
- Verizon implemented a new alerting system to provide voice, text message and e-mail communication to the PSAP community in the event of a major outage that affects multiple jurisdictions. This will provide each county with updated information as quickly as possible. This is not a substitute for any other notification processes agreed to by Verizon, the counties and the Board. The process augments previously established procedures by adding text messaging.

The Board anticipates the following actions to be completed on the dates indicated.

- The Board will continue to meet with Verizon and the counties to discuss new information regarding the impact of the Derecho storm on 9-1-1 and to discuss other 9-1-1 system improvements. **Ongoing**
- Receive updates from Verizon and the counties regarding the network diversity reviews as they are completed. **All reviews have been completed**
- Assist each county with making certain that they have Verizon network diversity from PSAP to tandem for 9-1-1 calls, and PSAP to data center for ALI data. **Estimated Completion Time: Efforts are ongoing, with over 90% of the identified PSAP trunk circuits and over 75% of the identified ALI circuits expected to be completed by the end of June 2014.**[15]
- Review with Verizon the results of the power audits at the mission critical Verizon facilities. **Audits have been completed and are being reviewed**
- Follow up with Verizon to ensure all power remediation is completed at the mission critical Verizon facilities. **All power remediation efforts have been completed**

[15] Other targeted circuits would be expected to be completed by 2015, subject to ongoing review.

The Board employs a continuous process in its efforts to improve 9-1-1 reliability and resiliency. The Board continues to meet with Verizon and PSAPs to enhance Maryland's 9-1-1 system and to provide the best service to Maryland's citizens. To that end the Board makes the following recommendations further memorializing current practices and identifying new procedures:

***VERIZON*** - *New Recommended Practices Resulting from the Derecho Storm*

1) Verizon shall continue to monitor and audit power resources for their 9-1-1 critical facilities.
    a. Verizon will periodically conduct an audit of power plant facilities within their network to make sure all are operating and being maintained properly.
        i. Internal trouble ticket procedures for power related issues will receive high priority to increase awareness among managers, and to facilitate repairs more quickly.
        ii. The findings and corrective action resulting from these audits will be reported to the Emergency Number Systems Board. Certain information in these reports may be identified as proprietary.
    b. Verizon will periodically test back-up power sources, to include termination of commercial power to make sure generators start as designed.
    c. Verizon will provided technician training and place a checklist to help identify and remediate any power issues, which will include site specific instructions for manually starting generators in each office.
2) Verizon will proactively engage with the local 9-1-1 center agencies to provide subject matter expertise and make recommendations to the 9-1-1 centers and their stakeholders to ensure reliability and continuity of 9-1-1 service. This should include, but not be limited to, network redundancy, 9-1-1 center equipment and systems, and best practices and procedures.
    a. Verizon will periodically review their 9-1-1 network design to ensure that there are no single points of failure from the tandem to the PSAP, and from the PSAP to the ANI/ALI servers.
        i. Verizon will review these findings with the affected PSAP and, in cooperation with the County, correct deficiencies as soon as possible.
    b. At the request of a County, Verizon will facilitate scheduling and conducting a tabletop disaster drill exercise concerning 9-1-1 related services.

Verizon will review and update its communications and public notification plans with each 9-1-1 center's Director and/or Public Information Officers (PIO) regarding the dissemination of emergency messages and 9-1-1 center-specific public announcements to citizens during 9-1-1 outages.

***VERIZON*** *– Previously Developed Maryland Practices*

1) Resulting from 9-1-1 service outages occurring in Southern Maryland Region during the summer of 2010 Verizon agreed to:
    a. Conduct on a regular basis an inventory of existing "rings" in Maryland to ascertain whether any are in a "locked" condition such that they cannot switch over to their redundant paths in the event of a problem on their working paths.
    b. Educate Verizon's technician workforce on Verizon procedures to:
        i. Have technicians who need to do construction or similar field work first check to determine whether a circuit is in a "locked" condition so that they can then schedule the field work for a "safe time" (for example, during the night) so as to reduce the risk of a service-affecting outage caused by fiber cuts during the field work, and
        ii. Have technicians who perform maintenance or testing on a ring that necessitates locking the track into the working path ensure that they turn off the "lock" when their maintenance or testing work is completed.
    c. If multiple counties are affected by a single outage, Verizon will provide coordinated information through a single point of contact. To facilitate that approach, when Verizon becomes aware that multiple PSAPs are affected, they will set up a conference bridge line so that all affected counties can be updated simultaneously, receiving the same status reports.
    d. Verizon will automatically generate and provide to a requesting County a list of the calling party phone numbers from which 9-1-1 calls had been attempted during a 9-1-1 outage, so that follow-up can occur with the callers after any 9-1-1 outage.
    e. Verizon will offer PSAPs the option to be added to the email distribution lists for notifications not only when they lose their own 9-1-1 services, but also when there is an abnormal event affecting other county 9-1-1 services in Maryland (for whichever other counties they chose).
2) Resulting from a "mass call event" on January 26, 2011 Verizon agreed to:
    a. Deploy a remediation plan to help avoid similar problems in the future. Specifically, Verizon recommended, where feasible, that they will adjust the "automatic trunk busy percentage" setting for PSAPs' 9-1-1 trunks so that, in the rare event of a mass calling, no more than one trunk in a group will shut down automatically due to excessive volumes. Such an event will still alert Verizon to an unusual circumstance with an affected trunk group, allowing Verizon to monitor and conduct any necessary repairs if the problem is not limited to the mass calling. At the same time, assuming no other root cause, all of the other trunks will be kept up and running through the event.
    b. Ensure that the affected PSAP is notified as soon as possible after Verizon becomes aware that even a single 9-1-1 trunk remains out of service after the initial restoration efforts; that notification will occur whether or not

there is a mass call event. Verizon has committed to a goal of PSAP notification within 15 minutes on average.

c. Prioritize notifying a PSAP customer when Verizon has an indication that a mass call event is occurring; that is, they will continue to manage the network trouble that the alarm(s) may indicate but will not delay getting a notification out to the PSAP even before Verizon knows all of the details.
d. Updated in 2013 – Verizon's Mass Call Mitigation Plan will make certain all trunks are returned to service before closing the related trouble ticket.

3) Augmenting their phone notification process, Verizon will continue the additional PSAP notification process in Maryland, implemented on March 17, 2011, so that pre-identified PSAP personnel will receive an email notification from the CCC whenever a 9-1-1 service ticket is opened or closed.
4) Verizon will provide voice, text message and e-mail communication to the PSAP community in the event of a major outage that affects multiple jurisdictions.
5) Verizon will provide each PSAP with an "escalation list" to report 9-1-1 related service issues and concerns.

***PSAP*** *– Recommended Practices*

1) PSAPs will provide Verizon with a "service ticket" contact list identifying PSAP personnel and their contact information to permit Verizon to notify them when a 9-1-1 related service ticket is opened or closed concerning their PSAP and/or other pre-identified PSAPs.
    a. PSAPs will update their Verizon notification list as needed or, at a minimum, annually.
2) The Board will annually review and inspect PSAP power system testing and maintenance records.
    a. Upon industry review and establishment of best practices concerning power system maintenance and testing, the Emergency Number Systems Board will establish related PSAP power guidelines.
    b. After a date to be established, all PSAPs will have a Power Indicator System that will be viewable by PSAP personnel and identify which power source (Commercial, UPS, Generator, or other) is currently powering PSAP equipment.
3) PSAPs will notify the Board, through the Executive Director, of a significant 9-1-1 outage no later than the first business day following the outage.
    a. As part of the incident review process the PSAP Director of the affected PSAP may be requested to attend a Board meeting to brief Board members on the circumstances surrounding the 9-1-1 outage and it resolution.
4) PSAPs will establish written emergency power procedures identifying UPS/Generator start-up, trouble shooting, by-pass, and shut down processes at both their Primary and Back-Up (if applicable) PSAPs.
    a. Written procedures should also identify:
        i. When to evacuate the PSAP
        ii. Upon evacuation, how to power down the PSAP
        iii. How to access and power up the Back-Up PSAP facility

**The Board published its final report regarding the June 29, 2012 Derecho storm on October 1, 2013.**

The Federal Communications Commission (FCC) also released a Report and Order (FCC 13-158) at its December 12, 2013 public meeting. This order requires 9-1-1 service providers to take reasonable efforts to safeguard the reliability and resiliency of 9-1-1 networks, and includes the following requirements to be certified by the carrier to the FCC annually:

1) 9-1-1 network providers should have diversity in 9-1-1 CAMA and ALI circuits:
    a. Circuits are to be tagged to prevent changes compromising diversity;
    b. Carriers are to audit critical circuits annually to ensure diversity;
2) 9-1-1 network providers are to have adequate backup power:
    a. Offices serving a PSAP shall have at least 24 hours of backup power;
    b. Offices where a tandem/selective router are located shall have 72 hours of backup power;
3) 9-1-1 network providers shall have diversity in network monitoring;
4) 9-1-1 network providers shall notify an effected PSAP of an outage within 30 minutes of its discovery, and shall follow up with the PSAP within 2 hours to inform the PSAP personnel of the problem's diagnosis and the estimated timeline for its resolution.

Maryland's Managing for Results (MFR) initiative requires the identification of an organizational mission accompanied by specified goals and performance measures. This is incorporated in the Department's Strategic Plan. The Emergency Number Systems Board established two Managing for Results (MFR) objectives that would track the quality and consistency of the emergency response information extracted from 9-1-1 callers by Emergency Number Operators (call takers) staffing Maryland's twenty-four (24) Public Safety Answering Points.

Formerly, PSAPs in Maryland relied solely on the training and experience of the call taker to process a 9-1-1 call. Police and fire protocol systems have been established by national organizations to provide a standard means to query 9-1-1 callers to elicit the information required to properly respond to an emergency call. The response made by the 9-1-1 caller to initial questions identify subsequent questions needed to guide the Emergency Number Operator in appropriately processing the emergency call and providing the 9-1-1 caller with suitable pre-arrival instructions. The utilization of nationally established protocols for processing 9-1-1 calls will enhance consistency of 9-1-1 call handling.

"Police and fire protocols" are two sets of standardized "question and answer" systems that guide the Emergency Number Operator to obtain appropriate (police or fire) emergency response information and to provide pre-arrival instructions to 9-1-1 callers. The protocols can be implemented either manually employing a card-set system or be integrated into an existing computer system to be utilized in an electronic format.

**Goal** **To meet compliance standards for emergency number operator use of nationally established emergency processing protocols in Maryland to extract optimum information for improved emergency response.**

**Objective 1.1 –** By June 2013, at least 95% of the 9-1-1 Centers (Public Safety Answering Points) will utilize nationally established police and/or fire emergency protocol systems for emergency number operators to process 9-1-1 calls.

**Performance**: Goal Achieved - Objective 1.1 was designed to target the "use" (implementation) of police and fire protocol systems, and Objective 1.2 was designed to target subsequent compliance with protocol standards after implementation. Implementation efforts of Police and Fire protocols continued in FY 13 with only one additional county needed for our goal of statewide 100% Protocol implementation. Twenty-three (23) of Maryland's twenty-four (24) primary PSAPs (96%) are utilizing or implementing either Fire or Police protocol system or both to enhance their call taking process.

The remaining county (Howard) has developed a local in-house call-processing system and remains hesitant to change

**Objective 1.2** – By June 2013, at least 96% of those 9-1-1 Centers (Public Safety Answering Points) that utilize nationally established police and/or fire emergency protocol systems for emergency number operators to process 9-1-1 calls will achieve at least a 90 % standards compliance rate.

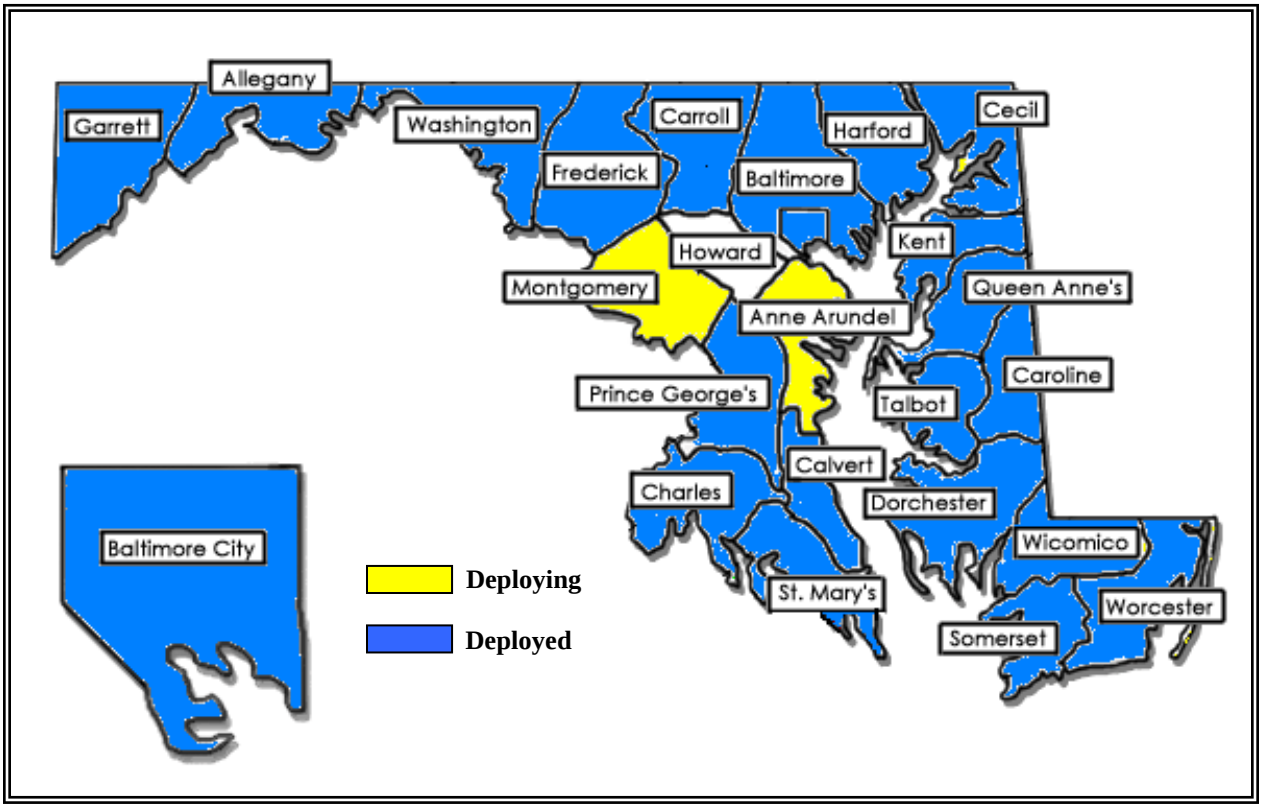
**Performance**: Goal Achieved - ENSB's protocol funding policy requires implementation of protocol systems be accompanied by the implementation of their associated quality assurance (standards) program, which requires a careful review of the "processing of 9-1-1 calls" handled by each Emergency Number Operator to determine the percentage of protocol compliance for each PSAP. We continue to experience an increase (96%) of compliant (90% or better) quality assurance (QA) scores, thus attaining our goal. Concerns remain with local staffing issues, due to fiscal cuts, impacting the "quality assurance" review portion of the protocol implementation phase, thus delaying a jurisdiction's ability to report to the Board QA scores in a consistent fashion. Efforts are being made at the PSAP level to reassign duties as needed to complete monthly QA reviews, which have improved during this review period. Of the jurisdictions that have completed full training/implementation, their quality assurance reviews are completed/submitted within 60 days.

Maryland's statewide utilization of nationally established protocols for processing 9-1-1 calls, to ensure consistency of 9-1-1 call handling in any PSAP and thus to measurably improve public safety, must be tracked by how well the PSAPs comply with the protocols. Objective 1.1 will track the "use" (implementation) of these protocols; this objective (1.2) will track the compliance with the protocols. Police and fire protocol systems utilize a quality assurance checklist to review actions taken by Emergency Number Operators to determine the percent of protocol compliance. All Emergency Number Operators that have completed protocol training will be subject to quality assurance review.

Maryland has been recognized nationally for its statewide utilization of police, fire, and medical "protocol" based call-processing systems. The National Academies of Emergency Dispatch (NAED) has developed a program for achieving a "Center of Excellence" when a jurisdiction consistently obtains a quality assurance score of 95% or more in any single "protocol" system. In December 2010, Harford County Maryland became the first Center in the nation (second in the world) to receive the Tri-ACE (Accredited Center of Excellence) Certification from the NAED for superior quality assurance scores attained in all three protocol system disciplines (police, fire, and medical). In FY 12, Prince George's County joined Harford County Maryland becoming the fourth county in the nation to receive the Tri-ACE (Accredited Center of Excellence) Certification from the NAED for superior quality assurance scores.

**The Emergency Number Systems Board will be retiring the current FY 13 MFR goals and objectives.** The statewide implementation of protocols and related quality assurance program has reached successful levels of compliance throughout the state. Our efforts to implement statewide protocol based call processing have been recognized nationally over the years and are indicative of the success of this program.

**Maryland Deployment of Protocol Usage – June 2013**[16]




[16] **Anne Arundel County experienced implementation delays due to migrating to a new Computer-Aided-Dispatch (CAD), while Montgomery County delayed implementation while securing a new protocol vendor.**

The Emergency Number Systems Board's (ENSB) annual Planning Day was held on November 7, 2013. Local Directors from the twenty-four jurisdictions were asked to participate bringing together a large segment of Maryland's 9-1-1 community. The purpose of the planning day was to provide a forum to discuss the state of Maryland's 9-1-1 System, current challenges, and future goals. The meeting also provided an opportunity for peer networking and discussing ongoing efforts to improve the delivery of emergency service through the 9-1-1 system. Action items were assigned to various individuals and committees with reports due to the Board at various times in the future. Additional meetings will be held as deemed appropriate by the Emergency Number Systems Board.

## PRESENTATIONS & DISCUSSION ITEMS

### NETWORK MARYLAND

Greg Urban, Chief Technology Officer for the State of Maryland Department of Information Technology (DoIT) presented an overview of Network Maryland. This included a description of the current network architecture, network users, and a future roadmap for the network. Network Maryland was created in 2001 by an act of the Maryland General Assembly. It is a statewide high speed data network that connects all 23 of Maryland's counties and Baltimore City. The network provides:

- ISP with 30 gigabits per second across peering points;
- Private circuits for applications;
- Private IP; and
- Statewide Government Intranet (SwGI).

The network provides connectivity to law enforcement, county and municipal governments, universities, PSAPs, local health departments, social services, fire departments and emergency management, and other governmental organizations.

Future network improvements will include:

- Managed Customer Premise Equipment (CPE);
- Quality of Service (QoS) for network applications;
- Security as a Service;
- Centralized credential and management services;
- Infrastructure as a service; and
- Video conference brokering.

Mr. Urban also provided the group with an overview of network monitoring and maintenance. The fee schedule for Network Maryland may be found on the DoIT website (http://doit.maryland.gov/support/Pages/networkMaryland.aspx).

## CASSIDIAN COMMUNICATIONS

Mike Pavlick of Cassidian Communications provided an overview of Vesta 4.X, including several different deployment schemes, including:

- Geo-Diverse Multi-Site;
- Data Center Hosting;
- Customer Hosted; and
- Software as a Service (SaaS).

Jeroen DeWitt provided the group with a preview of Vesta 5.0. Customer Premise Equipment (CPE) and ESINet components will be merged into a single offering to lower equipment costs. Vesta 5.0 will be a geo-diverse 9-1-1 system with no single point of failure that will provide the user with high up-time and reliability. It will support i3 and Request for Assistance Interface (RFAI) standards. It will also support all three FCC defined methods of text to 9-1-1 call delivery (TTY, web portal and direct interface). An ESINet will not be needed to receive text messages, but a connection to a text control center (TCC) will be required. Vesta 5.0 will also support geo-based routing. The upgrade from the current 4.X offering to 5.0 will be done through a software upgrade.

## TEXT MESSAGING TO 9-1-1

Erick Wallace of TCS presented the group with an overview of cyber security. The challenge to governments is to design its networks to support a large number of users and applications across a large footprint. Next Generation 9-1-1 infrastructure has an increased risk of becoming compromised due to multiple entry points. They are also at risk for denial of service attacks. Every member of an organization is responsible for cyber readiness. Organizations will need to train personnel to avoid breaches in security, and to test those policies to be certain that they are followed.

Bob Gojanovich of TCS updated the group with the progress of text to 9-1-1 deployments in the United States. To date, there have been 71,000 attempts by the public to reach 9-1-1 via text message; both where service is available and not available. So far, in those PSAPs where text messaging is deployed, there have not been a large volume of texts, but those received have been valid requests for emergency services. There are currently 51 PSAPs in 16 states that are receiving text messages and another 20 that are being readied to receive them. There are another 150 PSAPs that have requests to receive text messages.

Many states have seen the need to deploy text to 9-1-1 in a homogenous fashion by requiring all carriers to be able to send texts to the PSAPs in order to provide the service to all of its citizens. Verizon and T-Mobile have selected TCS to serve as their text control center (TCC). AT&T and Sprint have not selected a TCC.

Mr. Gojanovich outlined the current testing of the text to TTY interface. It has been shown to not be as robust as other text to 9-1-1 methods due to a limited character set without punctuation, and that only one party may send a message at a time. TTY users can only handle one text session at a time, where the users of the web client may handle multiple sessions simultaneously.

Mr. Gojanovich reviewed the steps to deploy text to 9-1-1 at a PSAP. Once the PSAP makes the request to receive text messages from a cellular telephone carrier, TCS will hold a kickoff meeting with the PSAP. Provisioning details are completed and boundaries for call routing are established. Training and system setup must be completed. Once these steps are done, the PSAP will be able to receive and send text messages.

Today, there are no additional costs to receive text messages. Carriers may elect to use disparate TCCs to deliver text messages to PSAPs, so an E-Media Gateway may be needed to deliver the text messages in a standardized format. This may be a PSAP expense.

**VERIZON**

Walt Puller of Verizon thanked the Board for the report regarding the June 29, 2012 Derecho storm. Verizon is carrying out the recommendations made in the report for hardening its infrastructure.

Charles Vick of Verizon presented a possible migration strategy to Next Generation 9-1-1. Next Generation 9-1-1 is more reliant of software and applications, rather than hardware. A standards based approach will allow PSAPs to choose the best solution to address their unique challenges. Verizon will offer the following to meet those challenges:

- Managed network and security services;
- Private IP networks;
- Data storage services;
- Professional services;
- Terramark cloud services;
- Private network build-out;
- Video surveillance services; and,
- 4G/LTE networks.

Mr. Puller informed the group that Verizon has several requests for disaster planning exercises. He will be aggressively scheduling them. Each exercise will be centered on a weather related event. Next year, the topic will be a facility outage. Chairman Myers remarked that the exercises are an important activity to the Board, with a view towards reliability and resiliency.

Verizon Customer Account Manager Rob Drake presented an overview of the network control modems as a replacement for the remote make-busy keys. Network control modems will allow calls to rerouted dynamically using three routing options.

## NEXTNAV

David Knutson of NextNav presented an overview or efforts to improve in-building location accuracy for wireless callers. There are no FCC rules in place today to address this issue. NextNav is providing chipsets to be incorporated into wireless devices to utilize its terrestrial GPS network to provide accurate in-building location services, including altitude. This location information will be routed to a PSAP using the same methods in place today to deliver Phase II wireless automatic location information (ALI) data.

## OTHER TOPICS OF DISCUSSION

- Members in attendance noted that 9-1-1 is evolving such that capital costs will become reduced, and reoccurring network costs will increase. Some members were interested in knowing if there is a plan in place to address county funding needs in the future. Chairman Myers explained to the group that the statute is specific in what the 9-1-1 Trust Fund can and cannot be spent. The Board will move cautiously in the future in order to understand the impact of new responsibilities;
- The Board was asked if they have taken a position on the Maryland Institute of Emergency Medical Service Systems (MIEMSS) requirements for "high-performance CPR," early dispatch of first responders and the use of emergency dispatch protocols. Members of the Office of the Executive Director noted that while the Board does fund the use of emergency dispatch protocols, the Board is not the regulator of their use. This matter may be best resolved with MIEMSS.
- Several counties were concerned with 9-1-1 service. One area of concern was that Verizon should take a leadership role when dealing with issues arising from other 9-1-1 service providers, such as wireless carriers. Chairman Myers stated that as the network becomes more complex, there will be added PSAP responsibility as Verizon does not have the ability or authority to tell another company how to manage its network. Another area of concern was a desire by the counties to see improvements in communications with the Verizon sales and service teams. The Board agreed to address these concerns with Verizon. Sales issues have been added to the Verizon service escalation list and has been distributed to the counties should the counties not be able to resolve concerns with their customer account manager.

Local Directors were appreciative of the ENSB for providing this forum to discuss 9-1-1 in Maryland and to comment on the activity of the Board.

# 9-1-1 Training in Maryland

Maryland continues to be a national leader in its 9-1-1 training efforts and remains one of the few states to establish legislation mandating 9-1-1 personnel training standards. Telecommunicator training has recently received national media attention and improving 9-1-1 personnel training has become the focus of several organizations and foundations (e.g. The Denise Amber Lee Foundation). At the inception of 9-1-1 in the early 1980s, Maryland understood the importance of training and through the Code of Maryland Regulations (COMAR) established mandatory 9-1-1 PSAP training standards for both entry-level and in-service programs under the purview of the Emergency Number Systems Board (ENSB). These mandates continue to be updated to maintain current relevance. Compliance is verified through a yearly inspection process conducted by Board staff. It is evident that Maryland's ENSB and Public Safety Answering Points have taken obligation of providing timely and pertinent training very seriously.

In the early 2000's, to provide a consistent entry-level training program the ENSB selected a nationally offered Emergency Telecommunicator Course (ETC) developed and maintained current by the National Academies of Emergency Dispatch (NAED). The ETC curriculum and instruction was developed to deliver the information and educational experiences needed to prepare entry-level emergency telecommunicators to begin their careers in public safety in a standardized and consistent manner. The ENSB funded ETC instructor training to provide each Maryland PSAP with certified ETC instructors. Today, the Board funded ETC instructor and entry-level training programs continues to be the foundation for developing competent 9-1-1 call takers.

In response to COMAR, in-service training programs are provided by local jurisdictions and supplemented through training funded by the Board. Training officers develop local agency specific programs, while the Board, at the recommendation of the Training Subcommittee, offers 9-1-1 related training courses on a statewide basis throughout the year (see chart on page 51). These training sessions are open to all Maryland PSAP personnel and address disciplines designed to enhance the skills and abilities of new or veteran call takers, supervisors, and administrators.

Locally developed training programs are reviewed by the ENSB Training Subcommittee for content, relevance, and statutory compliance. Also during the annual PSAP inspection process, each local jurisdiction's training program records are inspected by ENSB staff to validate that all 9-1-1 employees are receiving COMAR compliant training.

Maryland has been recognized nationally for its statewide utilization of police, fire, and medical "protocol" based call-processing systems. Nationally certified protocol systems provide a systematic methodology to query emergency response information from 9-1-1 callers that follows predetermined questioning guidelines and to provide standardized instructions to the caller prior to the first responder's arrival. Protocols offer more consistent 9-1-1 call processing and a quantifiable quality assurance review process.

Embracing the value of continuing education, Maryland remains a national leader in the ongoing training of 9-1-1 personnel, through the support of the ENSB. The Board's emphasis on entry-level training, with the ETC program, and support of utilizing emergency medical, fire, and police protocols has significantly enhanced the delivery 9-1-1 service. The evaluation of 9-1-1 personnel through a disciplined quality assurance process is also required of jurisdictions receiving ENSB funding for protocol programs. The NAED protocol quality assurance process identifies individual, unit, and overall Center compliance scores. National standards have been established to recognize Centers that achieve superior quality assurance scores. Harford County ($2^{nd}$) and Prince George's County ($5^{th}$) are among the first PSAPs in the world to receive the Tri-ACE (Accredited Center of Excellence) Certification from the NAED for superior quality assurance scores attained in all three disciplines (police, fire, and medical).

# POLICY/STANDARDS SUBCOMMITTEE

The Policy/Standards Subcommittee[17] is tasked with developing the policy, and guidelines to provide guidance to the Board and PSAPs with regard to requesting and encumbering funding from the 9-1-1 Trust Fund. They also craft and respond to recommendations for legislative changes affecting the Public Safety Article and the Code of Maryland Regulations (COMAR) as it relates to 9-1-1 service.

## STRATEGIES

- Develop written guidelines to be used by the ENSB in its consideration of the pricing, functionality, and quantities proposed for routine 9-1-1 equipment and service purchases.
- Develop procurement standards including equipment replacement cycles, spare/back-up equipment purchase guidelines, and minimum qualifications.
- Review the standards and procurement activities of national associations and efforts of other jurisdictions/states, to adopt best practices in Maryland.
- Identify synergistic procurement opportunities in Maryland and foster the competitive bidding process.
- Develop statistical models to capture and reflect information relative to the Board's procurement activities and pricing trends.
- Work with the other subcommittees as needed to support the overall goals and objectives of the Board.

| **Policy/Standards Subcommittee** |
|---|
| **Chairman**<br>Kevin Green |
| Anthony Myers - ENSB |
| Charles Summers - ENSB |
| Andrew Johnston - ENSB |
| Brian Josef - ENSB |
| Susan Greentree - ENSB |
| William Frazier - ENSB |
| Lt. Col. William Pallozzi - ENSB |
| Ken Miller - ENSB |
| Ray Windisch - Baltimore County |
| Wally Campbell – Anne Arundel County |

[17] Currently the Policy and Standards Subcommittee are acting together to achieve their missions.

Through the efforts of this committee working with the Training Subcommittee, Board standards were established to fund Police and Fire Protocol recertification costs that are required to be renewed every two years.

During 2013, the Standards Subcommittee reviewed current equipment improvements and associated pricing ranges of items commonly funded by the Board to establish more responsive fiscal guidelines to assist Board efforts. Guidelines also were established requiring the installation of power monitoring systems in all 9-1-1 Centers. The power monitoring system will provide visual and audible indication when the power source changes for PSAP staff to readily identify which power source is currently operating the 9-1-1 Center (i.e., Commercial, Generator, or UPS battery discharge).

The Policy Subcommittee also presented Federal Communication Commission (FCC) updates to members concerning expanded efforts to safeguard the reliability and resiliency of 9-1-1 networks, national text to 9-1-1 pilots, and national NG 9-1-1 efforts.

Following an unfavorable House Committee review of last session's submitted bill, the Policy/Standards Subcommittee re-submitted legislation that would establish the collection and remittance of 9-1-1 fees by Maryland retail outlets, referred to as the "Point of Sale (POS) Model." The POS model adds a 9-1-1 Surcharge to each retail transaction of prepaid wireless telecommunications service for any purpose other than resale. Amounts collected, minus a processing fee, would be deposited to the State 9-1-1 Trust Fund. Fees collected from prepaid retail transactions would be distributed proportionally in the same fashion as those remitted via the "monthly billing" process.

This legislative change was proposed because prepaid wireless service is a growing segment within the overall consumer wireless industry. Increasingly, consumers are opting for a form of prepaid wireless service whereby a specified number of minutes are purchased at retail outlets or online rather than the traditional monthly-billed wireless service. Ensuring that the 9-1-1 system is funded in a fair and equitable manner is a priority for the sustainability of the 9-1-1 system. These efforts are similar to those currently being conducted in other states.

Due to the efforts of the Policy/Standards Subcommittee and support from Maryland's PSAP Directors and the 9-1-1 Community the Maryland Pre-Paid Wireless E9-1-1 Fee was enacted effective July 1, 2013.

# TECHNOLOGY SUBCOMMITTEE

The Technology Subcommittee is responsible for the investigation, and research of technology related issues and the dissemination of technical information to the membership of the ENSB. This subcommittee will be focused on issues that could impact the management, operation, and maintenance of E9-1-1 systems serving the citizens of the State of Maryland.

| Technology Subcommittee |
|---|
| **Chairman**<br>Rod Hart - ENSB |
| Rich Berg - ENSB |
| Anthony Myers - ENSB |
| Steve Marshall - ENSB |
| Charles Summers - ENSB |
| Andy Johnston - ENSB |
| Jack Markey - ENSB |
| Ray Windisch – Baltimore County |

The Technology Subcommittee is currently reviewing the feasibility of implementing a Next Generation 9-1-1 System (NG 9-1-1) in Maryland. Working in conjunction with the Board's consultant (i.e., L Robert Kimball) and monitoring activities of national organizations, the Technology Subcommittee is following NG 9-1-1 technological advancements and establishment of industry standards/regulations to better prepare the Board as to NG 9-1-1 implementation options.

During 2013, The Technology Subcommittee conducted meetings with PSAP personnel and vendors to discuss migration to NG 9-1-1. The recurring funding required establishing and maintaining a NG 9-1-1 network was identified as a major element that will require a cost to benefit analysis to be conducted before committing the local funding necessary for this effort to advance.

The Technology Subcommittee coordinated presentations to the Board concerning crash notification data becoming available to PSAPs, Verizon *Voice Link* services, mapping enhancements needed for NG 9-1-1, and national efforts to increase location reliability, as well as, providing the "Z" coordinate (altitude) with the currently received LAT/LONG data.

# TRAINING SUBCOMMITTEE

The Training Subcommittee is comprised of members of the Board and the PSAP community, chaired by the Caroline County PSAP Director and ENSB member, Bryan Ebling. In order to provide Maryland with a robust training program that will meet the requirements of the Code of Maryland Regulations (COMAR), the Training Subcommittee reviewed numerous training opportunities, programs, and seminars before deciding which programs to offer for the 2013 training sessions.

| **ENSB Training Subcommittee** |
|---|
| **Chairman**<br>Bryan Ebling – ENSB |
| William Frazier – ENSB |
| Sue Greentree – ENSB |
| John "Chris" McNamara – Howard County |
| Mitch Vocke – Harford County |
| Andrew Johnston – ENSB |
| Jennifer Swisher – Washington County |
| Scott Roper – Coordinator |

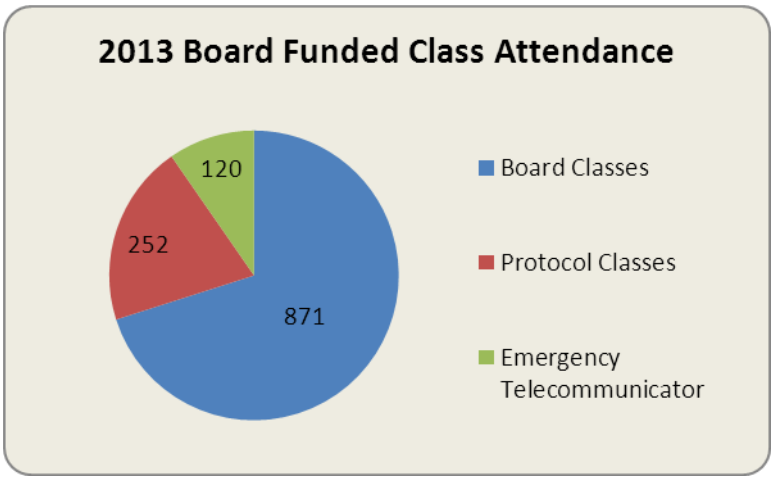
The Code of Maryland Regulations (COMAR) provides specific guidance on the topical requirements for training but does not address job relatedness, testing standards, or instructional methodologies for new, in-service, or supervisory employees. The Board, through the recommendation of the Training Subcommittee, partnered with the National Academies of Emergency Dispatch (NAED) to provide an Emergency Telecommunicator Course (ETC) to instruct Maryland's newly hired 9-1-1 call takers. This course provides a comprehensive review of the skills and abilities needed for successful handling of 9-1-1 emergency calls and is presented utilizing curriculum designed for adult based learning. Trainers from each PSAP attend NAED sponsored classes and earn their ETC Instructor certification. During 2013, 120 9-1-1 call takers successfully completed the ETC entry-level training. For additional information of the program, the web address for the National Academy is http://www.naemd.org/.

In-service training, utilizing a curriculum approved by the Training Subcommittee, is a requirement of all jurisdictions as established in COMAR. Training programs can be provided by each local jurisdiction as well as on a statewide basis. Training officers at the local level develop agency specific training programs and evaluate individual training based on the needs for their center and county. A variety of educational resources is utilized by each jurisdiction to insure local personnel are properly trained and prepared

for any emergency requests they may receive. The Training Subcommittee annually reviews each PSAPs training program to ensure curricula meets established guidelines.

Throughout 2013, the Training Subcommittee reviewed new programs and local training requests to determine appropriateness to enhance 9-1-1 service in Maryland. Upon Subcommittee recommendation, various training programs are offered to PSAP personnel and held at locations around the state to ensure accessibility to all jurisdictions. The Training Subcommittee will continue to look for training opportunities to take advantage technological advances in training media and presentation.

During 2013, programs from nationally recognized training vendors including the International Leadership Development Consortium (ILDC), the Association of Public Safety Communications Officials - International, Inc. (APCO), Public Safety Training Consultants, Priority Dispatch and the Public Safety Group were offered. The chart below indicates the number of students trained during Board funded classes.



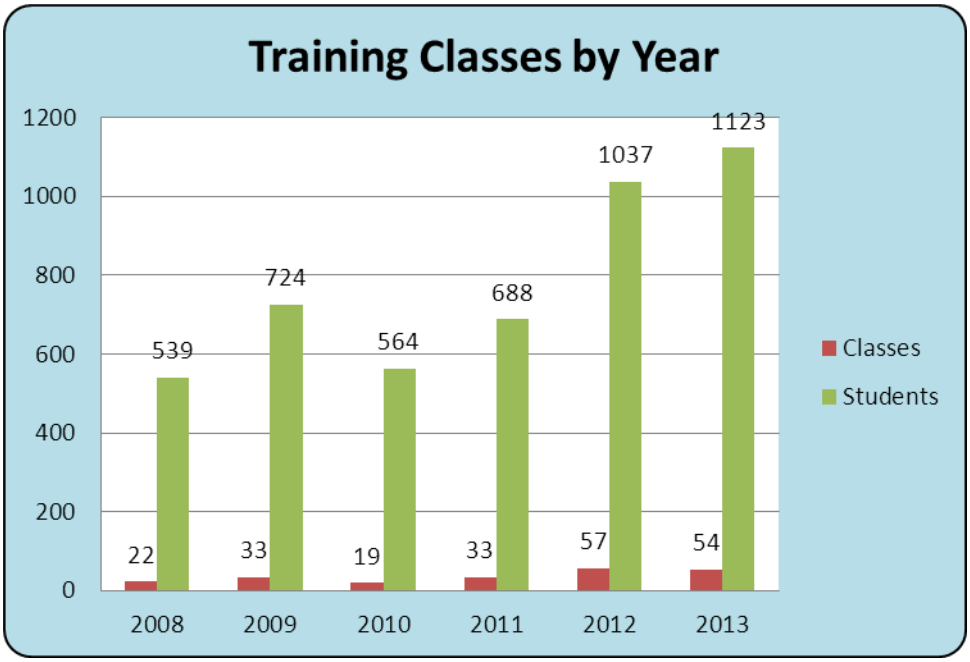

The Training Subcommittee continues to utilize the facilities of the Public Safety Training Center, located in Sykesville, Maryland. This facility, which is centrally located, provides a rich learning environment with state of the art technology and ample classroom space that is able to accommodate up to 75 students in one room.

The Emergency Number Systems Board supports a variety of training programs and encourages the use of protocol systems throughout Maryland. Over 95 percent of the jurisdictions are currently using either Emergency Fire or Emergency Police Dispatch, in addition to Emergency Medical Dispatch protocols. In support of this effort, various protocol classes and protocol Quality Assurance training have been presented around the State.

The Training Subcommittee reviewed various training programs recommended by our 9-1-1 Centers. Course selections were made and offered throughout the year to best accommodate employee scheduling. Training programs were typically provided at least twice for geographic diversity to allow all counties across the state to attend. **See list of training programs on next page.**

## 2013 Training Programs

| | |
|---|---|
| ILDC Leadership Seminar | 61 Attendees |
| PSTC Active Shooter (4 Sessions) | 173 Attendees |
| Miltenberger Seminar | 40 Attendees |
| NAED Emergency Telecommunicator Instructor | 20 Attendees |
| PSTC Communications Training Officer | 22 Attendees |
| NAED Active Assailant (4 Sessions) | 91 Attendees |
| Spirit of Service | 57 Attendees |
| 9-1-1 Strong | 150 Attendees |
| Customer Service | 53 Attendees |
| Team Building for Improved Morale | 58 Attendees |
| Personnel Counseling for Improved Performance | 50 Attendees |
| APCO Communications Training Officer | 20 Attendees |
| Progressive Supervision | 76 Attendees |
| Protocol Classes (30 Sessions) | 252 Attendees |
| **2013 TOTAL ATTENDEES** | **1123** |



# ENSB/MENA Day of Celebration

**SEPTEMBER 12, 2013**

The Emergency Number Systems Board (ENSB), in cooperation with the Maryland Emergency Number Association (MENA) presented the eleventh annual 9-1-1 Day of Celebration on September 12, 2013. This event is intended to recognize the dedication and professional service provided by Maryland's Telecommunicators that answer 9-1-1 calls from the citizens and visitors of our State requesting emergency services. Queen Anne's County hosted the 2013 "Day of Celebration" at the Kent Island Volunteer Fire Department in Chester, Maryland. More than 170 Telecommunicators, supervisors, and other 9-1-1 service related personnel were welcomed to Queen Anne's County by Jennifer Swisher, President of the Maryland Chapter of NENA. Attendees then began the morning session with a training seminar titled "*9-1-1 Strong*" presented by Public Safety Training Consultants (PSTC), a nationwide leader in 9-1-1 Center training.


Jennifer Swisher – MENA, Sue Greentree – ENSB, and William Frazier – ENSB (left to right) presented a "Telecommunicator of the Year" award to Amanda Ferguson of St. Mary's County (holding plaque) for instructing the soon to be father step by step to delivering a healthy baby boy. Bentley, being held by his mother Heather Lewis, joined in presenting this award.

"Telecommunicator of the Year" awards were presented to exemplary Telecommunicators selected by their local 9-1-1 Center directors for outstanding service and dedication to Public Safety through 9-1-1 communications. Nineteen of Maryland's twenty-four 9-1-1 Centers participated. The telecommunicators that were honored were presented with a plaque recognizing their achievement and were acknowledged by their peers. The President of the Maryland Chapter of NENA, Jennifer Swisher, made the award presentations to the Telecommunicator of the Year recipients. Assisting in the presentation of these awards was William Frazier and Sue Greentree, both ENSB members.

**Marilyn Farndon "Excellence in Training" Award**

Marilyn Farndon was the first Executive Director of the Emergency Number Systems Board. Marilyn played a critical role in establishing many of the Board's policies and guidelines. She understood the critical need of standardized training and one of her signature achievements was bringing the 9-1-1 community together to develop our State's first certified entry-level training program. In recognition of this, and Marilyn Farndon's many other accomplishments, the Board has established the Marilyn Farndon "Excellence in Training" Award, to recognize Maryland's most deserving 9-1-1 Instructor who has demonstrated a superior commitment to training through the development and presentation of relevant training curricula that enhances 9-1-1 service in

Maryland. The nominee will be selected by the Board's Training Subcommittee and the presentation of this award will be made each year as part of the ENSB/MENA Telecommunicator of the Year Awards at the 9-1-1 Day of Celebration.

## The 2013 "Excellence in Training" award was presented to:

### John Woelfel, Training Coordinator with Frederick County


**John Woelfel receives the "Excellence in Training" award from Board members Sue Greentree and William Fraizer**

Throughout 2013, the Board and executive office fostered relationships with a number of professional organizations in support of 9-1-1. These included the National Emergency Numbers Association (NENA), the Maryland Emergency Number Association (MENA – local chapter of NENA), the Association of Public-Safety Communications Officials (APCO), the 9-1-1 Institute, and the National Association of State 9-1-1 Administrators (NASNA).

# TELECOMMUNICATORS OF THE YEAR[18]
# 2013

| Award Winner | County/City |
|---|---|
| Taryn Flaskamp | Allegany County |
| PCO II Leonardo Coleman | Anne Arundel County |
| PCO II Inger Priegel | Anne Arundel County |
| FCO Stacey Koreck | Anne Arundel County |
| Shawnta Privette | Baltimore City |
| Nicole Green | Baltimore City |
| Fire Dispatcher Ted Heinbuch | Baltimore City |
| Kelli Lewis | Baltimore County |
| Salvatore Rivieri | Baltimore County |
| Kathy Strickler | Baltimore County |
| Ramona Parran | Calvert County |
| P. Troy Plutschak | Caroline County |
| Michael Munshaur | Carroll County |
| Susan Figgs | Cecil County |
| Beth Robbins | Dorchester County |
| ECSII Kevin Willis | Frederick County |
| Noelle Adams | Harford County |
| John W. Lamana | Harford County |
| Amy Sanchez | Howard County |
| 2013 “TEAM” Award | Montgomery County |
| Darlene Thompson | Prince George's County |
| Kerri Kaplan | Prince George’s County |
| Jennifer Shipe | Prince George’s County |
| Shift C & D | Queen Anne's County |
| Richard Tanner Jones | Somerset County |
| CS Amanda Ferguson | St. Mary's County |
| Norman Snyder | Talbot County |
| Dusty M. Lumpkin | Washington County |

[18] Award winners were selected by their respective PSAP administrators or supervisors.

# Conclusions and Next Steps

As evidenced by this report, the Emergency Number Systems Board is continuing to identify, evaluate, and develop strategies to embrace new 9-1-1 related technologies and public safety services. The Board also monitors local and national efforts to establish future standards surrounding the delivery, processing, sharing, and storing of 9-1-1 calls and data. To prepare for adopting proven technological advancements in public communications and migrating to a Next Generation 9-1-1 environment, the Board has identified the below listed action items to be addressed in the near future. Each action item has been assigned to one of the Board's subcommittees for follow up and recommendations that will be presented to the Board for further action.

## BOARD ASSIGNED ACTION ITEMS

**Maryland Networks:** NG 9-1-1 will require an IP network to transport 9-1-1 calls and data. One cost option would be to use a local or state owned network. The Board will seek to test the ability and cost effectiveness of Network Maryland and other local IP networks to act as the transport agent for 9-1-1 related calls and data in a controlled environment. **Assigned to Technology Subcommittee**

- Explore the testing of network capacity, reliability, and identifying bandwidth requirements necessary to link diversely located redundant core components of Cassidian 9-1-1 phone equipment in a county using local or Network Maryland connectivity.
- Explore if local or Network Maryland broadband service can provide dedicated network connectivity for 9-1-1 related calls and data.

**Text-to-9-1-1 Interface**: One of the first NG 9-1-1 related services will be the ability to request emergency assistance by texting to 9-1-1. The Board will expand on the Frederick County Text-to-9-1-1 Pilot and seek to test the integration of text-to-9-1-1 services with Cassidian 9-1-1 phone equipment utilizing IP connectivity. **Assigned to Standards Subcommittee**

- Frederick County is working with Verizon and TCS to integrate directly with Cassidian equipment – testing should occur within the next few months.
- Prior to texting-to-9-1-1 services being offered, the Board will develop an informational guide for PSAPs, which will include text-to-9-1-1 standards, best practices, potential staffing/workload impact, methods of receiving 9-1-1 text messages, and the process to request 9-1-1 texting service from the wireless carriers**.** It should be noted, that this request will place each county into a nationwide queue to receive 9-1-1 text messages, with the cellular carriers initiating text-to-9-1-1 services to each PSAP in the general order that the requests were received.

**Future Funding Requirements:** The Board will continue to evaluate the evolving allocation of network, equipment, and services costs to determine whether the current 9-1-1 funding model in Maryland warrants modification. **Assigned to Policy Subcommittee**

- The current funding model for 9-1-1 related capital, maintenance, operational, and call delivery costs will need to be examined in a NG 9-1-1 environment, in which monthly recurring costs could significantly increase.
    - The Board will seek monthly recurring NG 9-1-1 network related cost estimates from local, state, and commercial network providers to determine local 9-1-1 fiscal impact.
    - The Board will explore supporting a possible increase in the additional local fee, which would be directed to offset NG 9-1-1 related expenses.

**Location Accuracy**: In a NG 9-1-1 environment the current ANI/ALI database will be replaced and it will be critical to have the mapping capacity to locate callers via lat/long and to geo-route calls to the appropriate PSAP. The Board will continue to monitor technological and regulatory developments regarding location accuracy to ensure that counties are prepared to utilize advancements in geo-based routing. **Assigned to GIS Board Representative**

- The Board will explore the fiscal and operational impact of developing and maintaining a geo-based database for routing 9-1-1 calls via a NG 9-1-1 network and call routing gateway environment.

**NG 9-1-1:** The Board will continue to explore NG 9-1-1 software, applications, and managed services with vendors and service providers. NG 9-1-1 standards setting organizations (NENA and APCO), as well as national and local NG 9-1-1 related projects and implementation strategies, will be monitored to advance Maryland's effort to embrace NG 9-1-1 technologies. **Assigned to Technology Subcommittee**

- The Board will seek regular updates from TCS, Intrado, and other national NG 9-1-1 service providers for their current NG 9-1-1 standards for data, gateway technology, call routing, and their related cost estimates.
- The Board will work with Maryland's 9-1-1 phone system providers to identify current efforts to integrate data reception through their phone premise equipment.
- The Board will monitor and identify local and regional partnership opportunities to secure NG 9-1-1 based network and gateway services.
- The Board will explore and work with the Public Service Commission on tariff issues and related PSAP costs when transitioning from the current selective router system to a NG 9-1-1 network/gateway system for routing 9-1-1 calls to PSAPs.
- The Board will work with County PSAPs to develop a NG 9-1-1 budgetary cost model as Maryland transitions to a NG 9-1-1 system.

**9-1-1 System Redundancy and Resiliency:** The Board will continue its practice of scheduling Verizon representatives to provide service and sales updates, and to also address unresolved county issues, as part of the monthly public ENSB meeting agenda. Working with Verizon, the PSAP community, and other 9-1-1 related service providers the Board will seek to ensure the reliability, resiliency, and responsiveness of Maryland's 9-1-1 System. **The Board will have Verizon provide monthly service reports and provide follow-up interaction with the 9-1-1 community (as needed)**

- The Board will encourage each county to take advantage of Verizon's offer to conduct local table-top disaster exercises. The Board will continue to work with Verizon and the counties to schedule table-top disaster exercises with each PSAP, or joint exercises to be conducted on a regional basis to include multiple PSAPs.

# APPENDIX

# PUBLIC SAFETY ARTICLE

***"9-1-1 Emergency Telephone System"***

Title 1 - Section 3

**§1–301**.

(a) In this subtitle the following words have the meanings indicated.

(b) "Additional charge" means the charge imposed by a county in accordance with § 1–311 of this subtitle.

(c) "Board" means the Emergency Number Systems Board.

(d) "Commercial mobile radio service" or "CMRS" means mobile telecommunications service that is:

(1) provided for profit with the intent of receiving compensation or monetary gain;

(2) an interconnected, two–way voice service; and

(3) available to the public.

(e) "Commercial mobile radio service provider" or "CMRS provider" means a person authorized by the Federal Communications Commission to provide CMRS in the State.

(f) "County plan" means a plan for a 9–1–1 system or enhanced 9–1–1 system, or an amendment to the plan, developed by a county or several counties together under this subtitle.

(g) (1) "Customer" means:

(i) the person that contracts with a home service provider for CMRS; or

(ii) the end user of the CMRS if the end user of the CMRS is not the contracting party.

(2) "Customer" does not include:

(i) a reseller of CMRS; or

(ii) a serving carrier under an arrangement to serve the customer outside the home service provider's licensed service area.

(h) "Enhanced 9–1–1 system" means a 9–1–1 system that provides:

(1) automatic number identification;

(2) automatic location identification; and

(3) any other technological advancements that the Board requires.

(i) "FCC order" means an order issued by the Federal Communications Commission under proceedings regarding the compatibility of enhanced 9–1–1 systems and delivery of wireless enhanced 9–1–1 service.

(j) "Home service provider" means the facilities–based carrier or reseller that contracts with a customer to provide CMRS.

(k) "Next generation 9–1–1 services" means an Internet Protocol (IP)–based system, comprised of hardware, software, data, and operational policies and procedures, that:

(1) provides standardized interfaces from emergency call and message services to support emergency communications;

(2) processes all types of emergency calls, including voice, text, data, and multimedia information;

(3) acquires and integrates additional emergency call data useful to call routing and handling;

(4) delivers the emergency calls, messages, and data to the appropriate public safety answering point and other appropriate emergency entities;

(5) supports data or video communications needs for coordinated incident response and management; and

(6) provides broadband service to public safety answering points or other first responder entities.

(l) "9–1–1–accessible service" means telephone service or another communications service that connects an individual dialing the digits 9–1–1 to an established public safety answering point.

(m) "9–1–1 fee" means the fee imposed in accordance with § 1–310 of this subtitle.

(n) (1) "9–1–1 service carrier" means a provider of CMRS or other 9–1–1–accessible service.

(2) "9–1–1 service carrier" does not include a telephone company.

(o) (1) "9–1–1 system" means telephone service that:

(i) meets the planning guidelines established under this subtitle; and

(ii) automatically connects an individual dialing the digits 9–1–1 to an established public safety answering point.

(2) "9–1–1 system" includes:

(i) equipment for connecting and outswitching 9–1–1 calls within a telephone central office;

(ii) trunking facilities from a telephone central office to a public safety answering point; and

(iii) equipment to connect 9–1–1 calls to the appropriate public safety agency.

(p) "9–1–1 Trust Fund" means the fund established under § 1–308 of this subtitle.

(q) "Prepaid wireless E 9–1–1 fee" means the fee that is required to be collected by a seller from a consumer in the amount established under § 1–313 of this subtitle.

(r) "Prepaid wireless telecommunications service" means a commercial mobile radio service that:

(1) allows a consumer to dial 9–1–1 to access the 9–1–1 system;

(2) must be paid for in advance; and

(3) is sold in predetermined units that decline with use in a known amount.

(s) "Public safety agency" means:

(1) a functional division of a public agency that provides fire fighting, police, medical, or other emergency services; or

(2) a private entity that provides fire fighting, police, medical, or other emergency services on a voluntary basis.

(t) "Public safety answering point" means a communications facility that:

(1) is operated on a 24–hour basis;

(2) first receives 9–1–1 calls in a 9–1–1 service area; and

(3) as appropriate, dispatches public safety services directly, or transfers 9–1–1 calls to appropriate public safety agencies.

(u) "Secretary" means the Secretary of Public Safety and Correctional Services.

(v) "Seller" means a person that sells prepaid wireless telecommunications service to another person.

(w) "Wireless enhanced 9–1–1 service" means enhanced 9–1–1 service under an FCC order.

**§1–302**.

(a) The General Assembly:

(1) recognizes the paramount importance of the safety and well–being of the public;

(2) recognizes that timely and appropriate assistance must be provided when the lives or property of the public are in imminent danger;

(3) recognizes that emergency assistance usually is summoned by telephone, and that a multiplicity of emergency telephone numbers existed throughout the State and within each county;

(4) was concerned that avoidable delays in reaching appropriate emergency assistance were occurring to the jeopardy of life and property;

(5) acknowledges that the three digit number, 9–1–1, is a nationally recognized and applied telephone number that may be used to summon emergency assistance and to eliminate delays caused by lack of familiarity with emergency numbers and by confusion in circumstances of crisis; and

(6) recognizes that all end user customers of 9–1–1–accessible services, including consumers of prepaid wireless telecommunications service, should contribute in a fair and equitable manner to the 9–1–1 Trust Fund.

(b) The purposes of this subtitle are to:

(1) establish the three digit number, 9–1–1, as the primary emergency telephone number for the State; and

(2) provide for the orderly installation, maintenance, and operation of 9–1–1 systems in the State.

**§1–303**.

(a) (1) This subtitle does not require a public service company to provide any equipment or service other than in accordance with tariffs approved by the Public Service Commission.

(2) The provision of services, the rates, and the extent of liability of a public service company are governed by the tariffs approved by the Public Service Commission.

(b) (1) This subtitle does not require a 9–1–1 service carrier to provide any equipment or service other than the equivalent of the equipment and service required of a telephone company under subsection (a) of this section.

(2) This subtitle does not extend any liability to a 9–1–1 service carrier or seller of prepaid wireless telecommunications service.

**§1–304**.

(a) Each county shall have in operation an enhanced 9-1-1 system.

(b) If implementation is preceded by cooperative planning, the enhanced 9-1-1 system required under subsection (a) of this section may operate as part of a multicounty system.

(c) (1) Services available through a 9-1-1 system shall include police, fire fighting, and emergency ambulance services.

(2) Other emergency and civil defense services may be incorporated into the 9-1-1 system at the discretion of the county or counties served by the 9-1-1 system.

(d) (1) The digits 9-1-1 are the primary emergency telephone number in the 9-1-1 system.

(2) A public safety agency whose services are available through the 9-1-1 system:

(i) may maintain a separate secondary backup telephone number for emergency calls; and

(ii) shall maintain a separate telephone number for nonemergency calls.

(e) Educational information that relates to emergency services made available by the State or a county:

(1) shall designate the number 9-1-1 as the primary emergency telephone number; and

(2) may include a separate secondary backup telephone number for emergency calls.

(f) (1) Each public safety answering point shall notify the public safety agencies in a county 9-1-1 system of calls for assistance in the county.

(2) Written guidelines shall be developed to govern the referral of calls for assistance to the appropriate public safety agency.

(3) State, county, and local public safety agencies with concurrent jurisdiction shall have written agreements to ensure a clear understanding of which specific calls for assistance will be referred to which public safety agency.

(g) Counties, other units of local government, public safety agencies, and public safety answering points may enter into cooperative agreements for the allocation of maintenance, operational, and capital costs attributable to the 9-1-1 system.

**§1–305**.

(a) There is an Emergency Number Systems Board in the Department of Public Safety and Correctional Services.

(b) (1) The Board consists of 17 members.

(2) Of the 17 members:

(i) one member shall represent a telephone company operating in the State;

(ii) one member shall represent the wireless telephone industry in the State;

(iii) one member shall represent the Maryland Institute for Emergency Medical Services Systems;

(iv) one member shall represent the Department of State Police;

(v) one member shall represent the Public Service Commission;

(vi) one member shall represent the Association of Public–Safety Communications Officials International, Inc.;

(vii) two members shall represent county fire services in the State, with one member representing career fire services and one member representing volunteer fire services;

(viii) one member shall represent police services in the State;

(ix) two members shall represent emergency management services in the State;

(x) one member shall represent a county with a population of 200,000 or more;

(xi) one member shall represent a county with a population of less than 200,000;

(xii) one member shall represent the Maryland chapter of the National Emergency Numbers Association;

(xiii) one member shall represent the geographical information systems in the State; and

(xiv) two members shall represent the public.

(3) The Governor shall appoint the members with the advice and consent of the Senate.

(c) (1) The term of a member is 4 years and begins on July 1.

(2) The terms of the members are staggered as required by the terms provided for members of the Board on October 1, 2003.

(3) At the end of a term, a member continues to serve until a successor is appointed and qualifies.

(4) If a vacancy occurs after a term has begun, the Governor shall appoint a successor to represent the organization or group in which the vacancy occurs.

(5) A member who is appointed after a term has begun serves only for the rest of the term and until a successor is appointed and qualifies.

(d) The Governor shall appoint a chairperson from among the Board members.

(e) The Board shall meet as necessary, but at least once each quarter.

(f) A member of the Board:

(1) may not receive compensation as a member of the Board; but

(2) is entitled to reimbursement for expenses under the Standard State Travel Regulations, as provided in the State budget.

(g) The Secretary shall provide staff to the Board, including:

(1) a coordinator who is responsible for the daily operation of the office of the Board; and

(2) staff to handle the increased duties related to wireless enhanced 9–1–1 service.

**§1–306**.

(a) The Board shall coordinate the enhancement of county 9–1–1 systems.

(b) The Board's responsibilities include:

(1) establishing planning guidelines for enhanced 9–1–1 system plans and deployment of wireless enhanced 9–1–1 service in accordance with this subtitle;

(2) establishing procedures to review and approve or disapprove county plans and to evaluate requests for variations from the planning guidelines established by the Board;

(3) establishing procedures for the request for reimbursement of the costs of enhancing a 9–1–1 system by a county or counties in which a 9–1–1 system is in operation, and procedures to review and approve or disapprove the request;

(4) transmitting the planning guidelines and procedures established under this section, and any amendments to them, to the governing body of each county;

(5) submitting to the Secretary each year a schedule for implementing the enhancement of county or multicounty 9–1–1 systems, and an estimate of funding requirements based on the approved county plans;

(6) developing, with input from counties, and publishing on or before July 1, 2004, an implementation schedule for deployment of wireless enhanced 9–1–1 service;

(7) reviewing and approving or disapproving requests for reimbursement of the costs of enhancing 9–1–1 systems, and submitting to the Secretary each year a schedule for reimbursement and an estimate of funding requirements;

(8) reviewing the enhancement of 9–1–1 systems;

(9) providing for an audit of county expenditures for the operation and maintenance of 9–1–1 systems;

(10) ensuring inspections of public safety answering points;

(11) reviewing and approving or disapproving requests from counties with operational enhanced 9–1–1 systems to be exempted from the expenditure limitations under § 1–312 of this subtitle;

(12) authorizing expenditures from the 9–1–1 Trust Fund that:

(i) are for enhancements of 9–1–1 systems that:

1. are required by the Board;
2. will be provided to a county by a third party contractor; and
3. will incur costs that the Board has approved before the formation of a contract between the county and the contractor; and

(ii) are approved by the Board for payment:

1. from money collected under § 1–310 of this subtitle; and
2. directly to a third party contractor on behalf of a county; and

(13) establishing planning guidelines for next generation 9–1–1 services system plans and deployment of next generation 9–1–1 services in accordance with this subtitle.

(c) The guidelines established by the Board under subsection (b)(1) and (13) of this section:

(1) shall be based on available technology and equipment; and

(2) may be based on any other factor that the Board determines is appropriate, including population and area served by 9–1–1 systems.

**§1–307**.

(a) The Board shall submit an annual report to the Governor, the Secretary, and, subject to § 2-1246 of the State Government Article, the Legislative Policy Committee.

(b) The report shall provide the following information for each county:

(1) the type of 9-1-1 system currently operating in the county;
(2) the total 9-1-1 fee and additional charge charged;
(3) the funding formula in effect;
(4) any statutory or regulatory violation by the county and the response of the Board;
(5) any efforts to establish an enhanced 9-1-1 system in the county; and
(6) any suggested changes to this subtitle.

**§1–308**.

(a) There is a 9–1–1 Trust Fund.

(b) The purposes of the 9–1–1 Trust Fund are to:

(1) reimburse counties for the cost of enhancing a 9–1–1 system;

(2) pay contractors in accordance with § 1–306(b)(12) of this subtitle; and

(3) fund the coordinator position and staff to handle the increased duties related to wireless enhanced 9–1–1 service under § 1–305 of this subtitle, as an administrative cost.

(c) The 9–1–1 Trust Fund consists of:

(1) money from the 9–1–1 fee collected and remitted to the Comptroller under § 1–310 of this subtitle;

(2) money from the additional charge collected and remitted to the Comptroller under § 1–311 of this subtitle;

(3) money from the prepaid wireless E 9–1–1 fee collected and remitted to the Comptroller under § 1–313 of this subtitle; and

(4) investment earnings of the 9–1–1 Trust Fund.

(d) Money in the 9–1–1 Trust Fund shall be held in the State Treasury.

(e) The Secretary shall administer the 9–1–1 Trust Fund, subject to the guidelines for financial management and budgeting established by the Department of Budget and Management.

(f) The Secretary shall direct the Comptroller to establish separate accounts in the 9–1–1 Trust Fund for the payment of administrative expenses and for each county.

(g) (1) Any investment earnings shall be credited to the 9–1–1 Trust Fund.

(2) The Comptroller shall allocate the investment income among the accounts in the 9–1–1 Trust Fund, prorated on the basis of the total fees collected in each county.

**§1–309**.

(a) On recommendation of the Board, each year the Secretary shall request an appropriation from the 9–1–1 Trust Fund in an amount sufficient to:

(1) carry out the purposes of this subtitle;

(2) pay the administrative costs chargeable to the 9–1–1 Trust Fund; and

(3) reimburse counties for the cost of enhancing a 9–1–1 system.

(b) (1) Subject to the limitations under subsection (e) of this section, the Comptroller shall disburse the money in the 9–1–1 Trust Fund as provided in this subsection.

(2) Each July 1, the Comptroller shall allocate sufficient money from the 9–1–1 fee to pay the costs of administering the 9–1–1 Trust Fund.

(3) As directed by the Secretary and in accordance with the State budget, the Comptroller, from the appropriate account, shall:

(i) reimburse counties for the cost of enhancing a 9–1–1 system; and

(ii) pay contractors in accordance with § 1–306(b)(12) of this subtitle.

(4) (i) The Comptroller shall pay to each county from its account the money requested by the county to pay the maintenance and operation costs of the county's 9–1–1 system in accordance with the State budget.

(ii) The Comptroller shall pay the money for maintenance and operation costs on September 30, December 31, March 31, and June 30 of each year.

(c) (1) Money accruing to the 9–1–1 Trust Fund may be used as provided in this subsection.

(2) Money collected from the 9–1–1 fee may be used to:

(i) reimburse counties for the cost of enhancing a 9–1–1 system; and

(ii) pay contractors in accordance with § 1–306(b)(12) of this subtitle.

(3) Money collected from the additional charge may be used by the counties for the maintenance and operation costs of the 9–1–1 system.

(4) Money collected from the prepaid wireless E 9–1–1 fee may be used as follows:

(i) 25% for the same purpose as the 9–1–1 fee under paragraph (2) of this subsection; and

(ii) 75% for the same purpose as the additional charge under paragraph (3) of this subsection, prorated on the basis of the total fees collected in each county.

(d) (1) Reimbursement may be made only to the extent that county money was used to enhance the 9–1–1 system.

(2) Reimbursement for the enhancement of 9–1–1 systems shall include the installation of equipment for automatic number identification, automatic location identification, and other technological advancements that the Board requires.

(3) Reimbursement from money collected from the 9–1–1 fee may be used only for 9–1–1 system enhancements approved by the Board.

(e) (1) The Board may direct the Comptroller to withhold from a county money for 9–1–1 system expenditures if the county violates this subtitle or a regulation of the Board.

(2) (i) The Board shall state publicly in writing its reason for withholding money from a county and shall record its reason in the minutes of the Board.

(ii) On reaching its decision to withhold money, the Board shall notify the county.

(iii) The county has 30 days after the date of notification to respond in writing to the Board.

(3) (i) On notification by the Board, the Comptroller shall hold money for the county in the county's account in the 9–1–1 Trust Fund.

(ii) Money held by the Comptroller under subparagraph (i) of this paragraph does not accrue interest for the county.

(iii) Interest income earned on money held by the Comptroller under subparagraph (i) of this paragraph accrues to the 9–1–1 Trust Fund.

(4) County money withheld by the Comptroller shall be withheld until the Board directs the Comptroller to release the money.

(f) (1) The Legislative Auditor shall conduct fiscal/compliance audits of the 9–1–1 Trust Fund and of the appropriations and disbursements made for purposes of this subtitle.

(2) The cost of the fiscal portion of the audits shall be paid from the 9–1–1 Trust Fund as an administrative cost.

**§1–310**.

(a) This section does not apply to prepaid wireless telecommunications service.

(b) Each subscriber to switch local exchange access service or CMRS or other 9–1–1–accessible service shall pay a 9–1–1 fee.

(c) The 9–1–1 fee is 25 cents per month, payable when the bill for the telephone service or CMRS or other 9–1–1–accessible service is due.

(d) (1) The Public Service Commission shall direct each telephone company to add the 9–1–1 fee to all current bills rendered for switched local exchange access service in the State.

(2) Each telephone company:

(i) shall act as a collection agent for the 9–1–1 Trust Fund with respect to the 9–1–1 fees;

(ii) shall remit all money collected to the Comptroller on a monthly basis; and

(iii) is entitled to credit, against the money from the 9–1–1 fees to be remitted to the Comptroller, an amount equal to 0.75% of the 9–1–1 fees to cover the expenses of billing, collecting, and remitting the 9–1–1 fees and any additional charges.

(3) The Comptroller shall deposit the money remitted in the 9–1–1 Trust Fund.

(e) (1) Each 9–1–1 service carrier shall add the 9–1–1 fee to all current bills rendered for CMRS or other 9–1–1–accessible service in the State.

(2) Each 9–1–1 service carrier:

(i) shall act as a collection agent for the 9–1–1 Trust Fund with respect to the 9–1–1 fees;

(ii) shall remit all money collected to the Comptroller on a monthly basis; and

(iii) is entitled to credit, against the money from the 9–1–1 fees to be remitted to the Comptroller, an amount equal to 0.75% of the 9–1–1 fees to cover the expenses of billing, collecting, and remitting the 9–1–1 fees and any additional charges.

(3) The Comptroller shall deposit the money remitted in the 9–1–1 Trust Fund.

(4) The Board shall adopt procedures for auditing surcharge collection and remittance by CMRS providers.

(5) On request of a CMRS provider, and except as otherwise required by law, the information that the CMRS provider reports to the Board shall be confidential, privileged, and proprietary and may not be disclosed to any person other than the CMRS provider.

(f) Notwithstanding any other provision of this subtitle, the 9–1–1 fee does not apply to an intermediate service line used exclusively to connect a CMRS or other 9–1–1–accessible service, other than a switched local access service, to another telephone system or switching device.

(g) A CMRS provider that pays or collects 9–1–1 fees under this section has the same immunity from liability for transmission failures as that approved by the Public Service Commission for local exchange telephone companies that are subject to regulation by the Commission under the Public Utilities Article.

**§1–311**.

(a) This section does not apply to prepaid wireless telecommunications service.

(b) In addition to the 9–1–1 fee, the governing body of each county, by ordinance or resolution enacted or adopted after a public hearing, may impose an additional charge to be added to all current bills rendered for switched local exchange access service or CMRS or other 9–1–1–accessible service in the county.

(c) (1) The additional charge imposed by a county may not exceed 75 cents per month per bill.

(2) The amount of the additional charges may not exceed a level necessary to cover the total eligible maintenance and operation costs of the county.

(d) The additional charge continues in effect until repealed or modified by a subsequent county ordinance or resolution.

(e) After imposing, repealing, or modifying an additional charge, the county shall certify the amount of the additional charge to the Public Service Commission.

(f) The Public Service Commission shall direct each telephone company that provides service in a county that imposed an additional charge to add, within 60 days, the full amount of the additional charge to all current bills rendered for switched local exchange access service in the county.

(g) Within 60 days after a county enacts or adopts an ordinance or resolution that imposes, repeals, or modifies an additional charge, each 9–1–1 service carrier that provides service in the county shall add the full amount of the additional charge to all current bills rendered for CMRS or other 9–1–1–accessible service in the county.

(h) (1) Each telephone company and each 9–1–1 service carrier shall:

(i) act as a collection agent for the 9–1–1 Trust Fund with respect to the additional charge imposed by each county;

(ii) collect the money from the additional charge on a county basis; and

(iii) remit all money collected to the Comptroller on a monthly basis.

(2) The Comptroller shall deposit the money remitted in the 9–1–1 Trust Fund account maintained for the county that imposed the additional charge.

**§1–312**.

(a) During each county's fiscal year, the county may spend the amounts distributed to it from 9-1-1 fee collections for the installation, enhancement, maintenance, and operation of a county or multicounty 9-1-1 system.

(b) Subject to the provisions of subsection (c) of this section, maintenance and operation costs may include telephone company charges, equipment costs, equipment lease charges, repairs, utilities, personnel costs, and appropriate carryover costs from previous years.

(c) During a year in which a county raises its local additional charge under § 1-311 of this subtitle, the county:

(1) may use 9-1-1 trust funds only to supplement levels of spending by the county for 9-1-1 maintenance or operations; and

(2) may not use 9-1-1 trust funds to supplant spending by the county for 9-1-1 maintenance or operations.

(d) The Board shall provide for an audit of each county's expenditures for the maintenance and operation of the county's 9-1-1 system.

(e) (1) For a county without an operational Phase II wireless enhanced 9-1-1 system within the time frames established by the Board under § 1-306(b)(6) of this subtitle, the Board shall adopt procedures, to take effect on or after January 1, 2006, to assure that:

(i) the money collected from the additional charge and distributed to the county are expended during the county's fiscal year as follows:

1. for a 9-1-1 system in a county or a multicounty area with a population of 100,000 individuals or less, a maximum of 85% may be spent for personnel costs; and

2. for a 9-1-1 system in a county or multicounty area with a population of over 100,000 individuals, a maximum of 70% may be spent for personnel costs; and

(ii) the total amount collected from the 9-1-1 fee and the additional charge shall be expended only for the installation, enhancement, maintenance, and operation of a county or multicounty system.

(2) The Board may grant an exception to the provisions of paragraph (1) of this subsection in extenuating circumstances.

(3) A county with an operational Phase II wireless enhanced 9-1-1 system is exempt from the provisions of paragraph (1) of this subsection.

**§1–313**.

(a) (1) In this section the following words have the meanings indicated.

(2) "Consumer" means a person that purchases prepaid wireless telecommunications service in a retail transaction.

(3) "Provider" means a person that provides prepaid wireless telecommunications service under a license issued by the Federal Communications Commission.

(4) "Retail transaction" means the purchase of prepaid wireless telecommunications service from a seller for any purpose other than resale.

(b) There is a prepaid wireless E 9–1–1 fee of 60 cents per retail transaction.

(c) (1) (i) The prepaid wireless E 9–1–1 fee shall be collected by the seller from the consumer for each retail transaction in the State.

(ii) The prepaid wireless E 9–1–1 fee collected by the seller under this section is not subject to the sales and use tax under the Tax – General Article.

(2) A retail transaction occurs in the State if:

(i) the sale or recharge takes place at the seller's place of business located in the State;

(ii) the consumer's shipping address is in the State; or

(iii) no item is shipped, but the consumer's billing address or the location associated with the consumer's mobile telephone number is in the State.

(d) The amount of the prepaid wireless E 9–1–1 fee shall be disclosed to the consumer at the time of the retail transaction.

(e) (1) Except as provided in paragraph (2) of this subsection, the prepaid wireless E 9–1–1 fee is the liability of the consumer and not of the seller or of any provider.

(2) The seller is liable for remitting all prepaid wireless E 9–1–1 fees that the seller collects from consumers as provided in this section.

(f) (1) Before December 28, 2013, a seller may deduct and retain 50% of prepaid wireless E 9–1–1 fees collected from consumers for direct start–up costs.

(2) On or after December 28, 2013, a seller may deduct and retain 3% of prepaid wireless E 9–1–1 fees collected from consumers.

(g) A seller shall report and remit to the Comptroller all prepaid wireless E 9–1–1 fees collected by the seller in the manner provided for the remitting of the sales and use tax under Titles 11 and 13 of the Tax – General Article.

(h) The Comptroller shall deposit all reported and remitted prepaid wireless E 9–1–1 fees into the 9–1–1 Trust Fund within 30 days of receipt.

(i) A seller may demonstrate that a sale is not a retail transaction in a manner established by the Comptroller that is substantially similar to the procedures for demonstrating a resale for exemption from the sales and use tax under Titles 11 and 13 of the Tax – General Article.

(j) For the purpose of this section, the audit and appeal procedures established for the sales and use tax under Titles 11 and 13 of the Tax – General Article apply.

(k) A seller that is not a provider of prepaid wireless telecommunications service is not liable for damages in connection with:

(1) the provision of, or failure of, 9–1–1 or E 9–1–1 service;

(2) identifying, or failing to identify, the telephone number, address, location, or name associated with any person or device that is accessing or attempting to access 9–1–1 or E 9–1–1 service; or

(3) the provision of any lawful assistance to any investigative or law enforcement officer.

(l) Providers and sellers of prepaid wireless telecommunications service have the same immunity from liability for transmission failures as that approved by the Public Service Commission for local exchange telephone companies that are subject to regulation by the Commission under the Public Utilities Article.

(m) A tax, a fee, a surcharge, or any other charge may not be imposed by the State, any political subdivision of the State, or any intergovernmental agency, for E 9–1–1 funding purposes, on any provider, seller, or consumer with respect to the sale, purchase, use, or provision of prepaid wireless telecommunications service.

(n) The Comptroller shall adopt regulations to carry out the provisions of this section.

# CODE OF MARYLAND REGULATIONS

*12.11.03.00*

**Title 12 DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONAL SERVICES**

## *Subtitle 11 OFFICE OF THE SECRETARY*

## Chapter 03 9-1-1 Emergency Telephone System

## Authority: Public Safety Article, Title 1, Subtitle 3, Correctional Services Article, §2-109; Annotated Code of Maryland

*12.11.03.01*

### .01 Emergency Number Systems Board Authority.

The Emergency Number Systems Board shall coordinate the implementation, enhancement, maintenance, and operation of county or multicounty 9-1-1 systems.

*12.11.03.02*

### .02 Definitions.

A. In this chapter, the following terms have the meanings indicated.

B. Terms Defined.

(1) "Additional charge" has the meaning stated in Public Safety Article, §1-301, Annotated Code of Maryland.
(2) "Board" means the Emergency Number Systems Board.
(3) "9-1-1 system" means a telephone service or any other communication service that meets the planning guidelines under Public Safety Article, §1-306, Annotated Code of Maryland, and automatically connects an individual dialing the digits 9-1-1 to a public safety answering point.
(4) "Public safety answering point" has the meaning stated in Public Safety Article, §1-301, Annotated Code of Maryland.

*12.11.03.03*

### .03 The Emergency Number Systems Board.

A. The Emergency Number Systems Board is under the direction of the Secretary of Public Safety and Correctional Services.

B. Board membership shall be according to Public Safety Article, §1-305, Annotated Code of Maryland.

C. The Board shall meet as necessary, but not less than quarterly each calendar year.

D. The Board requires a majority of confirmed members present at a meeting to constitute a quorum.

E. The Board requires a majority vote of members present at a meeting before taking action.

F. The Board shall coordinate enhancement of county or multicounty 9-1-1 systems according to provisions under Public Safety Article, §1-306, Annotated Code of Maryland.

*12.11.03.04*

## .04 Implementation by County or Multicounty Area.

A county or multicounty area shall maintain an enhanced 9-1-1 system that:

A. Uses the digits 9-1-1 as the published emergency telephone number for access to emergency services;

B. Has public safety answering points that provide 24-hour public access and dispatch service;

C. Provides transfer and referrals to related public safety services;

D. Provides for staffing all public safety answering points with personnel trained as required by this chapter;

E. Provides for equipping all public safety answering points with adequate access to TTY equipment to facilitate use by an individual with a speech or hearing disability;

F. Provides access to services for an individual who does not speak or understand the English language;

G. May provide access to local emergency management centers for all public safety answering points;

H. Permits a county to designate a public safety answering point using cooperative arrangements acceptable to the participating agencies;

I. Permits public safety answering points to transfer or relay emergency calls received requiring services outside of the jurisdiction of the system receiving the call;

J. Maintains a current master street address guide and communicates updated information to parties responsible for an automatic number identification (ANI) and automatic location identification (ALI) system;

K. Uses telephone equipment and services that provide:

(1) A visual or audible indication, or both, of an incoming call;
(2) The capability for the call taker to monitor a transferred call to ensure that the call is properly transferred;
(3) Annual telephone company monitoring of service to determine the grade of service and, if appropriate, to make recommendations to ensure that not more than one busy signal in every 100 incoming calls during an average busy hour is maintained; and
(4) Documentation of the date and time a 9-1-1 call is received; and

L. Has a sufficient number of call takers and equipment to consistently answer incoming calls on a daily average of 10 seconds or less.

*12.11.03.05*

## .05 Plans for More Than One Public Safety Answering Point in a County.

A county with a plan for more than one public safety answering point in the county shall submit the plan to the Board for consideration subject to the following:

A. The county administration submitting the plan and not the individual agency within the county shall receive and distribute funding; and

B. The plan shall meet the criteria established under this chapter, unless the Board approves a variation.

*12.11.03.06*

## .06 Minimum Enhanced 9-1-1 System Requirements.

At a minimum, an enhanced 9-1-1 system implemented in Maryland shall include:

A. Sufficient incoming 9-1-1 lines for each telephone central office to ensure that not more than one in 100 call attempts during the average busy hour is blocked;

B. Connections to all public safety agencies covered by the system;

C. 24 hour, 7 day operation of the public safety answering point staffed with personnel trained as required under this chapter;

D. First priority to answering 9-1-1 calls;

E. Electronic recording of all 9-1-1 calls;

F. Playback capability of all 9-1-1 calls;

G. Connection to adjacent public safety answering points by private lines when there is a telephone exchange and jurisdictional boundary not covered by selective routing;

H. Security measures sufficient to minimize intentional disruption of the operation;

I. Standby emergency electrical power to keep the public safety answering point operating when commercial power fails;

J. At least one administrative line for nonemergency calls;

K. Written operational procedures;

L. Automatic location identification (ALI) which displays, at the public safety answering point, the address or location of the calling instrument;

M. Automatic number identification (ANI) which displays, at the public safety answering point, the calling telephone number;

N. Central office identification used to identify dedicated lines or trunks from a central office when a public safety answering point serves more than one central office;

O. A distinct tone, visible signal, or other process for:

(1) Alerting the call taker that an incoming 9-1-1 call was disconnected; and
(2) Receiving and displaying the telephone number with ANI and ALI information for a disconnected 9-1-1 call, when available;

P. Providing access to services for an individual:

(1) With a speech or hearing disability; or
(2) Who does not speak or understand the English language; and

Q. Other technical advances approved by the Board.

*12.11.03.07*

## .07 Minimum Features of a 3-1-1 System.

A. A county or multicounty system may establish a 3-1-1 system to reduce congestion on the 9-1-1 system operation.

B. At a minimum, a 3-1-1 system shall include the following:

(1) Switching or programming to direct a 3-1-1 call to a nonemergency answering position;
(2) A 3-1-1 answering position that shall be capable of:

(a) Immediately transferring an emergency call to a 9-1-1 answering position or an adjoining public safety answering point;

(b) Transferring a nonemergency call to an adjoining jurisdiction or appropriate agency; and

(c) Providing an individual:

(i) With a speech or hearing disability access to TTY services; or

(ii) Who does not speak or understand the English language access to alternative communication services; and

(3) A 3-1-1 call taker trained to handle nonemergency calls and to transfer emergency calls to a 9-1-1 call taker.

*12.11.03.08*

## .08 Operational Plan.

A. A county or multicounty system shall have and maintain a written operational plan for public safety services signed by public safety agencies within the public safety answering point area of responsibility.

B. A public safety agency included in an operational plan under §A of this regulation shall be familiar with the operational procedures of the other public safety agencies included in the same operational plan.

C. An operational plan shall provide for uniform methods and procedures to ensure effective interagency communications.

*12.11.03.09*

## .09 Safeguarding Telephone Circuits by Telephone Companies.

A. A facility housing 9-1-1 telephone equipment shall:

(1) Be equipped at all exposed terminations, including central office distributing frames, with protective devices that prevent accidental worker contact; and
(2) Include clearly identified protected terminations to distinguish protected terminations from other circuitry.

B. A protected circuit may not be opened, grounded, short-circuited, or manipulated in any way by a telephone company worker without the local telephone company first obtaining approval for circuit release from the appropriate public safety answering point.

C. A telephone company shall ensure that telephone company employees who work in facilities associated with the 9-1-1 service are familiar with procedures for safeguarding 9-1-1 system equipment.

*12.11.03.10*

## .10 Public Safety Answering Point Training.

A. A county shall staff a public safety answering point with personnel who can properly process a call from a machine used by an individual who has a speech or hearing impairment.

B. Within 6 months of hiring a public safety answering point call taker, a county shall train the new call taker using a curriculum adopted or approved by the Board.

C. A county shall provide a public safety answering point call taker with yearly in-service training using a curriculum adopted or approved by the Board.

D. Training shall include:

(1) Public safety answering point orientation;
(2) Communication skills;
(3) Electronic systems;
(4) Policies and procedures;
(5) Call processing;
(6) Documentation;
(7) Dispatch procedures;
(8) Stress management;
(9) Public relations;
(10) Administrative duties; and
(11) Disaster and major incident training.

*12.11.03.11*

## .11 9-1-1 Fees.

A. The Board shall ensure that collection, maintenance, dispersal, and auditing of 9-1-1 fees is conducted according to Public Safety Article, §§1-308—1-312, Annotated Code of Maryland.

B. Additional Charges—Local Government.

(1) In addition to the fee charged under Public Safety Article, §1-310, Annotated Code of Maryland, a county with an operational 9-1-1 system under Public Safety Article, §1-304, Annotated Code of Maryland, may, by ordinance or resolution after public hearing, enact or adopt an additional monthly charge not to exceed the limits under Public Safety Article, §1-311, Annotated Code of Maryland, to be applied to current bills, within that county, for:

(a) Switched local exchange access service; and

(b) Wireless telephone service or other 9-1-1 accessible service.

(2) A county authorizing an additional charge under §B of this regulation and maintaining an enhanced 9-1-1 system shall be subject to an annual Board-authorized independent audit of authorized 9-1-1 expenditures pursuant to Public Safety Article, §1-312, Annotated Code of Maryland.

*12.11.03.12*

## .12 Equipment Which Qualifies for Funding or Reimbursement.

A. Equipment that qualifies for purchase with funds from the 9-1-1 Trust Fund includes:

(1) Equipment for connecting and outswitching 9-1-1 calls within a telephone central office;
(2) Trunking facilities from the central office to a public safety answering point;
(3) Equipment to connect 9-1-1 calls to the appropriate public safety agency; and
(4) Equipment for a 3-1-1 system.

B. Equipment necessary to constitute an enhanced 9-1-1 system shall be used for:

(1) Automatic number identification (ANI);
(2) Automatic location identification (ALI); or
(3) Other technical equipment the Board may require.

C. Computer aided dispatch equipment is not a part of a 9-1-1 system, except when the Board determines that an interface is necessary to properly process 9-1-1 calls.

*12.11.03.13*

## .13 Submission of 9-1-1 Plan.

A. A county requesting reimbursement from the 9-1-1 Trust Fund for mandated equipment, 9-1-1 enhancements, or technological advancements shall submit the request to the Board for approval.

B. A county shall submit a plan, request, report, or question to the Chairman, Emergency Number Systems Board.

*12.11.03.14*

## .14 Request for Reimbursement from the 9-1-1 Trust Fund.

A. A county shall submit a request for reimbursement from the 9-1-1 Trust Fund to the Board in a format and according to procedures established by the Board.

B. Reimbursement Processing.

(1) A county public safety answering point director or a 9-1-1 administrator shall submit a written or electronic request for reimbursement to the Board so that it is received at least 2 weeks before a Board meeting at which it is to be considered.
(2) The county's public safety answering point director or 9-1-1 administrator, or a designee, shall attend the meeting at which the request is to be considered.
(3) The Board shall review the request and, if approved, encumber funds up to the amount of the request.
(4) The county shall ensure that the county's procurement laws and policies are followed.

*12.11.03.15*

## .15 Variations or Waivers of Regulations.

A. Upon request by a county, the Board may grant a waiver or variance of the regulations contained in this chapter.

B. A county may submit a written or electronic request for waiver or variance to the Board that includes:

(1) Number of persons affected;
(2) Impact of a variance or waiver;
(3) Alternative methods;
(4) Technical difficulties;
(5) Cost.

C. The Board shall consider:

(1) The information for each of the areas cited in §B of this regulation; and
(2) The best interests of the affected parties, the applicant, and the Emergency Number Systems Board.

D. An affected party shall have the right to present, either in writing or through oral testimony, information which may bear on the Board's final decision.

E. Processing a Request for Waiver or Variance.

(1) Upon receipt of a written request for waiver or variance, the Board shall:

(a) Within 10 days of receipt of the request, direct a letter to the applicant, which shall:

(i) Acknowledge receipt; and

(ii) Notify the applicant that additional information may be submitted, within 30 days, for the Board to consider during the review; and

(b) Review the documents or conduct a hearing.

(2) If the Board elects to review the documents, the review shall be conducted at a regular Board meeting within 60 days after the expiration of the 30-day period granted to the applicant to submit additional information.
(3) If the Board elects to conduct a hearing, the Board shall:

(a) Notify the applicant and affected parties of the hearing at least 10 days before the hearing and provide the hearing:

(i) Date;

(ii) Time; and

(iii) Location; and

(b) Conduct the hearing according to State Government Article, Title 10, Subtitle 2, Annotated Code of Maryland.

*12.11.03.16*

## .16 9-1-1 System Violations.

A. The Board may instruct the State Comptroller to withhold funds from a county for 9-1-1 system expenditures for a violation under:

(1) Public Safety Article, §1-312, Annotated Code of Maryland; or
(2) The regulations in this chapter.

B. Withholding Funds.

(1) If the Board decides to withhold funds, the Board shall:

(a) Identify, in writing, the reason or reasons for withholding funds;

(b) Record the reason or reasons in the minutes of the meeting;

(c) Notify the county that the county has 30 days from the date of notification to respond in writing to the Board; and

(d) Notify the State Comptroller to hold funds, in that county's account within the 9-1-1 Trust Fund, until the Board advises the Comptroller that the funds may be released.

(2) Funds held by the Comptroller under this section may not accrue interest for a county.
(3) Interest income earned on funds held by the Comptroller under this regulation shall be diverted to the 9-1-1 Trust Fund.

C. The Board shall notify the Secretary of action taken under §A or B of this regulation.

*12.11.03.17*

## .17 Decisions of the Board.

After the Board conducts a hearing or a review of a request under this chapter, the Board shall ensure that the Board's decision is:

A. In writing and stated in the record;

B. Accompanied by findings of fact and conclusions; and

C. Provided to the applicant with a copy of the written record containing the information noted under §§A and B of this regulation.