

Virginia Information Technologies Agency



Commonwealth of Virginia 9-1-1 Services Board FY 2017 Annual Report

Prepared by the
Division of Public Safety
Communications



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Executive Summary

The *Code of Virginia* (§ 56-484.14) requires the 9-1-1 Services Board (the “Board”) to report annually to the Governor, the Senate Committee on Finance, the House Committee on Appropriations, and the Virginia State Crime Commission on the following:

- (i) the state of enhanced 9-1-1 services in the Commonwealth,
- (ii) the impact of, or need for, legislation affecting enhanced 9-1-1 services in the Commonwealth,
- (iii) the need for changes in the E-911 funding mechanism provided to the Board, as appropriate, and
- (iv) monitor developments in enhanced 9-1-1 service and multi-line telephone systems and the impact of such technologies upon the implementation of Article 8 (§ 56-484.19 et seq.) of Chapter 15 of Title 56.

➤ *The state of enhanced 9-1-1 services in the commonwealth*

Currently, the 9-1-1 system in the commonwealth is dependent on decades old technology and is tethered to voice-centric communications. It relies on an analog network that is quickly going out of service and places limitations on the reliable delivery of 9-1-1 service to Virginia Public Safety Answering Points (PSAPs). Over the next few years, 9-1-1 service providers will be decommissioning the selective router pairs that comprise the foundation of this legacy analog network. To overcome these significant challenges, the commonwealth is transitioning to Next Generation 9-1-1 (NG9-1-1).

NG9-1-1 is a solution based on a modern Internet Protocol (IP) network that has the ability to deliver calls to the appropriate PSAP faster, transfer 9-1-1 calls and associated data anywhere needed, interconnect with other public safety systems and databases, and securely receive multimedia communications. The backbone of this system is an Emergency Services IP Network (ESInet), essentially a network-of-networks, built to a set of standards to ensure interoperability.

The Board is leading Virginia’s efforts to transform an outdated 9-1-1 system into a digital network that is faster, more efficient, and has greater PSAP capabilities to better serve its citizens and visitors. Throughout FY 2017, the Board has had a number of accomplishments, the majority of which directly support NG9-1-1:

- Development of an NG9-1-1 cost model
- Completion of an NG9-1-1 staffing analysis
- Creation of best practices and standards
- Identification of budgetary data for PSAP standard capabilities and services

- Deployment statewide of the Emergency Call Tracking System (ECaTS) reporting tool
- Refocusing of the PSAP Grant Program to help fund NG9-1-1 deployment
- Continued commitment to the statewide deployment of Text to 9-1-1

Currently, all localities within the commonwealth provide wireless enhanced 9-1-1 (E9-1-1) phase I and phase II service, as well as wireline E9-1-1 service.

➤ *(ii) The impact of, or need for, legislation affecting enhanced wireless emergency telecommunications services in the Commonwealth*

The Board has proposed legislation for the 2018 General Assembly session. The following is a summary of the Board's legislative agenda:

- Elimination of wireless cost recovery for wireless service providers
- All communications service providers required to provide access to 9-1-1 at least cost to the commonwealth or PSAP
- Establish the Board to define points of interconnection (POI) for the network
- Establish priority for grants focused on NG9-1-1
- Incorporate "population" and remove "cost" in the funding formula

➤ *(ii) The need for changes in the E-911 funding mechanism provided to the Board, as appropriate*

The retirement of the current analog network will have a significant impact on Virginia PSAPs. The transition from our current legacy analog network to a statewide ESInet is no longer an optional undertaking. Virginia PSAPs must complete this transition in the next five years to ensure quality service is maintained to their citizens and visitors. In addition, this transition has the potential to create a significant financial burden to the commonwealth and localities. To minimize this burden, the Board has developed a funding strategy that utilizes existing wireless E-911 revenues and borrowing from the State Treasury.

The Appropriations Act for the current biennium budget continues the transfer of \$3.7 million to the Virginia State Police (VSP) and the transfer of \$8 million from the Wireless E-911 Fund (the "Fund") to the Compensation Board to pay the salaries of sheriffs' dispatchers. These transfers may impact the commonwealth's ability to receive federal funding in the future.

➤ *Monitor developments in enhanced 9-1-1 service and multi-line telephone systems*

This is a duty of the Board that was enacted on July 1, 2007. Most of the provisions of Article 8 (§ 56-484.19 et seq.) of Chapter 15 of Title 56 took effect on July 1, 2009. The Board continues to monitor developments.

Enhanced 9-1-1 Services in the Commonwealth

NG9-1-1

Currently, the 9-1-1 system in the commonwealth is dependent on decades old technology and is tethered to voice-centric communications. It relies on an analog network that is quickly going out of service and places limitations on the reliable delivery of 9-1-1 service to Virginia PSAPs. Over the next few years, 9-1-1 service providers will be decommissioning the selective router pairs that comprise the foundation of this legacy analog network. To overcome these significant challenges, the commonwealth is transitioning to NG9-1-1. Virginia PSAPs will need to complete this transition in the next five years to ensure that quality service is maintained to their citizens and visitors.

NG9-1-1 is a solution based on a modern IP network that has the ability to deliver calls to the appropriate PSAP faster, transfer 9-1-1 calls and associated data anywhere needed, interconnect with other public safety systems and databases, and securely receive multimedia communications like text, photos and videos. As requirements grow and change in response to advances in communications technology, NG9-1-1 provides a scalable and adaptable solution. The Board is leading Virginia's efforts to transform an outdated 9-1-1 system into a digital network that is faster, more efficient, and has greater PSAP capabilities to better serve its citizens and visitors for years to come.

In 2015 the Board conducted an [NG9-1-1 Feasibility Study](#). The study, developed through statewide stakeholder input, recommended the commonwealth implement an ESInet, essentially a network-of-networks, to advance to NG9-1-1. The study also identified over 100 tasks that the commonwealth needed to complete in order to accomplish this goal. Key among them was the establishment of governance for required standards and the formation of a Regional Advisory Council (RAC) to promote full stakeholder engagement. Working with stakeholders, the Board determined that it was in the best position to provide governance. It also directed Virginia Information Technologies Agency's (VITA's) Integrated Services Program (ISP) staff to implement the RAC as a work group to assist the Public Safety Communications (PSC) Coordinator. Throughout FY 2017, ISP staff and the RAC have had a number of accomplishments:

- [NG9-1-1 cost model](#)

The RAC and ISP staff developed a cost model to capture and estimate the non-recurring NG9-1-1 transitional costs. This model provides the financial foundation in the Board's plan for implementing NG9-1-1.

- [Staffing analysis](#)

The RAC conducted an analysis of the operational, administrative and technical staff functions required in each PSAP. The result is an initial report that provides recommendations on professional competencies for each function to support NG9-1-1.

- [Best practices/standards](#)

With best practices, ISP staff facilitates the development of documents and the RAC serves as the steering committee. This year three best practices were produced: 9-1-1 Addressing - Operational and Administrative; Public Safety Call Processing; and Wireless 9-1-1 Call Routing Optimization. The RAC also developed a standards document describing the current standard capabilities and services all Virginia PSAPs must provide to their citizens.

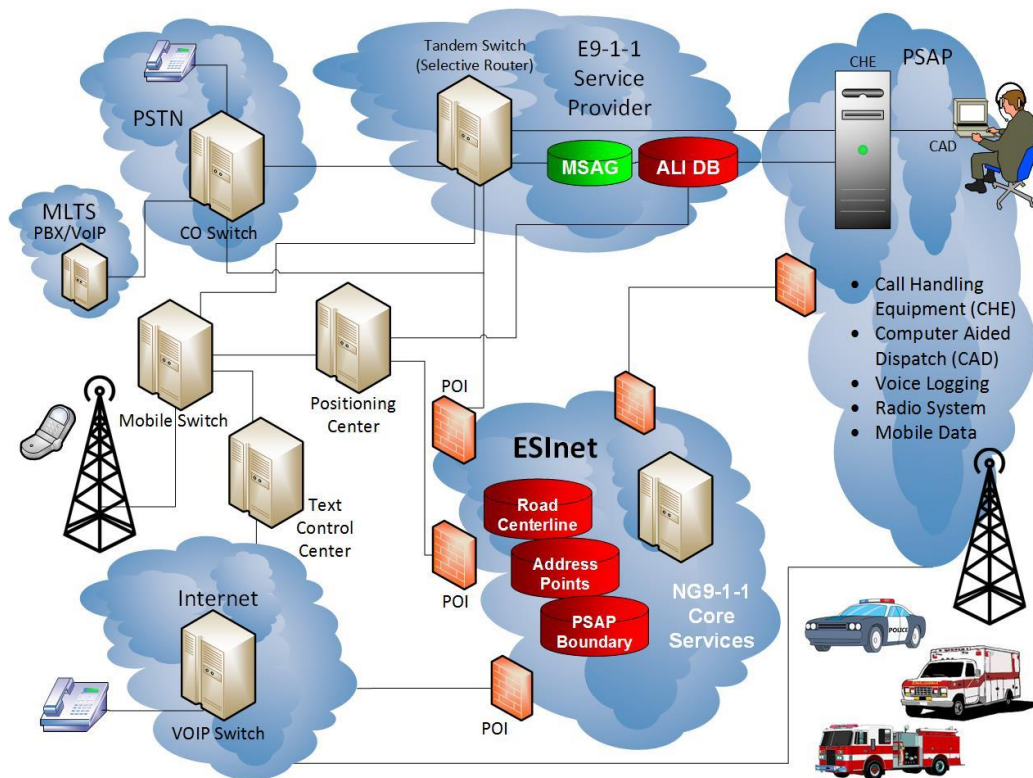
- [PSAP standard capabilities and services budgets](#)

The RAC, assisted by ISP staff, released a survey to Virginia PSAPs to obtain budgetary information. The purpose of this survey was for the RAC to gain insight into what localities spend to support standard capabilities and services. ISP staff plans to use the data collected to help determine the cost of 9-1-1 in Virginia and identify any potential financial gaps that would impede the deployment of NG9-1-1 in the future.

- [Statewide data analytics program](#)

The ECATS reporting tool has been deployed statewide, enabling consistent comparable data analytics.

With the majority of the planning tasks completed, the Board has shifted its focus to implementing N9-1-1 based on the [National Emergency Number Association's \(NENA's\) i3 standard](#). During this next transition phase, the 9-1-1 ecosystem will contain both legacy analog and NG9-1-1 components. Eventually only NG9-1-1 components will remain. The relationship between the ESInet and the legacy and NG9-1-1 components is displayed on the next page:



9-1-1 ecosystem

On the left side of the diagram are all of the technologies that currently access the 9-1-1 network:

- Public switched telephone network (PSTN)
- Multi-line telephone systems (MLTS) like private branch exchanges (PBX) or enterprise voice over IP (VoIP)
- Wireless telephone service including texting to 9-1-1
- Internet VoIP

These technologies connect to the analog 9-1-1 network, represented in the top center of the diagram. As part of the current call delivery process, 9-1-1 service providers use two informational sources, a Master Street Address Guide (MSAG) and an Automatic Location Information Database (ALI DB), to route calls to the appropriate PSAP and to obtain subscriber information. As the commonwealth implements NG9-1-1, the addition of new and different components to the 9-1-1 ecosystem will be necessary. These components are the ESI-net and NG9-1-1 Core Services (NGCS), depicted in the bottom center of the diagram. The NGCS are applications on the ESI-net that provide the network functions necessary for 9-1-1 call routing. Currently, the Board has NG9-1-1 standard setting authority to ensure

all participants interoperate in a secure and appropriate manner. The last area of the 9-1-1 ecosystem, the PSAP operated by local government, is captured on the right side of the diagram.

In March 2017, the Board made the decision to use the PSAP Grant Program almost exclusively to provide funding to localities for NG9-1-1 non-recurring costs. These costs include setting up the ESInet, geographic information system (GIS) data preparation, and transitioning PSAPs off the selective routers and to the ESInet. The application cycle for the FY 2019 grants opened on July 1, 2017, and the guidelines for this funding year include priorities related to these items, as well as the replacement of any remaining critical 9-1-1 equipment no longer supported by its manufacturer. After this grant cycle, and with the guidance of a NG9-1-1 solutions provider, the program will transition to a multi-year funding program focused solely on implementing NG9-1-1.

Since 2015, the Board has remained focused on NG9-1-1 GIS data preparation. As part of the FY 2019 PSAP Grant Guidelines, the Board established criteria and related thresholds for NG9-1-1 data cleanup projects. Funding for these projects is predicated upon the results of a NG9-1-1 GIS readiness report. These reports are based on previously provided MSAG/ALI/GIS analysis results from 2016 and 2017 and provide to each PSAP the key areas of their GIS data that must be corrected in order for their data to be ready to move into an NG9-1-1 system.

Another 2015 planning initiative related to NG9-1-1 was the [9-1-1 Comprehensive Plan](#). This plan was also developed through a stakeholder-driven process, but its purpose is broader than NG9-1-1. It is a strategic document that defines key strategic initiatives for improving 9-1-1 services and functionality across Virginia. During the planning process, the 9-1-1 stakeholder community was able to develop a vision that represents the ideal operational picture for 9-1-1 emergency response functioning at an optimal level of service and capability:

In Virginia, 9-1-1 personnel, resources, and systems provide the public – using any communications device and in any language – with rapid, reliable, and accurate emergency response.

Through these same stakeholder interactions, guiding principles for a successful NG9-1-1 transition were developed and adopted by the Board. The following is a list of these 9-1-1 guiding principles:

- 9-1-1 is an essential, local public safety service
- We must address ALL of 9-1-1, not just NG9-1-1
- Full stakeholder engagement is needed
- Services must not be degraded
- Regional capabilities / initiatives must be leveraged
- Doing nothing is **NOT** an option

Text-to-9-1-1

At present, there have been 30 deployments of this service in Virginia that allows citizens to report emergencies through text messages, which is critical to the hearing-impaired community. Many more localities are planning to provide this service to their citizens in conjunction with upcoming Call Handling Equipment (CHE) upgrades and replacements. Like the deployment of any new technology, the commonwealth needs a comprehensive strategy for the deployment of Text-to-9-1-1 service and PSAPs will need resources and assistance to support their efforts. To this end, the Board established the goal to have Text-to-9-1-1 available statewide and identified it as a NGCS. In addition, an [implementation guide](#) is available to Virginia PSAPs, as well as funding through the PSAP Grant Program to deploy this service.

Wireless E9-1-1

The number of wireless 9-1-1 calls has continued to grow since wireless services was introduced commercially in 1985. Currently, 77% of all 9-1-1 calls received by Virginia PSAP are from a wireless device. Initially a 9-1-1 call was forwarded to a 10-digit number that went to the local PSAP or to the VSP. Coming in on a 10-digit number meant that the location of the caller, call back number and other important data elements were not provided. To respond to this issue, the Federal Communications

FCC Phase II

Accuracy Requirements

Network based solution:

Accuracy

- 100 meters 67% of the time
- 300 meters 95% of the time

Handset based solution:

Accuracy

- 50 meters 67% of the time
- 150 meters 95% of the time

Commission (FCC) in 1996 released an order requiring wireless service providers to implement enhanced features and location accuracy. The implementation was to occur in two phases. Phase I provided the PSAP with the caller's telephone number and the address of the cell site receiving the call along with the orientation of the antenna, if the antenna was directional. Phase II provided the PSAP with the actual location of the caller by longitude and latitude within a defined margin of error, depending on the location technology used by the provider.

Since these accuracy requirements were issued, an ongoing issue has been how to measure location accuracy. In September 2010, the FCC adopted benchmarks for wireless service providers to meet these handset- and network-based accuracy thresholds at the county or PSAP-level for increasing percentages of 9-1-1 calls over an eight-year period. Four years ago, the FCC went further and announced that after the conclusion of the eight-year implementation period in early 2019, it will sunset the existing network-based rule and require all wireless carriers to meet the more stringent location accuracy standards in the handset-based rule.

In response to the fact that many more wireless 9-1-1 calls are made indoors, the FCC, in 2015, adopted a Wireless Indoor Location Accuracy Report and Order. Under this new order, wireless service providers will have to provide a location fix using technologies capable of providing a "dispatchable" location or 50-meter horizontal accuracy for 40 percent of all wireless 9-1-1 calls within two years, 50 percent of all calls within three years, 70 percent of all calls within five years, and 80 percent of all calls within six years. As for vertical location (elevation) accuracy, wireless service providers will be required to make uncompensated barometric data available to PSAPs within three years. At this time, it is not known whether or not the new indoor location accuracy requirements will result in additional cost reimbursement claims, but the likelihood of such an outcome will continue to be evaluated as long as cost recovery is available.

Section 56-484.16, of the *Code of Virginia*, makes clear the General Assembly's intent that wireless 9-1-1 calls be answered by the local PSAP where the call is initiated instead of by the VSP. Rather than just taking the call, as required by *Code*, many localities opted to deploy phase I instead. As a result, the success with phase I deployment translated into success with moving the calls from the VSP to the local PSAP. Presently, all localities are now accepting all of their phase I and phase II wireless 9-1-1 calls.

Wireline E9-1-1

All localities have now deployed E9-1-1 service.

Legislation and Enhanced 9-1-1 Services

Initial NG9-1-1 legislation was enacted by the General Assembly in 2016. This legislation established a foundation for NG9-1-1 by providing standard setting duties for the Board and defining key future technological terms, such as NG9-1-1 and ESInet. In 2017 the Board's legislative agenda focused on delaying for one year the recalculation of the PSAP wireless funding distribution percentages required by *Code* to occur on or before July 1, 2017. The delay was needed for the Board to assess the financial impact of the recalculation on PSAPs and finalize a long-term 9-1-1 funding analysis that included NG9-1-1 transitional costs. The General Assembly changed the recalculation date to July 1, 2018.

At their January 2017 meeting, the Board established a funding committee to make recommendations on changes to the PSAP funding formula. The formula used by the Virginia Department of Taxation for the past five years, to make monthly payments from the Fund to localities, is based on a pre-determined formula derived from PSAP cost and call load data from 2007 to 2012. Using this formula resulted in stable, predictable funding since that time, but does not account for shifts in work load or population. If the existing formula adopted by the Board is applied using cost and call load data from the localities for the last five years, it will result in a significant shift of funding among the localities, but it still may not reflect how costs are determined with NG9-1-1. The funding committee analyzed the results and recommended a new formula based on total 9-1-1 calls and population. This data still produces significant shifts of funding at the local level, but the committee felt strongly that this data is more appropriate to use in determining local 9-1-1 funding as Virginia transitions to NG9-1-1. The Board conditionally approved this new funding formula with the understanding that a legislative change is also required.

One of the components of the 9-1-1 funding analysis was to create a NG9-1-1 transition cost model. The development of this model was led by a work group comprised of RAC members and ISP staff. This work group estimated non-recurring NG9-1-1 costs to be approximately \$69 million. These costs include setting up the ESInet, GIS data preparation, and transitioning the PSAP off the selective routers and to the ESInet. This analysis is a critical prerequisite in the development of the legislative agenda below for the upcoming 2018 General Assembly session:

- **Elimination of wireless cost recovery for wireless service providers**
- **All communications service providers required to provide access to 9-1-1 at least cost to the commonwealth or PSAP**
- **Establish the Board to define points of interconnection (POI) for the network**
- **Establish priority for grants focused on NG9-1-1**
- **Incorporate "population" and remove "cost" in funding**

Funding and Enhanced 9-1-1 Services

Wireless E-911 Fund

The Fund is supplied by a \$0.75 monthly surcharge collected from each Virginia wireless service customer, and a \$0.50 surcharge on pre-paid wireless services acquisitions. Each year the Board reviews the surcharge rates to determine if they will generate sufficient revenue for future needs and whether or not these rates should be adjusted. The amount of revenue received in FY 2017 was about \$59 million. Currently the Appropriations Act of Virginia provides earmarks from the Fund to support the PSC Division, a portion of the Virginia Geographical Information Network (VGIN), wireless billing agreements for local wireless 9-1-1 call processing, and network improvement projects approved by the 9-1-1 Services Board. These earmarks are subtracted before any other funding distribution is made. However, the VSP appropriation of \$3.7 million was originally established to provide funding to transfer wireless 9-1-1 calls from the VSP dispatch centers to the local PSAPs. However, all localities in the commonwealth are accepting wireless calls and no longer rely on the VSP to transfer wireless 9-1-1 calls to them. Thus, justification for the VSP receiving this funding no longer exists.

In addition, the localities have come to rely on wireless 9-1-1 funding to help offset a portion of their PSAPs operating and maintenance costs. Any reduction to the overall amount of funding received would be detrimental to service delivery. The surcharge rate must be sufficient so that the distribution formula results in consistent funding to localities. The current funding process distributes 60 percent of the Fund to the PSAPs. This percentage was established through a legislative change in 2006. Overall, the result has been an increase in the amount of funding previously received by the PSAPs, but not all PSAPs benefited equally. Those PSAPs located within the fastest growing localities received a greater portion of the Fund than those PSAPs located in the slower growing localities. Many PSAPs, mostly small and rural, experienced a significant decrease in funding after the current funding formula was put into place in 2006, until a change in 2012 stabilized the funding.

Currently, 30 percent of the Fund is earmarked for wireless service provider cost recovery. This percentage was established through a legislative change in 2006 and was based on the known, on-going costs of the wireless service providers. In the Board's 2018 legislative agenda, the elimination of wireless cost recovery for wireless service providers is included. This will reallocate funding previously paid to wireless services providers to the implementation of NG9-1-1. This action would create parity with other providers that have never been eligible for wireless cost recovery, such as those that deliver VoIP wireless 9-1-1 calls. However, the \$8 million transfer from this portion of the Fund to the Compensation Board, which is included in the current biennium budget, would remain. The purpose of this transfer is to pay the salaries of sheriffs' dispatchers.

In FY 2017, the 30 percent earmark for wireless service provider cost recovery was \$14,207,273. The total amount of funding requested by and paid to these providers for allowable wireless costs incurred during FY 2017 was \$2,343,007. After the \$8 million transfer to the Compensation Board, the remaining funding, \$3,864,266, was moved into PSAP Grant Program for the upcoming grant period.

In addition to the \$28,107,195 PSAPs received through the 60 percent formula distribution, localities received another \$8,867,536 (10 percent allocation of the Fund plus the \$3,709,959 mentioned above) through the FY 2017 PSAP Grant Program. This amount is more than the \$7,719,803 allocated in FY 2016. As a result, in FY 2017 the PSAPs received a total of \$36,974,731. Compared to FY 2016, when the PSAPs received a total of \$35,061,214, the overall result is an increase of 0.5 percent.

In evaluating the Fund for future financial needs, the Board took into account the statewide implementation of NG9-1-1. The Board is estimating that this implementation will take five years to complete. Although the retirement of the current analog network has already been discussed, the impact that this transition will have on Virginia PSAPs cannot be overstated. Undertaking this transition is not optional and it has the potential to create a significant financial burden to the commonwealth and local governments. To minimize this burden, the Board has developed an NG9-1-1 funding strategy, which is depicted below. This strategy utilizes existing wireless E-911 revenues from current allocations to offset NG9-1-1 deployment costs. It also includes borrowing from the State Treasury to maintain a positive cash flow during deployment years. As a result, the Board is not recommending an increase to the wireless surcharge rate at this time.

Deployment Year	Prior Investments 2016	Deployment Year 1 2017	Deployment Year 2 2018	Deployment Year 3 2019	Deployment Year 4 2020	Deployment Year 5 2021	Total	Post Deployment Year 2022	Post Deployment Year 2023	
NG9-1-1 Deployment Costs (Local/State)		\$6,343,325	\$17,279,548	\$21,986,322	\$9,474,152	\$14,045,193	\$69,128,540			
		Incur One-Time Deployment Costs							Pay Down One-time Costs	
Billing Agreement		\$0	\$1,327,633	\$0	\$0	\$0	\$1,327,633	\$3,651,138	\$3,651,138	
PSAP Grant Program	\$500,000.00	\$1,225,000	\$4,588,434	\$11,427,871	\$12,461,471	\$13,333,551	\$43,036,327	\$11,700,000	\$11,700,000	
Network Improvement		\$1,000,000	\$1,000,000	\$0	\$0	\$0	\$2,000,000	\$0	\$0	
Funding Gap		(4,118,325)	(10,363,481)	(10,558,451)	2,987,319	(711,642)	(22,764,580)	(7,413,442)	7,937,696	
State Treasury Funding				30,000,000						
Cash Flow		(4,118,325)	(14,481,806)	4,959,743	7,947,062	7,235,420	7,235,420	22,586,558	37,937,696	

NG9-1-1 funding strategy

The Board's NG9-1-1 funding strategy combines funding from other priorities into the PSAP Grant Program. The Board is planning to authorize network improvement funds to be used for NG9-1-1 grants. In addition, as PSAPs transition off the selective routers, the Board would redirect funding from the wireless billing agreements to the PSAP Grant Program. To ensure this additional funding is used to support the implementation of NG9-1-1, the Board has identified establishing priority for NG9-1-1 grants as a legislative agenda item for the 2018 General Assembly session. Two other 2018 legislative agenda items attempt to minimize any additional NG9-1-1 implementations costs. The first is the requirement for communications service providers to provide access to 9-1-1 at least cost to the commonwealth or PSAP. The second is for the Board to define points of interconnection (POI) for the NG9-1-1 network. This approach would eliminate additional NG9-1-1 recurring costs. However, the Board would need to ensure that the number and location of NG9-1-1 POIs minimize costs to the carriers to the extent practicable.

An outstanding financial issue for the Board is the uncertainty of its ability to receive future federal funding given the ongoing transfers of \$3.7 million and \$8 million to the VSP and Compensation Board, respectively. Federal law enacted in 2004 requires states that apply for federal 9-1-1 grant funding (or the PSAPs within the states) to certify that no 9-1-1 funding raised through state charges was diverted for any purpose other than the purposes for which such charges are designated or presented. A state that has diverted funding shall be ineligible for federal funding for 18 months after the diversion. Federal law enacted in 2008 also provides that state expenditures of 9-1-1 charges are to be in support of 9-1-1 and enhanced 9-1-1 services, or enhancements of such services, as specified in the provision of state law adopting the fee or charge. *Virginia Code* § 56-484.17 does not address other purposes generally and does not mention the transfers to the VSP and Compensation Board specifically. If the transfers are determined to be a non-compliant diversion by the federal government, this would impact the commonwealth's ability to receive federal 9-1-1 grant funding in the future.

Developments in Enhanced 9-1-1 Service and Multi-Line Telephone Systems

As technology advances, particularly networks and end-user devices with increasingly higher levels of functionality, legacy public safety networks and associated technology are approaching the end of their useful lives. Notification has already been received that Verizon, a 9-1-1 service provider in the commonwealth, is exiting the 9-1-1 market and will no longer sell or maintain PSAP equipment after a certain date. In other states legacy 9-1-1 systems providers are asking for deregulation and the ability to decommission the selective routers used for 9-1-1 call processing. Other providers are initiating migrations to retire their current analog technologies as more customers opt for IP-based services. When 9-1-1 becomes the only service that is still using the PSTN for transport of 9-1-1 calls, the cost becomes prohibitive for the remaining users, rather than the multitude that shared the cost in the past. For these reasons, the Board is actively engaged in deploying NG9-1-1 in Virginia.

Although the transition to NG9-1-1 often involves a high initial cost and capital investment, savings do occur over time. This is especially true when considering the challenges of maintaining and upgrading legacy technology, which will become increasingly more expensive to operate as less and less equipment and services are utilized for mainstream communications. NG9-1-1 offers many opportunities to share technologies and costs. In order to take advantage of these opportunities, the commonwealth must ensure that the appropriate policy and governance is in place that is foundationally sound, yet flexible and responsive. This is the basis for the proposed legislation for the 2018 General Assembly session.

Furthermore, the Board has gone to great lengths to ensure consumers have 9-1-1 service available to them through existing services, including MLTS. Every day citizens of and visitors to the commonwealth utilize MLTS to place a 9-1-1 call. Initially, many of these systems weren't configured to allow for direct dialing of 9-1-1. However, legislation enacted on July 1, 2007 required MLTS providers of multi-line telephone systems by July 1, 2009, to maintain and operate the MLTS in such a manner that a 9-1-1 call made from any telephone on the MLTS is routed to a PSAP. Virginia is one of only 16 states that have enacted MLTS legislation and the Board continues to monitor new developments. Given the limited number of states with MLTS legislation, there is strong federal interest for nationwide ability for direct dialing of 9-1-1 from an MLTS.

Conclusion

The Board is leading Virginia's efforts to transform an outdated 9-1-1 system into a digital network that is faster, more efficient, and has greater PSAP capabilities to better serve its citizens and visitors for years to come. As a result, Virginia continues to be a nationally recognized leader in 9-1-1. Throughout FY 2017, the Board has had a number of accomplishments, the majority of which directly support the implementation of NG9-1-1. Here is a list of these accomplishments:

- Development of an NG9-1-1 cost model
- Completion of an NG9-1-1 staffing analysis
- Creation of best practices and standards
- Identification of budgetary data for PSAP standard capabilities and services
- Deployment statewide of the ECATS reporting tool
- Refocusing of PSAP Grant Program to help fund NG9-1-1 deployment
- Continued commitment to the statewide deployment of Text to 9-1-1

With the majority of the planning tasks identified in the NG9-1-1 Feasibility Study completed, the Board has shifted its focus to implementing NG9-1-1.

The Board's legislative agenda for the upcoming 2018 General Assembly session also supports the implementation of NG9-1-1. The following is a summary of the proposed draft legislation:

- Elimination of wireless cost recovery for wireless service providers
- All communications service providers required to provide access to 9-1-1 at least cost to the commonwealth or PSAP
- Establish the Board to define points of interconnection (POI) for the network
- Establish priority for grants focused on NG9-1-1
- Incorporate "population" and remove "cost" in funding formula

However, an outstanding financial issue for the Board remains. The Appropriations Act for the current biennium budget continues the transfer of \$3.7 million to the VSP and the \$8 million transfer from the Fund to the Compensation Board to pay the salaries of sheriffs' dispatchers. These transfers may impact the commonwealth's ability to receive federal funding in the future if these transfers are determined to be non-compliant by the federal government. Even with this outstanding issue, the Board continues to remain well positioned to address new and coming challenges to the 9-1-1 ecosystem in Virginia.