



COMMONWEALTH of VIRGINIA

Wireless E-911 Services Board

FY 2010 Annual Report



*Prepared by the
Virginia Information Technologies Agency
Division of Public Safety Communications
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Table of Contents

| | |
|--|-------------------------------------|
| Executive Summary | 1 |
| State of Enhanced 9-1-1 in the Commonwealth | 4 |
| Wireline E-911 | 4 |
| Wireless E-911 | 4 |
| State of the Wireless E-911 Fund | 6 |
| Wireless E-911 Fund..... | Error! Bookmark not defined. |
| Wireless Funding Process | 9 |
| Conclusion | 11 |
| Appendix A – PSAP Funding Detail | 13 |

Executive Summary

The *Code of Virginia* (§56-484.14) requires the Wireless E-911 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

Though the original goal was to have all localities providing wireline E-911 service by July 1, 2003, there is still one (1) locality left that is diligently working to deploy this level of service. Due to issues beyond its control, the locality was forced to secure the services of another addressing vendor to complete its wireline project. A new vendor has been selected and the locality will complete their wireline project by June 30, 2011. An extension has been sought and granted by the Board, as allowed by *Code*.

Wireless enhanced 9-1-1 (E-911) Phase I service, where the caller's telephone number and the address of the cell site are provided to the public safety answering point (PSAP), is essentially complete, with only one deployment remaining. The one locality that has not completed this deployment is among the most rural in Virginia and is aggressively working toward deployment.

The deployment of wireless E-911 Phase II, which provides the PSAP with the caller's actual location by longitude and latitude, is nearing completion, due to the hard work and dedication of the PSAPs and telecommunications service providers. Phase II service is available to more than 99% of wireless telephone service subscribers in the Commonwealth. The wireless service providers and all of the localities involved should be commended for their efforts to protect the public. While Phase II is not 100% accurate, the locations provided are typically within 50 to 300 meters, with some calls actually showing the caller's location within a matter of a few feet. It is not the same level of accuracy as wireline E-911, but it does provide the 9-1-1 call taker with a valuable tool to quickly locate a caller in need of emergency assistance, especially if the caller is unfamiliar with their location.

With the deployment of Phase II many of the wireless service providers opted for a handset-based Phase II solution, which uses a global positioning system (GPS) chip in the telephone to locate the caller. Though this requires the subscriber to upgrade their telephone, most of the major carriers using this technology are now reporting that over 95% of their customers have GPS equipped telephones, which was the goal established by the Federal Communications Commission (FCC).

As the Commonwealth approaches completion of the deployment of enhanced 9-1-1 services on all traditional telecommunications services, the focus of the E-911 industry shifts to the future of E-911 and service improvement. Several new technologies already exist that challenge the current E-911 infrastructure such as VoIP and text messaging. The localities, telecommunications service providers and E-911 vendors should be commended for all of the effort expended thus far to provide the citizens with the best E-911 system available, but it is critical that work continue to ensure this life saving service is available when it is needed most.

The next iteration of 9-1-1 technology will be IP-based and staff for the Wireless E-911 Services Board has already begun planning for this next phase, commonly referred to as Next Generation 9-1-1 (NG9-1-1), through a baseline survey initiative. The goal of this initiative is to create a comprehensive inventory of all assets, resources, services and capabilities of primary wireless PSAPs in the Commonwealth from the following categories: jurisdictional and contact; financial; facilities management; equipment, technology and telecommunications; and staffing and operations. Data elements captured from these categories will be used in performance-based initiatives, to help the Board and staff gain insight for strategic and tactical planning and decision making, and to develop business cases for enhancing PSAP operations. Preliminary results of this survey can be found via the following link: <http://www.vita.virginia.gov/isp/default.aspx?id=12498>.

The impact of, or need for, legislation affecting enhanced wireless emergency telecommunications services in the Commonwealth

The Wireless E-911 Services Board is recommending three legislative changes for the 2011 General Assembly Session to increase the efficiency of the funding process supported by the Wireless Fund and the use of its revenues. The changes made in 2006 to the funding process have had the desired effect, but not all PSAPs have experienced the same level of benefit. As a result, the Board established a Wireless Funding Committee to review the Wireless Fund distribution methodology, and if appropriate, recommend changes. The Committee has recommended two changes that require changes to Code. The first one is giving the Board the flexibility to extend the data collection period used to calculate the distribution percentages up to 36 months to minimize data anomalies from year to year. The second one is to move the payment recalculation effective date to coincide with the beginning of the fiscal year to improve the ability of local governments to forecast wireless revenue in the upcoming year. Minimum costs and wireless call load percentages will continue to remain part of the funding distribution methodology. The third legislative change is one that has been presented by the PSAP community. This change involves the funding source for the wireless 9-1-1 services billing agreements. Previously, these agreements were paid for with Fund Balance, but there is no longer a surplus that can be used for this purpose. As an alternative, the consensus of the PSAP community is to include payment of these agreements through the Appropriations Act, paying for wireless 9-1-1 services on behalf of the PSAPs, before any further wireless revenue allocation is made.

Additionally, the Board continues to work on planning for the future of E-911 and is in the process of completing a refresh to the Statewide Comprehensive Plan for 9-1-1 that was originally approved in January 2008 <http://www.vita.virginia.gov/isp/default.aspx?id=8486>. This plan identifies the key strategic initiatives for improving 9-1-1 services and functionality across Virginia. As the tasks and deliverables that were identified as supporting the Plan's initiatives near completion, the Board needs to revalidate the Plan's current vision and goals for relevancy and make recommendations for new initiatives. The Virginia chapters of the Association of Public Safety Communication Officers

(APCO) and the National Emergency Number Association (NENA) have stepped forward to partner with the Board on this new planning effort. The refresh of the 9-1-1 Comprehensive Plan should be completed by the end of this calendar year.

The need for changes in the E-911 funding mechanism provided to the Board, as appropriate

At the end of FY 2010, the Wireless E-911 Fund remains fiscally sound, but moving forward, an existing appropriation and transfer from the Wireless Fund to other agencies and programs will challenge the Board's ability to meet their financial obligations to both the wireless carriers and the PSAPs and maintain the viability of the Fund. The current biennial budget includes a \$3.7 million appropriation to the State Police for wireless 9-1-1 call taking. However, all localities in the Commonwealth are currently accepting wireless calls and no longer rely on the State Police to transfer wireless 9-1-1 calls to them. Thus, the justification for the State Police to receive Wireless E-911 funding no longer exists.

Also included in the current biennium budget is an \$8M transfer from the Wireless Fund to the Compensation Board budget to support sheriff's dispatchers. A recent FCC report to Congress on State Collection and Distribution of 911 and Enhanced 911 Fees and Charges identified the \$8M transfer from the Wireless Fund to the Compensation Board as a diversion from the purposes designated in the funding mechanism. This action will have a direct impact on the Commonwealth's ability to receive federal E-911 grant funding in the future and may jeopardize \$1M in current federal E-911 grant funding.

The impact of the \$8M transfer has already been felt by the PSAP community in the amount of funding available to them for the replacement of outdated equipment and to expand services to the citizens of the Commonwealth. The \$8M transfer to the Compensation Board means that there is \$8M less funding available in FY 2011 for grants to fund critical PSAP projects. The PSAP community has begun to voice comments that the current surcharge amount may be insufficient moving forward. As a result, it is the intention of the Wireless Board to reach out to the Governor through the Secretaries of Technology and Public Safety to remove from the next biennium budget the \$3.7M appropriation to the State Police and the \$8M transfer to the Compensation Board. Failure to do so will result in the Board's inability to plan for the future of 9-1-1 in Virginia and protect the citizens of the Commonwealth.

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

This is a new 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, and as a result, information requested on these provisions have been provided to interested parties during FY 2010.

The following sections of the report provide a more detailed analysis of the current state of E-911 in the Commonwealth, as well as the Wireless E-911 Fund.

State of Enhanced 9-1-1 in the Commonwealth

Wireline E-911

Originally, 37 jurisdictions were eligible for funding, because they had not fully deployed E-911 as of July 1, 2000. All but one (1) of those original localities has deployed E-911 Service. It is anticipated that Lee County will complete their wireline project by June 30, 2011, at the end of this current fiscal year. Due to issues beyond its control, Lee County was forced to secure the services of another addressing vendor to complete its wireline project. The original vendor selected by the County was not able to complete its contract because of a business decision it made to terminate addressing services in southwest Virginia. This caused a delay in the project until another vendor was selected. Lee County did select another vendor and the locality's wireline project is once again moving forward. The first step, since the selection of this new vendor, has been a review of the addressing data obtained to date. A plan was then formulated to complete the necessary field work. Since beginning the addressing project, Lee County has completed address verifications for just over 10,000 resident phone numbers with another 2,000 remaining. This is no small feat in a rural and sparsely populated jurisdiction. The County has been working diligently on this project and will soon begin their third address pass in an attempt to complete the conversion process to deploy E-911 by the end of fiscal year 2011.

Wireless E-911

The number of wireless 9-1-1 calls has continued to grow rapidly since wireless service was introduced commercially in 1985. Though the rate of growth has slowed in recent years, the number of wireless 9-1-1 calls has surpassed the number of wireline E-911 calls in many Virginia localities. Through the 1990's, a 9-1-1 call placed from a wireless telephone would simply be forwarded to a 10-digit telephone number that went to the local PSAP or to the State Police. 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 like they were for wireline E-911. This lack of an automatic location resulted in more time for the call taker to process the call or an inability to locate the caller at all. Several incidents were documented around the country that demonstrated the problems PSAPs were having locating a wireless 9-1-1 caller.

To respond to this issue, in 1996, the FCC released an order requiring wireless service providers to implement enhanced features and location technology. 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 is directional. Phase II provided the PSAP with the actual location of the caller within a defined margin of error depending on the location technology used by the provider (Figure 1 **Error! Reference source not found.**). According to the order, the wireless service provider had to implement Phase I within six months of a request from the PSAP. The timeline for Phase II was contingent on the location technology selected by the wireless service provider, network-based (triangulation) or handset-based (global positioning

Phase II Accuracy

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

Figure 1 - FCC Phase II Requirements

system – GPS).

One outstanding issue has been over what area the accuracy of Phase II is to be measured. There was stark disagreement between the wireless and E-911 industry leadership on the appropriate area for testing. Because the two location technologies perform differently in different environments, the best alternative for the wireless providers was to have a large test area (nationwide or statewide). This would allow the performance of their solution to be “averaged” across a variety of these environments providing a more general evaluation of the solution’s performance. The E-911 community felt the test area should be limited to each PSAP service area thus providing each PSAP manager with an indication of how the location technology performed in their area. This would also provide assurances that the wireless provider was providing a similar level of performance in all different environments.

Unfortunately, the current location technologies are unable to achieve the desired accuracy at the PSAP service area. Each location technology has an environment type where it does not perform well. Since PSAP areas often have a dominate environment type (i.e. rural, urban, etc.), it is likely that a particular location technology solutions would have trouble with accuracy throughout a PSAP service area. As an example, a triangulation solution requires that the telephone radio signal be received by at least three cell sites. Since the cell site concentration is low in rural areas, this may not be possible. A carrier using a triangulation solution may meet the FCC requirements for accuracy if the testing results were aggregated at the state or national level since the areas with high cell site concentration would help offset the performance in more rural areas with fewer sites. Testing at the PSAP level would not allow this type of aggregation and would likely result in the failure of the triangulation solution in a rural PSAP service area. Handset based solutions, such as GPS, have similar problems inside buildings and in urban areas where large building block the telephone from “seeing” the GPS satellites high in the sky above.

On September 11, 2007, the FCC finally acted on this question ruling that wireless providers must meet the accuracy requirement at the PSAP level. Since they acknowledged that the current location technologies could not meet this requirement, the providers were given relief from enforcement of the regulation during a five-year period of transition. This has a significant impact on the Commonwealth as it means that the current Phase II deployment does not meet the FCC requirement and may require additional investment to become compliant. Additionally, the cost of the more stringent testing will likely increase costs also. Unfortunately, as noted above, the technology to meet the new requirements does not yet exist so no cost projections can be made at this time. Since its decision in September 2007, the FCC has not yet put into effect the enhanced 911 location accuracy rules.

Phase I Project Status

To date, one hundred twenty-nine (129) localities have implemented wireless E-911 Phase I (call back number and cell site location) with all of the wireless service providers serving the locality. A total of 710 out of 711 (99%) Phase I deployments have been completed as of June 30, 2010. Only 1 more deployment in 1 locality must be completed.

Phase II Project Status

Strong support to complete wireless E-911 Phase II deployment continued in FY2010. To date, a total of 709 Phase II deployments out of 711 have been completed. Approximately 99% of all wireless subscribers now have access to the Phase II location technology. Though the original FCC

order required deployment to begin by October 1, 2001, every major wireless service provider sought and received a waiver of that requirement from the FCC. The waivers granted each provider an extension of time but did not relax the accuracy requirement nor extend the ultimate completion date for implementation, which was December 31, 2005 for 95% of all subscribers to have location equipped handsets. Unfortunately, none of the carriers met this deadline. In May 2006, Verizon Wireless was the first wireless provider to meet the 95% threshold. Though this is less an issue of wireless carrier performance than it is about customer choice, most of the wireless providers have now met this threshold.

Wireless service providers are required to provide the Board with monthly status reports. The “Requested” status means that the PSAP has requested service and that it has not yet been installed, but it does not necessarily mean that the project is behind schedule. Currently, two localities have not requested Phase II service. The first locality, Tazewell County, is completing a re-verification project. Once this project is completed, the locality will request this service. The second locality, Lee County, is completing a wireline E-911 project. Once this locality has wireline E-911, the locality will request this service.

Wireless Responsibility

Section 56-484.16 of the *Code of Virginia* makes clear the General Assembly’s intent that wireless 911 calls be answered by the local PSAP where the call is initiated instead of by the State Police. The *Code* required that by July 1, 2003, all localities be directly taking the wireless 911 calls made within their jurisdiction. 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 State Police to the local PSAP.

At the close of FY 2003, 19 localities were still directing their wireless 9-1-1 calls through the State Police. At the close of FY 2009, that number had been reduced to zero. Presently, all localities are now accepting all of their wireless 911 calls, including Lee County, which is still working on deploying wireline E-911 service. Currently, Lee County receives a wireless 9-1-1 call without the caller’s number or location information.

State of the Wireless E-911 Fund

Wireless E-911 Fund

The Wireless E-911 Fund is generated by a \$0.75 monthly surcharge collected from each wireless customer whose place of primary use is in Virginia. One question the Board is asked annually is whether the surcharge rate should be adjusted. With the changes to the funding process made during the 2006 General Assembly Session, this question requires a different approach to answer than in previous reports. In the past, the funding required was based on the actual costs incurred by the PSAPs and wireless carriers. Determining sufficiency of the fund and appropriate surcharge required a projection of the expected costs that would be incurred during the fiscal year. With large fluctuations and disparity of the initial, non-recurring costs, accurate projections were often difficult.

The 2006 legislative change (described in the Wireless Funding Process section below) modified the funding process to distribute the majority of the Wireless E-911 Fund based on a formula. As a result, sufficiency of the surcharge is best evaluated against two criteria. First, 30% of the Wireless

E-911 Fund is earmarked for wireless service cost recovery. In recommending this change, the Board's intent was that this amount be sufficient to fund the known, on-going costs of the providers. Since the providers have historically only collected approximately 26% of the fund, past projections of known provider costs indicated that this portion of the fund would be sufficient within the current surcharge rate. In FY 2010 sufficient funding was available from the remaining portion of this earmark to pay all wireless service cost recovery requests. However, two outstanding items may impact the ability to pay wireless cost recovery requests in FY 2011. Until the FCC provides further guidance regarding accuracy compliance testing, it is not possible to estimate the cost of this undertaking and its impact on wireless cost recovery. Unfortunately, no fiscal impact analysis was performed before the FCC made this policy decision. The other item may have an even more detrimental effect. In the current biennium budget, there is an \$8M transfer from the portion of the Wireless E-911 Fund that is earmarked for wireless cost recovery to the Compensation Board. The intent of this transfer is to pay for Sheriffs' dispatchers. This transfer is included in the current biennium budget, and unless this transfer is eliminated in the upcoming legislative session, it will become increasingly challenging for Fund to remain fiscally sound.

The second criterion for evaluating the sufficiency of the surcharge is the potential impact to PSAP funding. The localities have come to rely on the wireless E-911 funding source to operate and maintain their PSAPs. Any reduction to the overall funding would be detrimental to service delivery. The surcharge rate must be sufficient so that the distribution formula results in consistent funding to the locality. Historically, the PSAPs have received 48% of the Wireless Fund for recurring and operational costs. Since the new process distributes 60% of the fund to the PSAPs, the funding level to the PSAPs has increased. The result has been more funding available for equipment replacements and upgrades, but not all PSAPs have benefited equally. Those PSAPs located within the fastest growing localities have received a greater portion of the funding than those PSAPs located in the slower growing localities. Many PSAPs, mostly small and rural, have experienced a significant decrease in funding since the current funding distribution methodology was put into place in 2006. For many of these PSAPs, they have experienced a four year decline in wireless funding.

To provide insight into this trend, the Board established a Wireless Funding Committee on September 24, 2009 to review the Wireless Fund distribution methodology, and if appropriate, recommend changes. The Committee met several times and recommended at the Board's November 19, 2009 meeting to change the data collection period and payment recalculation effective date. The Committee recommended giving the Board the flexibility to extend the data collection period used to calculate the distribution percentages up to 36 months to minimize data anomalies from year to year. The Committee also recommended moving the payment recalculation effective date to coincide with the beginning of the fiscal year to improve the ability of local governments to forecast wireless revenue in the upcoming year. Since these recommendations required legislative change, the Board authorized staff to pursue these changes, but unfortunately, these changes were not included in the final budget document released by the 2010 General Assembly. However, the Board did accept the Committee's recommendation to establish an annual minimum of \$40,000 in wireless funding for each PSAP. Financial assistance is also available to the PSAP community through the Wireless E-911 Services Board's PSAP Grant Program. This program was included in the 2006 legislative changes and is funded by the remaining 10% of the Wireless Fund and any remaining carrier funding from the previous fiscal year.

In order to appropriately analyze the effects of this new funding methodology, it is necessary to review the funding levels for both the wireless carriers and the PSAPs. The total amount of funding received by the carriers for the recovery of costs incurred during FY 2010 was \$3,819,820. This amount is well within the 30% of the Wireless Fund set aside for this purpose, which in FY 2010, was \$13,373,992. Any remaining funding in FY 2009 was transferred into the PSAP Grant Program for the FY 2010 funding cycle. The PSAPs received a total of \$26,747,984 through the 60% formula distribution and were allocated another \$15,945,527 from the FY 2010 PSAP Grant funding cycle. As a result, in FY 2010 the PSAPs received a total of \$42,694,511. Compared to FY 2009, when the PSAPs received a total of \$36,275,235 from the 60% formula distribution and the FY 2009 PSAP Grant funding cycle, the overall result is an increase of 18% in available funding to the PSAPs. A list of funding by locality is provided in Appendix A.

Ensuring an appropriate funding level into the future requires sufficient revenue to be generated. Revenue is difficult to project accurately. Even wireless industry experts have had trouble predicting the growth rate of wireless services. Though current industry subscriber growth rates may result in higher revenue projections, a more conservative estimate of revenue is appropriate, especially in light of the volatility in the telecommunications industry and the economy. Since the actual revenue for FY 2010 was about \$52.8 million, each penny of surcharge generates approximately \$704,000 of revenue annually. It is important to note that there are other draws on the Wireless E-911 Fund that reduce the amount of funding available to the PSAPs and the wireless service providers. The Division of Public Safety Communications (DPSC) and a portion of the Virginia Geographical Information Network (VGIN) Division are funded through Wireless E-911. Both the DPSC and VGIN programs directly support wireless E-911. Since this funding is contained in the Appropriation Act, it is subtracted before the distribution of funding based on the formulas, thus evenly reducing the amount of funding across the three funding programs.

In addition to the \$8M transfer from the Wireless Fund to the Compensation Board, the current biennial budget also includes a \$3.7 million appropriation to the State Police for wireless 9-1-1 call taking. Just like the \$8M transfer, this appropriation reduces the amount of

| FY | PSAP Funding | Wireless Provider Funding |
|-------|---------------|---------------------------|
| 2000 | \$4,316,115 | \$396,144 |
| 2001 | \$7,047,639 | \$1,862,736 |
| 2002 | \$13,930,840 | \$3,719,132 |
| 2003 | \$18,861,283 | \$5,288,230 |
| 2004 | \$16,015,454 | \$8,361,966 |
| 2005 | \$20,086,422 | \$8,106,850 |
| 2006 | \$18,680,037 | \$5,371,059 |
| 2007 | \$25,443,756 | \$5,019,411 |
| 2008 | \$30,858,208 | \$5,399,847 |
| 2009 | \$36,275,235 | \$5,078,528 |
| 2010 | \$42,693,511 | \$3,819,820 |
| Total | \$234,208,500 | \$52,423,723 |

Figure 2 - Wireless E-911 Funding History

funding available to the PSAPs and wireless service providers. This appropriation was originally established to provide funding to transfer wireless 9-1-1 calls from the State Police dispatch centers to the local PSAPs. However, all localities in the Commonwealth are currently accepting wireless

calls and no longer rely on the State Police to transfer wireless 9-1-1 calls to them. Thus, justification for the State Police receiving Wireless E-911 funding no longer exist.

Additionally, federal legislation was signed into law on December 23, 2004 that requires states that apply for federal E-911 grant funding (or the PSAPs within the states), to certify that no E-911 funding was diverted to other areas. A state that has diverted funding shall be ineligible for federal funding for 18 months after the diversion. On August 13, 2010, the FCC submitted its annual Report to Congress on State Collection and Distribution of 911 and Enhanced 911 Fees and Charges. In this report, the FCC listed the \$8M transfer from the Wireless Fund to the Compensation Board as a diversion from the purposes designated in the funding mechanism. However, the report did identify that the purpose of the diversion was to support Sheriffs' dispatchers. This statement will have a direct impact on the Commonwealth's ability to receive federal E-911 grant funding in the future and may jeopardize \$1M in current federal E-911 grant funding.

Wireless Funding Process

The Wireless E-911 Services Board began providing funding to PSAPs and wireless service providers in FY 2000. Since FY 2000, the Board has approved the distribution of over \$234.2 million to localities and over \$52.4 million to the carriers. The amount of funding increased each year as more localities moved to implement the service and more deployments occurred (Figure 2). However, in the most recent fiscal years, the amount of funding has stabilized. As the costs have become more stable, the PSAPs have begun receiving a more constant funding level, which is primarily comprised of personnel funding. As a result, in FY 2006, the Board recommended a legislative change to implement its current formula-based funding process for the PSAPs. This not only made the costs to the Board more predictable, but also reduced much of the bureaucratic paperwork required under the previous funding process. These changes were codified with the passage of Senate Bill 395 during the 2006 General Assembly session.

This current approach to funding splits the Wireless E-911 Fund into three parts. The first part is a 60% allocation to be distributed to the localities for PSAP operations. The distribution formula for this portion of the funding is based on the percentage of the PSAPs costs and call load to the total throughout the Commonwealth. To ensure that the smallest PSAPs in Virginia get a fair share of the funding, the Board established an annual minimum funding level of \$40,000 for each PSAP, which will become effective in October 2010, with the next recalculation of the percentages for the distribution formula. Funding from the 60% allocation is distributed to the PSAPs each month based on the wireless E-911 surcharge revenue collected in the previous month. The 60% allocation represents an overall increase of funding to the PSAPs since historically they have received approximately 46% of the fund for recurring costs. However, while this funding replaces the funding provided for recurring costs of wireless E-911, it may not cover the non-recurring costs such as equipment replacement. The projected increase in funding (the difference between 46% and 60%) will likely address these non-recurring costs (over the life cycle of the equipment) in larger localities, it will not in many smaller localities. As a result, the Board also recommended the creation of the second partition of the Wireless E-911 Fund, the Wireless E-911 PSAP Grant Program.

The Wireless E-911 PSAP Grant Program utilizes a 10% allocation of the Wireless E-911 Fund and is intended to assist the localities with the most need. While the legislation provides the Board with great latitude in the adoption of grant guidelines, the grant focus will be on equipment upgrades and

ensuring continuity of the wireless E-911 service into the future. The Board formed a grant committee to develop grant guidelines as soon as the legislation was approved to ensure that funding would be available to the localities as quickly as possible. Logistically, the Board was not able to implement the full grant process until the FY 2008 funding cycle, but the Board accepted emergency grant requests in FY 2007 to ensure that no locality would lose funding during the transition from the old process to the new.

In addition to the 10% allocation of the Wireless E-911 Fund, the grant program will also receive the remaining funding from the portion of the Fund earmarked for CMRS Cost Recovery. Wireless service providers can seek cost recovery for direct and reasonable costs for the deployment and operation of the wireless E-911 network. Since 60% of the Wireless E-911 Fund is distributed to the localities and 10% is allocated for PSAP grants, 30% remains for this part of the Fund allocation. Any funding remaining in this part of the Fund at the end of the fiscal year will be transferred to the grant program. Any funding remaining in the grant program at the end of the fiscal year will be distributed to the localities in the same manner as the 60% part of the Fund; however, the Board may retain any or the entire amount if a specific need is identified in the next fiscal year.

The grant guidelines for the FY 2009 funding cycle, which were approved by the Board on May 24, 2007, were structured to have two categories for funding. The first category, termed Continuity and Consolidation Grants, focused on maintaining the current services provided by the PSAPs. Continuity and Consolidation grants receive at least 80% of the funding available in the grant program. Up to 20% of the available grant funding is utilized for Enhancement Grants, which are the second category of grants, and focus primarily on expanding services by looking toward the future of E-911 and helping PSAPs prepare for it. The FY 2009 guidelines and subsequent grant awards firmly established the initial scope of the PSAP Grant Program, with the submission of 102 separate projects that included 9-1-1 equipment, personnel projects, GIS, Next Generation 9-1-1, CAD, radio consoles, fixed and transportable back-up capability for PSAP operations, microwave links, and oblique aerial imagery. Projects within these same categories were also submitted as grant applications in the FY 2010 funding cycle

The success of the PSAP Grant Program in providing critical 9-1-1 equipment and services to the PSAPs can be demonstrated through the aggregated results of two funding categories - Customer Premise Equipment (CPE) and Computer Aided Dispatch (CAD). The primary piece of 9-1-1 telephony equipment in a PSAP is CPE. This equipment receives and displays information related to a 9-1-1 call. The functionality of CPE can be enhanced with a CAD system. This system acts as a data repository for 9-1-1 call history and assists dispatchers in managing an emergency response. Looking at the aggregated grant awards for FY 2008, 2009, and 2010 for both CPE and CAD, about 70% of the Commonwealth's primary wireless PSAPs have received funding for at least one of these critical items (Figure 3).

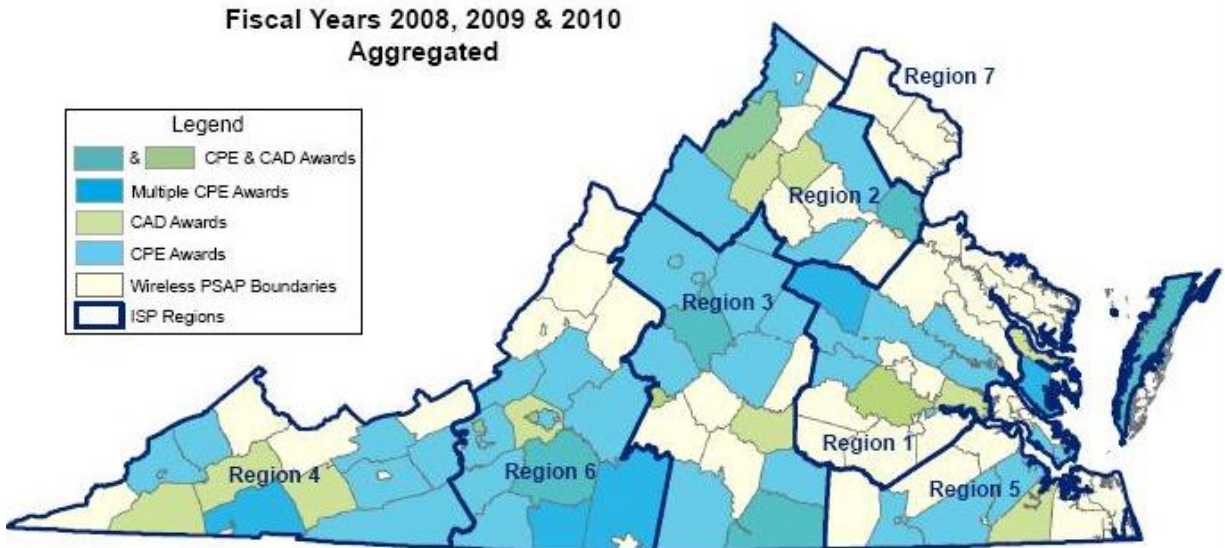


Figure 3 Aggregated CPE and CAD Awards

In FY 2010, the guidelines for the PSAP Grant Program were expanded in scope, focusing on building greater efficiencies by increasing the amount of the grant awards for regional initiatives and PSAP consolidation projects. This was accomplished by raising the funding thresholds for regional initiatives and consolidation projects to \$775,000 and \$800,000 respectively. As a result, there was a 71% increase in the amount of grant awards in FY 2010 (\$15,945,527), as compared to FY 2009 (\$9,326,004). Efficiency for regional initiatives and consolidations is achieved when funding enables groups of PSAPs, rather than individual PSAPs, to take advantage of the economies of scale inherent in multi-jurisdictional projects. Some of the projects that received funding in the latest round of grant awards include a data replication project for six localities in Southwest Virginia, a PSAP consolidation project for three Tidewater area PSAPs, and a northern Virginia CAD interoperability project that brings together five PSAPs. And finally, efforts to promote NG9-1-1 technology pilots through the PSAP Grant Program received a boost from a \$1M matching grant from the ENHANCE 911 Grant Program, offered through the National Highway Traffic Safety Administration, and awarded on September 25, 2009. It still has not been determined if the FCC's report, which identifies as a diversion the transfer of \$8M from the Wireless Fund to the Compensation Board, will impact the Commonwealth's ability to retain the \$1M grant.

Conclusion

The Wireless E-911 Services Board continues to be effective in their role of promoting and assisting with the deployment of enhanced 9-1-1 services throughout the Commonwealth. As a result, Virginia continues to be a nationally recognized leader in E-911. The next role for the Board will be to help PSAPs transition to NG9-1-1. Planning for this transition began in FY 2010 with the completion of a comprehensive inventory of all assets, resources, services and capabilities of primary wireless PSAPs in the Commonwealth. Leveraging efficiencies will be the key transitioning factor for NG91-1. To this end, three legislative changes are being proposed for

wireless E-911 for the 2010 General Assembly session. These changes are as follows: give the Board the flexibility to extend the data collection period used to calculate the distribution percentages up to 36 months; move the payment recalculation effective date to coincide with the beginning of the fiscal year; and, at the request of the PSAP community, include payment of the wireless 9-1-1 services billing agreements as part of the Appropriations Act.

The implementation of statewide wireline enhanced 9-1-1 has progressed with only one (1) locality remaining. The most significant barrier in the completion of this locality's wireline project has been the need to replace the addressing vendor since the original vendor was unable to complete the contract. The locality has selected another vendor and is scheduled to complete its wireline project by the end of fiscal year 2011.

The implementation of wireless enhanced 9-1-1 is also nearing completion. To date, one hundred twenty-nine (129) localities have implemented wireless E-911 Phase I (call back number and cell site location). Only one deployment in one locality remains. More than 99% of all wireless telephone service subscribers now have Phase II service, which provides the longitude and latitude of the caller. Though a few subscribers still need to upgrade their telephone handsets to take advantage of the Phase II service, the infrastructure is in place at the PSAP and within the wireless network to process the call.

The Appropriations Act for the current biennium budget continues the transfer of \$3.7 million to the Virginia State Police. Also included in this budget is a \$8M transfer from the Wireless E-911 Fund to the Compensation Board to support Sheriffs' dispatchers. The \$3.7M transfer has been cited in previous Reports as a threat to the Commonwealth and its localities to receive future federal grants for E-911. However, it was the \$8M transfer to the Compensation Board that the FCC recently reported as a diversion. This action will directly impact the Commonwealth's ability to receive federal E-911 grant funding in the future and may jeopardize \$1M in current federal E-911 grant funding. It is the intention of the Wireless Board to reach out to the Governor through the Secretaries of Technology and Public Safety to remove these items from the next biennium budget.

The Commonwealth of Virginia has positioned itself well for the new and coming challenges to the E-911 system. The successful partnership between the Board, PSAPs and telecommunications industry established during the wireless E-911 program are being leveraged to support the future of E-911. The initial scope of the PSAP Grant Program has been established by funding projects that have included 9-1-1 equipment, personnel projects, GIS, Next Generation 9-1-1, CAD, radio consoles, fixed and transportable back-up capability for PSAP operations, microwave links, and oblique aerial imagery. In FY 2010, this scope was expanded, focusing on building greater efficiencies by increasing the amount of the grant awards for regional initiatives and PSAP consolidation projects. It will take the hard work and dedication of all involved to prepare for these future challenges. Some of which, like Voice over Internet Protocol (VoIP), are already before us.

Additionally, the Board continues to work on planning for the future of E-911 and is in the process of completing a refresh to the Statewide Comprehensive Plan for 9-1-1 that was originally approved in January 2008 <http://www.vita.virginia.gov/isp/default.aspx?id=8486>. As the tasks and deliverables that were identified as supporting the original Plan's initiatives near completion, the Board needs to revalidate the Plan's current vision, goals, and initiatives for relevancy. The Virginia chapters of the Association of Public Safety Communication Officers (APCO) and the National Emergency Number Association (NENA) have stepped forward to partner with the Board in this effort.

Appendix A – PSAP Funding Detail

| PSAP | FY 2007 Total | FY 2008 Total | FY 2009 Total | FY 2010 Total |
|--|------------------|------------------|------------------|------------------|
| Alexandria Police Communications | \$476,907.60 | \$515,627.31 | \$544,713.62 | \$621,412.96 |
| Alleghany County | \$47,206.24 | \$47,133.80 | \$44,024.83 | \$36,964.21 |
| Amelia County | \$45,052.19 | \$40,362.41 | \$38,012.41 | \$37,336.65 |
| Amherst County Emergency Communications | \$45,053.00 | \$41,450.54 | \$50,669.45 | \$60,876.43 |
| Appomattox County | \$43,556.61 | \$39,838.51 | \$40,688.58 | \$47,012.72 |
| Arlington County PSCC | \$568,267.32 | \$830,447.19 | \$772,632.14 | \$1,024,052.32 |
| Augusta County | \$120,900.48 | \$126,624.52 | \$142,067.50 | \$139,617.87 |
| Bath County | \$43,556.61 | \$43,088.48 | \$39,393.52 | \$37,541.37 |
| Bedford Communications Center | \$82,901.88 | \$79,313.22 | \$83,919.13 | \$89,625.51 |
| Blacksburg Police Communications | \$59,253.06 | \$62,850.76 | \$57,606.50 | \$62,861.24 |
| Bland County | \$49,294.67 | \$44,660.23 | \$43,631.07 | \$42,412.42 |
| Botetourt County GIS-Communications | \$63,433.82 | \$60,713.51 | \$61,690.24 | \$58,628.63 |
| Bristol 9-1-1 Communications | \$94,921.03 | \$81,695.93 | \$83,961.02 | \$75,684.16 |
| Brunswick County | \$99,360.42 | \$126,542.41 | \$129,696.97 | \$96,258.65 |
| Buchanan County | \$43,556.61 | \$39,838.51 | \$38,738.99 | \$34,693.96 |
| Buckingham County | \$45,675.92 | \$45,817.84 | \$44,705.06 | \$44,684.30 |
| Campbell County | \$282,392.73 | \$252,691.64 | \$265,402.97 | \$284,551.69 |
| Caroline County | \$96,053.69 | \$97,721.96 | \$99,933.95 | \$89,536.15 |
| Charles City County | \$45,978.14 | \$44,382.81 | \$43,700.44 | \$35,634.57 |
| Charlotte County | \$44,830.66 | \$44,126.94 | \$42,411.95 | \$38,508.81 |
| Charlottesville, UVA, Albemarle County ECC | \$551,704.22 | \$557,064.42 | \$586,644.78 | \$555,348.84 |
| Chesapeake Police Communications | \$1,055,316.19 | \$1,309,264.24 | \$1,434,751.37 | \$1,391,854.77 |
| Chesterfield County ECC | \$706,974.50 | \$739,023.31 | \$845,274.94 | \$895,878.81 |
| Chincoteague | \$0 | \$28,541.69 | \$41,839.48 | \$35,971.57 |
| Christiansburg Police Communications | \$45,432.50 | \$43,928.62 | \$41,732.31 | \$39,122.42 |
| Clarke County 9-1-1 | \$44,968.02 | \$39,919.94 | \$38,329.15 | \$36,647.72 |
| Colonial Heights 9-1-1 Communications | \$142,975.21 | \$127,723.31 | \$90,893.28 | \$78,646.14 |
| Covington 9-1-1 Communications | \$43,766.83 | \$40,605.61 | \$39,176.34 | \$42,709.71 |
| Craig County | \$46,002.02 | \$43,239.43 | \$40,280.23 | \$35,390.00 |
| Culpeper Joint 9-1-1 Center | \$60,543.19 | \$72,346.80 | \$74,334.12 | \$83,903.79 |
| Cumberland County | \$55,942.28 | \$44,008.20 | \$53,035.99 | \$50,856.79 |
| Danville Emergency Services | \$95,920.21 | \$119,270.42 | \$139,074.19 | \$130,090.01 |
| Dickenson County | \$56,534.42 | \$85,405.59 | \$56,853.20 | \$39,792.43 |

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|--------------------------------------|----------------|----------------|----------------|----------------|
| Dinwiddie County | \$44,830.66 | \$46,479.22 | \$46,482.01 | \$56,867.08 |
| Eastern Shore 9-1-1 | \$93,419.59 | \$119,299.63 | \$124,729.62 | \$114,715.99 |
| Emporia Police Communications | \$46,160.54 | \$62,264.13 | \$45,965.39 | \$38,757.68 |
| Essex County | \$44,830.66 | \$39,838.51 | \$37,908.06 | \$33,993.04 |
| Fairfax County PSCC | \$3,950,351.28 | \$4,184,438.88 | \$4,795,982.12 | \$4,467,006.78 |
| Farmville Police Communications | \$53,454.12 | \$106,725.44 | \$140,637.30 | \$96,095.14 |
| Floyd County | \$59,670.96 | \$44,883.26 | \$65,539.23 | \$89,968.54 |
| Fluvanna County | \$55,076.84 | \$54,586.72 | \$81,201.07 | \$69,683.20 |
| Franklin County | \$64,964.87 | \$52,543.56 | \$49,512.71 | \$55,145.64 |
| Franklin Police Communications | \$46,152.15 | \$44,178.41 | \$43,214.08 | \$51,128.30 |
| Frederick County PSCC | \$50,975.58 | \$50,883.18 | \$61,530.15 | \$62,929.37 |
| Fredericksburg Police Communications | \$241,737.56 | \$205,164.03 | \$198,683.53 | \$164,072.90 |
| Giles County | \$44,628.84 | \$39,978.16 | \$37,722.61 | \$33,683.12 |
| Gloucester County | \$45,418.78 | \$39,838.51 | \$42,341.16 | \$44,398.61 |
| Goochland County | \$44,830.66 | \$44,861.22 | \$43,902.60 | \$39,064.28 |
| Greene County | \$66,820.57 | \$46,124.97 | \$40,372.75 | \$34,573.70 |
| Greensville Sheriff's Communications | \$44,830.66 | \$39,838.51 | \$37,670.96 | \$33,683.12 |
| Halifax County | \$71,283.56 | \$101,810.19 | \$79,698.27 | \$63,337.29 |
| Hampton Police Communications | \$495,101.25 | \$420,970.89 | \$407,089.81 | \$428,416.17 |
| Hanover County ECC | \$353,896.73 | \$342,804.33 | \$347,490.20 | \$286,447.98 |
| Harrisonburg - Rockingham ECC | \$183,825.52 | \$217,619.30 | \$240,086.25 | \$247,155.63 |
| Henrico County | \$934,415.70 | \$930,591.56 | \$1,138,933.32 | \$1,167,381.75 |
| Highland County | \$43,556.61 | \$39,838.51 | \$40,087.82 | \$37,919.60 |
| Hopewell Police Communications | \$47,188.13 | \$45,412.76 | \$46,241.09 | \$42,338.22 |
| Isle of Wight Sheriff's Office | \$53,851.60 | \$124,187.22 | \$100,902.99 | \$85,757.82 |
| James City County ECC | \$117,230.53 | \$134,387.05 | \$164,921.85 | \$180,392.04 |
| King & Queen County | \$47,441.69 | \$40,880.09 | \$38,366.46 | \$34,501.38 |
| King George County | \$62,494.18 | \$108,036.85 | \$95,159.96 | \$80,700.48 |
| King William County | \$48,106.60 | \$44,370.65 | \$42,350.55 | \$38,174.84 |
| Lancaster County | \$47,052.91 | \$41,925.73 | \$39,650.81 | \$35,873.48 |
| Lee County | \$43,891.55 | \$40,003.61 | \$37,748.07 | \$34,333.17 |
| Loudoun County Fire Communications | \$419,940.46 | \$454,318.30 | \$638,297.74 | \$656,772.21 |
| Louisa County Sheriff's Office | \$49,232.36 | \$45,744.07 | \$52,946.48 | \$51,437.86 |
| Lunenburg County | \$60,228.81 | \$47,607.65 | \$47,229.80 | \$43,780.19 |
| Lynchburg ECC | \$251,483.64 | \$238,581.64 | \$278,146.74 | \$283,013.44 |
| Madison County | \$44,830.66 | \$43,698.65 | \$41,237.31 | \$39,008.24 |
| Martinsville - Henry County 9-1-1 | \$145,001.20 | \$136,699.13 | \$144,266.69 | \$138,379.84 |
| Mathews County | \$44,830.66 | \$39,838.51 | \$37,670.96 | \$36,118.16 |
| Mecklenburg County | \$92,066.00 | \$101,627.79 | \$98,557.48 | \$107,691.45 |

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|--|----------------|----------------|----------------|----------------|
| Middlesex County | \$44,895.56 | \$41,607.65 | \$40,018.29 | \$40,911.91 |
| Montgomery County | \$47,517.60 | \$43,621.87 | \$42,652.84 | \$39,303.98 |
| Nelson County | \$44,576.46 | \$42,277.51 | \$40,988.66 | \$38,822.66 |
| New Kent County | \$45,601.84 | \$41,020.23 | \$39,918.91 | \$35,910.95 |
| Newport News Police Communications | \$569,505.27 | \$571,027.25 | \$708,725.38 | \$736,496.03 |
| Norfolk Emergency Services | \$1,427,354.36 | \$1,324,923.45 | \$1,225,150.06 | \$1,285,193.74 |
| Northumberland County | \$45,083.76 | \$42,202.05 | \$38,545.15 | \$34,527.88 |
| Norton 9-1-1 Communications | \$44,993.47 | \$40,024.30 | \$39,341.33 | \$37,021.31 |
| Nottoway County | \$48,665.30 | \$41,958.08 | \$44,042.08 | \$41,735.50 |
| Orange County Communications | \$97,301.10 | \$88,565.63 | \$101,223.01 | \$95,419.47 |
| Page County EOC | \$79,914.48 | \$99,855.96 | \$82,111.11 | \$69,464.30 |
| Patrick County | \$54,895.10 | \$45,208.48 | \$40,456.52 | \$36,803.24 |
| Petersburg Police Communications | \$223,855.12 | \$280,997.85 | \$282,343.31 | \$359,092.30 |
| Pittsylvania County Emergency Management | \$44,606.10 | \$45,472.30 | \$54,496.28 | \$60,102.40 |
| Poquoson Police Communications | \$51,735.08 | \$48,465.87 | \$12,938.10 | |
| Portsmouth Police Communications | \$375,022.96 | \$533,622.36 | \$539,048.60 | \$1,198,919.45 |
| Powhatan County Emergency Services | \$62,585.53 | \$56,897.08 | \$52,980.13 | \$44,929.40 |
| Prince George County | \$48,738.11 | \$92,931.09 | \$122,397.40 | \$139,550.04 |
| Prince William County PSCC | \$860,033.90 | \$828,702.88 | \$884,133.19 | \$855,273.52 |
| Pulaski County | \$47,261.14 | \$44,795.52 | \$44,502.80 | \$40,462.07 |
| Radford Police Communications | \$44,528.73 | \$43,537.49 | \$42,705.49 | \$38,855.75 |
| Rappahannock County | \$47,660.17 | \$40,120.06 | \$39,631.04 | \$35,727.99 |
| Richmond County | \$45,788.34 | \$43,198.41 | \$41,787.57 | \$37,730.72 |
| Richmond Police Communications | \$941,660.39 | \$1,064,693.59 | \$903,518.63 | \$689,281.88 |
| Roanoke Communications Dept. | \$510,511.97 | \$498,472.21 | \$630,817.53 | \$650,778.56 |
| Roanoke County Police Communications | \$225,552.64 | \$209,701.85 | \$213,647.12 | \$237,439.98 |
| Rockbridge Regional PSCC | \$94,209.39 | \$111,413.29 | \$98,958.04 | \$99,539.94 |
| Russell County | \$49,988.76 | \$44,104.59 | \$39,540.07 | \$35,858.55 |
| Salem Police Communications | \$98,781.84 | \$99,394.92 | \$135,964.65 | \$105,189.06 |
| Scott County | \$45,809.60 | \$43,511.28 | \$45,088.82 | \$43,184.14 |
| Shenandoah County Emergency Communications | \$107,206.68 | \$106,030.00 | \$113,689.23 | \$91,621.52 |
| Smyth County 9-1-1 | \$50,274.27 | \$41,536.86 | \$38,771.78 | \$34,640.15 |
| Southampton County | \$49,312.77 | \$44,868.12 | \$43,537.07 | \$35,947.84 |
| Spotsylvania County Emergency Communications Dept. | \$126,615.58 | \$165,226.48 | \$180,934.81 | \$174,217.34 |
| Stafford County Sheriff's Communications | \$228,894.68 | \$262,421.68 | \$295,777.20 | \$227,472.27 |

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| Staunton 9-1-1 Communications | \$82,090.76 | \$77,542.62 | \$72,678.65 | \$62,217.30 |
| Suffolk Police Communications | \$184,230.67 | \$204,923.50 | \$247,055.40 | \$220,028.21 |
| Surry County | \$46,271.84 | \$41,008.81 | \$54,894.24 | \$60,004.90 |
| Sussex County | \$48,736.12 | \$41,535.17 | \$44,519.31 | \$41,689.39 |
| Tazewell County | \$44,648.66 | \$39,970.84 | \$52,550.48 | \$59,329.01 |
| Twin County E-911 | \$100,115.70 | \$78,718.87 | \$84,202.47 | \$86,805.56 |
| Vinton 9-1-1 Communications | \$46,248.59 | \$44,669.73 | \$67,887.16 | \$110,042.88 |
| Virginia Beach Communications Division | \$1,303,591.17 | \$1,836,375.83 | \$1,951,500.47 | \$1,607,833.41 |
| Warren County | \$49,910.23 | \$49,291.88 | \$45,582.45 | \$38,730.01 |
| Warrenton - Fauquier Joint Communications Center | \$95,325.36 | \$92,341.48 | \$98,074.47 | \$99,868.27 |
| Washington County | \$51,518.94 | \$43,486.05 | \$40,519.66 | \$46,218.57 |
| Waynesboro 9-1-1 Communications | \$106,389.87 | \$109,149.49 | \$121,968.95 | \$123,595.48 |
| West Point 9-1-1 Communications | \$44,830.66 | \$39,838.51 | \$37,670.96 | \$33,894.31 |
| Westmoreland County | \$53,205.31 | \$44,475.74 | \$43,065.93 | \$39,409.89 |
| Williamsburg Public Safety Communications Center | \$44,830.66 | \$40,378.52 | \$88,143.51 | \$25,331.30 |
| Winchester Fire/Rescue Communications | \$44,864.51 | \$43,394.59 | \$47,449.10 | \$49,042.05 |
| Wise County | \$60,216.65 | \$67,930.22 | \$47,062.52 | \$37,721.84 |
| Wythe County | \$50,667.96 | \$43,819.45 | \$41,012.31 | \$37,375.22 |
| Wytheville Public Safety E-911 | \$48,947.03 | \$42,236.43 | \$39,739.72 | \$35,708.13 |
| York County Fire Communications | \$174,800.76 | \$201,638.47 | \$222,975.28 | \$226,907.29 |
| | \$23,571,716.43 | \$25,233,285.39 | \$26,949,230.92 | \$26,747,984.21 |