

Legislative Budget and Finance Committee

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EXECUTIVE DIRECTOR PHILIP R. DURGIN Pennsylvania's 911 Emergency Telephone System: Funding, Expenditures, and Future Challenges and Opportunities

Conducted Pursuant to Act 118 of 2010

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Summary and Recommendations

Act 2010-118 calls on the LB&FC to conduct a study of the statewide 911 system and identifies ten areas of inquiry, primarily pertaining to collection of surcharges, Public Service Answering Point (PSAP) expenditures, cost-saving measures (including consolidation), and upcoming issues the General Assembly will need to consider as the Commonwealth moves toward "Next Generation 911."

We found and recommend:

- 1. Pennsylvania has relatively high 911 surcharge rates and collected \$197 million in surcharges in 2011 (pages 4-14). Pennsylvania has a wireline surcharge of \$1 to \$1.50 per month, depending on the class of county (smaller counties are allowed to charge more). The wireless surcharge is \$1 per month for each wireless device for which the customer is billed by a wireless provider. Pennsylvania also requires a \$1 per month VoIP (Voice over Internet Protocol) surcharge and a \$1 per retail transaction surcharge on point-of-sale prepaid wireless phones and minutes. With a few exceptions, Pennsylvania's surcharges are higher than the amounts levied by the other states we reviewed, many of which ranged from \$0.50 to \$0.75. Pennsylvania also ranks among the top states in total surcharge revenues collected (\$197 million in 2011), but exact comparisons between states is difficult because of reporting differences.
- 2. We were unable to determine whether all the entities that should be submitting 911 fees are doing so (pages 15-21). We attempted to identify all wireline, wireless, VoIP, and prepaid providers that are operating in Pennsylvania. Although we obtained several lists (e.g., from the Federal Communications Commission, Pennsylvania Department of State, Pennsylvania Public Utility Commission, and the National Emergency Number Association), the number of providers on these lists varied greatly, and none of the lists can be considered authoritative. The Pennsylvania Emergency Management Agency (PEMA) agrees there are no authoritative listings that would identify all wireline, wireless, VoIP, and prepaid providers operating in the Commonwealth.

Recommendation: Providers of wireline, wireless, and VolP telephony services whose customers can connect to 911 services should be required to register with PEMA. While providing no guarantee, such a registration requirement, if enacted in law, would be at least a marginal improvement over the current system in which it is virtually impossible to determine whether all providers who should be submitting surcharges are actually doing so and at what levels. We also recommend PEMA periodically compare the list of registered telephony companies to the lists of telecommunications companies registered to do business in the Commonwealth maintained by other state and federal agencies (e.g., the PA Department of State and the Public Utility Commission) and initiate communications with companies that may not be submitting required surcharges.

It was also not possible to determine whether those providers that are remit-3. ting 911 surcharge fees are remitting the proper amount, in part because providers consider customer and access line information to be proprietary (pages 22-33). In 2010, counties reported a total of 7,208,722 wireline access lines across the Commonwealth. We multiplied the county-reported access lines times the surcharge rate for that county to arrive at the "expected" wireline revenue of \$101.1 million. The actual wireline surcharge revenue collected, however, was only \$71.7 million. Using provider reported subscriber counts, we estimated the wireless surcharge revenue at \$133.7 million, whereas the actual amount collected was \$108.5. Our estimate for VoIP revenue was \$16.1 million, compared to actual revenues of \$14.3 million. While our estimates might be expected to be higher than the actual collections (e.g., we assumed all lines were active for all 12 months of the year and could not apply the discounts that are allowed for multi-line subscribers), we were unable to reconcile the difference between our estimates and the actuals because providers do not report detailed access line information/subscriber counts to either PEMA or the PUC. Without this information, it is not possible to ensure that providers are submitting the proper surcharge revenues. That said, we also note that when Maryland sent state auditors out to verify whether its telephony providers were submitting the proper surcharge amounts, they found that most companies were submitting properly, and some were remitting more than they owed.

Recommendations: (1) As part of the surcharge remittance process, telephony providers should be required to attest to their compliance with Pennsylvania's 911 surcharge laws. The attestation by a responsible company official, while short of the detailed accounting that would be necessary to verify that all charges are being paid, would be a reasonable compromise to allow providers to retain customer and access lines as proprietary information. Including penalty language on remittance forms, such as the Department of Revenue includes on its tax forms, could also help assure compliance with surcharge collections.

(2) The General Assembly may also wish to require providers to furnish subscriber count information. Detailed subscriber information (e.g., customer telephone numbers, names and service addresses/wireless location) is required for purposes of responding to a 911 call, but not for surcharge collection purposes. The law could specifically acknowledge the proprietary nature of this information and exempt it from disclosure under Right to Know laws.

4. Changes made in July 2011 to the surcharges applied to retail point-of-sale transactions were expected to generate an estimated \$13 million annually in additional funds, but collections to date have been far below expectations (pages 31-32). Act 2010-118 requires a \$1 per retail transaction fee on wireless prepaid point-of-sale transactions (both phones and the purchase of minutes). Various estimates were made at that time on how much additional revenue this new requirement would generate. The fiscal note attached to the bill estimated additional new annual revenues (beginning in FY 2012-13, the second year of the program) of approximately \$13 million. Based on collections as of the end of December 2011, we estimate new revenues for the first 12 months of the program will be approximately \$3.7 million. Although revenues may improve somewhat in the second year of the program, the lower than expected collections to date have been explained by some providers to be due, at least in part, to their practice of submitting a \$1 per month, per customer, surcharge prior to Act 118 even though they did not collect that fee from their customers. Now, however, these providers appear to be only submitting the \$1 per transaction fee charged to customers.

Recommendation: *PEMA and the Department of Revenue should monitor prepaid 911 surcharge collections and determine why there has been a shortfall in the projected revenues.*

5. VolP companies continue to submit surcharges to PEMA despite new provisions in Act 2010-118 (pages 30-31). Act 118 amended 35 Pa.C.S.A. Chapter 53 to provide that VoIP companies submit the surcharge revenue they collect directly to the counties on either a monthly or quarterly basis. Prior to Act 118, most VoIP companies submitted their surcharges directly to PEMA, and despite the statute change, most continue to do so.

Recommendation: *The General Assembly should amend Chapter 53 to allow VoIP companies to submit their surcharges directly to PEMA.* Given the relatively small dollar amounts involved, particularly to smaller counties, it would appear onerous to require VoIP companies to submit separate checks to each individual county.

6. The maximum allowable surcharge counties can charge for wireline phones has not increased since 1990 (pages 34-39). Although Pennsylvania has relatively high wireline surcharges, the maximum surcharge counties are allowed to charge for wireline access lines has not changed since 1990, when the surcharge was first enacted. If simply adjusted for inflation, the maximum allowable rates would range from \$1.72 for large counties to \$2.58 for sixth through eighth class counties. The adjusted fees would have generated approximately \$68 million in additional funds in 2011. We also note the Pennsylvania Public

Utility Commission has found that a higher surcharge rate is justified for all counties.

7. The 2 percent holdback for telephony providers may be higher than necessary (pages 39-43). Both wireline and wireless providers are allowed to withhold up to 2 percent of surcharge collections for their in-house administrative costs. We found that not all providers retain the full 2 percent, and that several other states allow only a 1 percent holdback.

Recommendation: *PEMA should determine the appropriateness of the 2 percent administrative holdback fee for providers.* We recommend PEMA conduct a study to determine whether a 1 percent, rather than 2 percent, holdback would be sufficient and provide this information to the General Assembly as it debates possible amendments to Chapter 53.

8. Telephony companies are not required to collect surcharges if their customers do not pay them (pages 43-44).

Recommendation: *PEMA should obtain information on "uncollectable" surcharges.* While it may not be practical to enforce the surcharge requirement on every individual, we recommend PEMA use the authority provided to it in Chapter 53 to seek information from the telephony companies on the extent of the uncollectable surcharges. PEMA should use the information on the extent of noncompliance to determine the most appropriate course of action.

9. Although not specifically exempted, some telephony companies apparently do not bill state and local government agencies, including school districts, for 911 surcharges (page 44).

Recommendation: The General Assembly should clarify whether governmental entities are required to submit 911 surcharges.

10. Although most states have a 911 funding model almost identical to Pennsylvania's, some states allow local governments to impose additional fees/taxes specifically to support 911 services (pages 44-50). Of the 17 states we reviewed, only one did not charge both a wireline and wireless surcharge. (The exception, Missouri, charges a surcharge on wirelines only.) In some states the surcharges are collected by the state; in others, at the local level; and in others (such as Pennsylvania) some surcharges are collected at the state level and others at the local level. 911 surcharges are also often supplemented by county or other local government general fund revenues. Several states have authorized their local governments to charge additional fees or taxes specially to support 911 services. Missouri, for example, allows local jurisdictions to impose an additional sales tax or a tariff on local service rates to support 911 services.

- 11. 911 surcharges are sufficient to fund about 70 percent of county 911 expenditures, and counties increasingly rely on county general fund monies to support PSAP operations (pages 51-58). In 2011, Pennsylvania counties reported total PSAP expenditures of \$272.6 million and receiving 911 surcharge funds of \$192.4 million. The difference, \$80.2 million, is the approximate local contribution, which typically comes from county general funds. In 2007, surcharge revenue (wireline, wireless, and VoIP) was sufficient to cover all county costs in 24 counties; in 2011, the surcharges were sufficient to cover all costs in only 7 counties.
- 12. PSAP expenditures have been increasing rapidly in recent years (pages 51-58). Between 2006 and 2011, total PSAP expenditures have increased by 27 percent, from \$213.9 million in 2006 to \$272.6 million in 2011. Much of this increase has been in personnel costs, which have increased by 32 percent, from \$132.8 million in 2006 to \$174.9 million in 2011. We found that counties have wide latitude in determining staffing levels, and that the number of PSAP staff per 10,000 911 calls received varies from as few as 1.2 (Philadelphia) to as many as 15.7 (Huntingdon).
- 13. Trunk lines (the major telecommunication lines between telephony providers and the PSAPs) and other telephony requirements are a major expense for **PSAPs (pages 60-65).** In some states, such as New York, the state public utility commission sets allowable rates providers may charge PSAPs for telephony costs such as selective routing.

Recommendation: PEMA should work with the Pennsylvania Public Utility Commission to establish reasonable telephony charges for PSAPs. We also recommend PEMA update its trunk line regulations, which have not been updated since 1992.

14. PSAP costs have been increasing, in part, because many PSAPs now do much more than answer emergency 911 calls (pages 68-73). PSAPs engage in far more activities that answering emergency 911 calls. In particular, dispatching (actually directing police or emergency responders to the 911 incident) is now commonly done by PSAPs. In the early 1990s, when the state 911 program first began, dispatching was frequently done by police and other emergency services department dispatchers. Dispatching can be time consuming, especially in situations where it is necessary for dispatchers to remain in contact with the emergency responders. Although the dispatching function has largely transitioned from emergency service provider departments to PSAPs, the funding to support these additional duties has not typically followed.

PSAPs are also involved in a host of other duties not directly related to answering a 911 call, such as responding to non-emergency calls made to the PSAP; working with police in using and updating databases such as the Commonwealth Law Enforcement Agency Network (CLEAN), National Crime Information Center (NCIC), and Justice Network (JNET) computer databases; monitoring responder safety in high-risk situations; answering the Crime Stoppers Line; assisting first responders needing GIS assistance (e.g., in locating lost children or locating water sources for rural firefighters); monitoring bait car and bank robbery software; answering after-hours calls for local police departments; and monitoring alarms and call boxes (e.g., on college campuses), among others.

15. PEMA has little ability or authority to control county expenditures of either wireline or wireless funds, provided the funds are spent for eligible items (pages 74-91). Under Chapter 53, PEMA is required to approve funding to PSAPs for any expense made to provide wireless 911 services, so long as the expense is eligible and conforms to the county's 911 plan. In addition, the current method PEMA uses to distribute wireless funds is administratively burdensome, lacks transparency, and has been a source of tension between PEMA and at least some of the counties. It also places PEMA in the position of having to fund eligible, but not necessarily prudent, purchases.

Wireline funds can also only be used for eligible expenses, but PEMA has even less control over these funds because they are collected and administered directly by counties. PEMA has developed a matrix of eligible expenses, but the matrix encompasses a broad range of eligible items. As a result, there is little consistency from county to county in either the type or amount of equipment purchased or PSAP operational policies, such as staffing levels. While it is difficult to fault counties for seeking to provide their citizens with more than the minimum threshold of 911 emergency services, the cost to provide top tier service is becoming increasingly burdensome for counties.

Recommendation: The General Assembly should amend Chapter 53 to allow PEMA to develop a formula for distributing wireless grant funds to counties, rather than approving expenditures on a case-by-case basis.

We recommend the General Assembly amend the language in Chapter 53 that states "costs incurred by a PSAP or wireless provider for wireless E-911 service shall be paid by the agency..." to enable PEMA to develop a formula for distributing wireless funds to counties that would:

• Provide PEMA with the authority to develop standards to drive investment in appropriate regional and statewide solutions. The wide variation we observed in PSAP staffing levels suggests that PEMA should review available staffing models and select one or two—with modifications if warranted—as a way to begin standardizing PSAP staffing patterns. We

noted similar variation in PSAP telephony infrastructure and associated connectivity costs. PEMA could weight the wireless funding formula in such a way as to encourage county adoption of the preferred standards/models and to encourage other cost-saving measures based upon the overall business needs of the statewide PSAP community, both technologically and operationally.

- *Encourage PSAP consolidation.* Larger PSAPs appear to benefit from economies of scale, and these benefits are likely to become more evident as PSAPs transition to NG911. We recommend PEMA design the wireless funding formula to encourage such regionalization/consolidation.
- Standardize key definitions and metrics of the 911 system. We found that certain key terms and metrics—such as what constitutes a 911 call and the types of access lines that are subject to a surcharge—can vary from county to county and provider to provider. A formula that uses these terms and metrics should include complete, clear definitions, and PEMA should ensure that the terms and metrics are being applied accurately and consistently across the counties. PEMA should clearly define these terms regardless of whether a new funding formula is developed.
- 16. PEMA's process for awarding wireless funds to counties is time-consuming, administratively awkward, and does not appear to promote efficient spending (pages 74-91). Wireline surcharge funds are submitted directly to the counties; wireless surcharge funds, however, are submitted to PEMA and then awarded to counties based upon county applications. PEMA categorizes eligible items into three tiers, with Tier I items being the highest priority. Because PEMA is required to fully fund approved expenditures and because the wireless surcharge revenues in any given year are not sufficient to cover the approved amounts, surcharge funds from a subsequent year are often used to cover prior year approved expenditures. In some years, as much as 40 percent of the wireless surcharge funds are used to cover prior year approved expenditures for new requests. We also found that PEMA routinely allows counties to reallocate wireless funds from the original approved item to another item, even though it may be in a lower priority tier. Reconciling wireless expenditures is also a paperwork-intensive process.

Recommendation: (See the preceding recommendation regarding a wireless funding formula.)

17. The E-911 Emergency Services Advisory Committee had not met since 2006 (pages 85-87). This committee, which is comprised of state and local elected officials and representatives of telephony providers, PSAP directors, and emergency first responders, was established to recommend technical, administrative, and operational standards for the statewide 911 program has not met since 2006.

Recommendation: *PEMA should re-establish the 911 Emergency Services Advisory Committee.* Given the challenges that will be involved in implementing Next Generation technologies over the next several years, we recommend the advisory committee be re-established.

18. Chapter 53 is unclear as to whether utility and dispatching expenses are allowable costs (page 83). Chapter 53 is contradictory in its treatment of utility expenses, citing it in various places as both an eligible and an ineligible expense. Under PEMA regulations, utilities are an ineligible expense. Chapter 53 also specifically states that county wireline surcharges cannot be used for "hiring of dispatchers." PEMA has interpreted this language to include only the expenses used in the hiring process, thereby allowing surcharge funds to be used for the ongoing salary and benefit costs of dispatchers. As dispatching is now an integral part of the job for most PSAPs, we recommend the prohibition on using surcharge funds to hire dispatchers be eliminated.

Recommendation: The General Assembly should remove the reference to utilities being an eligible expense and of "hiring of dispatchers" as being an ineligible expense.

19. PEMA does not appear to have sufficient administrative funds to properly administer the statewide 911 system (page 91). Chapter 53 allows PEMA to retain 2 percent of wireless funds and 1 percent VoIP surcharges submitted to the state. This generates approximately \$2.2 million annually, which does not appear sufficient to administer the program properly, especially as the statewide 911 system begins transitioning to Next Generation 911 technologies.

Recommendation: The General Assembly should amend Chapter 53 to increase the percentage of surcharge funds PEMA may retain for administrative purposes.

20. PEMA and the counties are in general compliance with Chapter 53's reporting requirements (pages 92-97). Chapter 53 contains three reporting requirements: a triennial plan by counties to PEMA, an annual report by PEMA to the General Assembly regarding the status and funding of wireless E-911 services, and a triennial report by PEMA to the General Assembly that is to include recommendations regarding wireless E-911 services. PEMA regulations have a fourth reporting requirement for counties to report certain information to PEMA. Although some reports are submitted late, we found compliance with these reporting requirements to be generally good. **Recommendations:** (1) The General Assembly should amend the statutory requirement that PEMA submit annual and triennial reports regarding the implementation of wireless E-911 services and re-direct the focus of those reports to the implementation of Next Generation technologies. All counties have now implemented Phase II E-911 services, so there is little need for the statutorily required annual and triennial status reports. We recommend, instead, that these reports be re-focused on Next Generation 911, the next major technology confronting the 911 system.

(2) PEMA should review and better define certain data elements contained in the information it gathers from the counties. We found that at least one data element—the field "Any Other Type of Income Received"—in the county annual report that appears to be ambiguous; some counties appear to include funds transferred from their General Fund in this field, others do not. Such transfers can be a major source of PSAP funding, so ambiguity in this item can significantly affect the usefulness of the reports. We also recommend PEMA review alternatives to the current web tool to determine if a new cost-effective system could be developed to help ensure accurate, useable and timely data to better manage and coordinate the 911 system.

(3) PEMA should consider reorganizing its administrative staff in the Bureau of 9-1-1. The Bureau of 9-1-1 is organized such that different individuals are responsible for overseeing different aspects of the counties' reporting requirements (e.g., audits, county annual reports, wireless E-911 grants, triennial plans, etc.). While different organizational structures have various advantages and disadvantages, we believe PEMA's oversight of counties would be strengthened if the same individual within the bureau had a comprehensive understanding and responsibility for all the various reporting requirements for a specific number of counties. This would also benefit the PSAPs in that they would have a single contact within the Bureau where they could direct inquiries. This recommendation may require PEMA to review and modify its job descriptions, job qualifications, and hiring practices.

(4) PEMA should revise its regulations to change the reporting date for county Annual Reports from December 1 to January 31 of the following year.

21. Wireline and wireless funds are audited as a way to provide reasonable assurance that they are only being used for authorized purposes (pages 98-105). PEMA requires PSAPs to be audited by independent CPAs on a three-year cycle to ensure that wireline and wireless funds are only used for authorized purposes. We reviewed the audits PEMA has received over the past several years. The most common problem found in these audits was that PSAPs exceeded the requirement that only 70 percent of surcharge revenue can be spent on personnel. While PEMA has no direct authority to require PSAPs to

correct any identified problems, in many cases we found documentation that the county had corrected the problem identified in the audit. In a few cases, we did not find such documentation, but the dollar amounts involved were relatively minor. Audits, however, can only provide assurance that the funds are spent for authorized purposes, not that the funds are being spent prudently.

Recommendation: *PEMA* should take the lead in contracting for county wireline and wireless audits to improve consistency. Although PEMA has established guidelines for these audits, the auditors still have considerable discretion in how the financial statements are presented, which makes it difficult to develop statewide aggregate information or to make county-tocounty comparisons. If PEMA, rather than the individual counties, contracted directly for these audits, it would have the ability to ensure the financial statements were presented in a consistent manner.

- **22. Opportunities exist for cost-savings, but PEMA has little ability to require such efforts (pages 106-107).** Several 911 PSAP directors reported promoting cost savings through steps such as joint purchasing of equipment and hiring part-time, rather than full-time, staff. While acknowledging these efforts, the Pennsylvania chapter of APCO/NENA reported that PSAPs generally have few options available to reduce costs since they are chronically understaffed, funding sources are limited, and a certain minimum level of service must be provided. We believe opportunities for cost savings do exist through the use of staffing "templates" to optimize staffing levels, greater regionalization (such as is occurring in the WestCORE project), and expanding joint purchasing agreements (such as is occurring in nine northern tier counties). As discussed above, however, the current statute limits PEMA's ability to require such steps, in part because answering 911 calls is a county responsibility and, on a more practical level, because under Chapter 53, counties have wide latitude in how they spend surcharge funds.
- 23. Compared to most states, Pennsylvania already has a "consolidated" 911 system, but opportunities for savings exist through further consolidation (pages 108-133). Pennsylvania has 69 PSAPs, or an average of 1 PSAP for every 184,092 residents. Compared to other large states, Pennsylvania already has a relatively consolidated 911 system:

<u>State</u>	Population in <u>Millions</u>	Number of <u>PSAPs</u>	Number of Persons Served on Average
California	37.2	413	90,203
Texas	25.1	512	49,112
New York	19.3	175	110,732
Florida	18.8	165	113,947
Illinois	12.8	264	48,601

The jurisdictions with fewer PSAPs per population (District of Columbia, Hawaii, Maryland, New Hampshire, and Rhode Island) are much smaller in geographic size than Pennsylvania.

Nevertheless, we found opportunities appear to exist to lower 911 costs by consolidating PSAPs that receive relatively few 911 calls into larger geographic areas. While certain caveats need to be considered (e.g., some counties may be including non-emergency calls in their 911 call count), as the charts below indicate, larger PSAPs are generally better positioned to take advantage of economies of scale than smaller PSAPs.





Recommendation: *In any re-write of Chapter 53, the General Assembly should consider deleting the provision allowing certain cities to maintain their own 911 systems.* Act 1998-17 allowed certain cities with established 911 systems to maintain those systems as though they had the powers and duties of counties. Only two cities—Allentown and Bethlehem—now qualify under this "grandfather" provision.

24. Next Generation 911, although likely to be expensive to implement, offers opportunities for streamlining 911 services (pages 134-164). Next Generation 911 (NG911) involves the use of broadband systems and protocols to transmit e-mail, text messages, pictures, and other digital media to PSAPs, which currently can receive only voice and teletype calls. PSAPs could then forward pertinent information, such as pictures of an accident or accident victims, to first responders so they could better respond to the incident. While some PSAPs in other states are now operating in a NG911 environment, most states are waiting for the Federal Communications Commission to issue national standards before investing in specific NG911 plans and technologies (much equipment now being purchased by PSAPs is, however, NG911 compatible).

It is difficult to estimate what the cost of transition to NG911 will be in Pennsylvania, in part because national standards have not been issued and in part because an assessment has not been done of the ability of the existing broadband infrastructure to serve as the backbone of NG911 across the state. Such a study is, however, in process. While the transition to NG911 will undoubtedly involve additional costs—particularly during the initial implementation period when the existing E-911 system will have to run parallel to the NG911 system—it also provides opportunities to streamline and consolidate services if implemented in a standard, uniform manner (e.g., by facilitating call-takers in one PSAP to serve as backups, or even the primary call-takers, for another PSAP).

Recommendation: The General Assembly should amend Chapter 53 to be compatible with Next Generation technologies and allow PEMA greater authority to direct the statewide 911 system's transition to Next Generation (broadband) technologies. In particular, PEMA needs the statutory authority to develop fiscal, technological, interoperability, and operational performance standards for a statewide NG911 system that might be derived from interrelated regional initiatives.

I. Introduction

Act 2010-118 made several amendments to 35 Pa.C.S.A. Chapter 53 (Emergency Telephone Services), including requiring the LB&FC to conduct a study of Pennsylvania's statewide 911 system.

Scope and Objectives

The study scope and objectives, as defined in Act 118, are to assess:

- 1. The efficacy by which the VoIP service 911 fee, the contribution rate, the wireless E-911 surcharge, and the prepaid wireless E-911 surcharge are collected and remitted for intended purposes.
- 2. The expenditures authorized for payment from a county's restricted account for the purposes of nonrecurring and recurring charges billed for the 911 system.
- 3. Disbursements made by the agency from the fund.
- 4. The method and amount of funding collected and expenditures made for 911 systems in other states.
- 5. The feasibility and effectiveness of consolidating Public Safety Answering Points (PSAPs) in Pennsylvania.
- 6. Any other cost-saving measures that may be utilized by PSAPs or the agency.
- 7. Any national initiatives being considered or implemented in other states that are intended to provide cost savings in 911 systems without impacting public safety.
- 8. The current auditing requirements of state and county 911 expenditures.
- 9. The issues the Commonwealth will need to consider in incorporating "Next Generation 911" and other nontraditional communication technologies into its emergency responses system.
- 10. Any technology neutral 911 funding options by either the Commonwealth or political subdivisions which do not rely on disparate technologies, fee amounts, and grant structures.

Methodology

PSAP revenue, expenditure, funding request, and certain operational information (e.g., number of 911 calls received) was obtained primarily from data the counties submit to the Pennsylvania Emergency Management Agency (PEMA) via the PEMA WebTool. PEMA allowed us access to the WebTool, so we were able to view this information as directly reported by the counties. We also reviewed the audit reports of wireline and wireless revenues and expenditures that counties must submit on a triennial basis, as well as PEMA's county reconciliation reports.

We met with various federal, state, county, and private sector stakeholders throughout the study. State level participants included the Pennsylvania Emergency Management Agency, Public Utility Commission, Department of Revenue, Pennsylvania State Police, Office of Administration, Department of General Services, and Department of State. At the county/municipal level we sought input from the County Commissioners Association of Pennsylvania, Executive Boards of the Pennsylvania Chapters of the American Association of Public-Safety Communications Officials (APCO) and National Emergency Number Association (NENA), and numerous individual PSAP directors. We also received 22 responses to a survey we sent, in conjunction with the County Commissioners Association, to PSAP directors across the state to obtain their input on a variety of topics.

In the private sector, we sought input from all of the major wireless and wireline providers and the state associations that exist on their behalf. We also met with several of the consulting groups that work in this industry in Pennsylvania and elsewhere.

At the federal/national level we sought input from the Federal Communications Commission, the National Conference of State Legislatures, APCO, NENA, the National Highway Transportation and Safety Administration, the National Telecommunications and Information Administration (NTIA), the Cellular Telephone Industries Association (CTIA), the National 911 Alliance, and the Congressional Research Service. We also did a telephone interview/survey with 17 selected states to gather information on their 911 programs for comparison purposes.

Aspects of the 911 program have been examined several times in the past, including by the LB&FC in 1997. In October 2008, a special performance audit of the wireless E-911 emergency services program was completed by Auditor General, Jack Wagner. We reviewed both of these reports for issues pertinent to the current study.

We did not examine Pennsylvania's 911 program, at either the state or PSAP level, to assess specific operational performance efficiency or the effectiveness with which 911 calls are handled, as this was beyond the scope of this review.

Acknowledgments

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Important Note

This report was developed by Legislative Budget and Finance Committee staff. The release of this report should not be construed as indicating that the Committee's members endorse all the report's findings and recommendations.

Any questions or comments regarding the contents of this report should be directed to Philip R. Durgin, Executive Director, Legislative Budget and Finance Committee, P.O. Box 8737, Harrisburg, Pennsylvania 17105-8737.

A. Pennsylvania's Surcharge Rates and Collections Are Relatively High Compared to Other States

Pennsylvania collects several separate surcharges to fund 911 operations in the Commonwealth. Surcharges are collected from customers utilizing wireline, wireless (e.g., traditional post paid contracts), Voice over Internet Protocol (VoIP), and prepaid phones and minutes that are purchased during a retail transaction. Each surcharge rate in Pennsylvania is set and remitted somewhat differently.

Wireline Surcharge: Act 1990-78, the Public Safety Emergency Telephone Act, provided for a statewide emergency telephone number 911 system and for contributions from wireline telephone subscribers to support this system. Contribution rates range from \$1.00 to \$1.50, depending on class of county. The smaller the class of the county, the higher the allowable surcharge fee.¹ (See Table 1 for a complete list of current county surcharge rates.) Wireline surcharges are imposed on local exchange access lines and are billed and collected by providers each month. Providers then remit the collected fees, on a quarterly basis, directly to each county where subscribers reside. Forms for these remittances are prescribed by each individual county.

Wireline service providers may retain up to 2 percent of their collected amounts for administrative costs, and counties may retain up to 1 percent of the remitted amounts for administrative costs.

Wireless Surcharge: Act 2003-56 amended the Public Safety Emergency Telephone Act to include a \$1 per month fee on each communication device that provides two way wireless service for which the customer is billed by a wireless provider. This fee is billed and collected by wireless providers and remitted directly to the State Treasurer for deposit into the Wireless E-911 Emergency Services Fund. PEMA allows providers to remit their collected surcharges on a monthly basis. Providers may retain up to 2 percent of gross receipts collected for administrative costs. PEMA may retain up to 2 percent of wireless funds received for its administrative costs.

¹ Counties of the first through second class A may impose a monthly contribution rate in an amount not to exceed \$1 per line on each local exchange access line. Counties of the third through fifth class may impose monthly contribution rates in an amount not to exceed \$1.25 per line on each local exchange access line. Counties of the sixth through eighth class may impose a monthly contribution rate in an amount not to exceed \$1.50 per line on each local exchange access line.

Current Surcharge Rates

County/City	PUC Approved Contribution Rate	County/City	PUC Approved Contribution Rate
Adams	\$1.50	Allegheny	\$1.00
Armstrong	\$1.50	Beaver	\$1.25
Bedford	\$1.50	Berks	\$1.25
Blair	\$1.25	Bradford	\$1.50
Bucks	\$1.00	Butler	\$1.25
Cambria	\$1.25	Cameron	\$1.50
Carbon	\$1.50	Centre	\$1.25
Chester	\$1.25	City of Allentown	\$1.25
City of Bethlehem	\$1.25	Clarion	\$1.50
Clearfield	\$1.50	Clinton	\$1.50
Columbia	\$1.50	Crawford	\$1.50
Cumberland	\$1.25	Dauphin	\$1.25
Delaware	\$1.00	Elk	\$1.50
Erie	\$1.25	Fayette	\$1.25
Forest	\$1.50	Franklin	\$1.25
Fulton	\$1.50	Greene	\$1.50
Huntingdon	\$1.50	Indiana	\$1.50
Jefferson	\$1.50	Juniata	\$1.50
Lackawanna	\$1.25	Lancaster	\$1.25
Lawrence	\$1.25	Lebanon	\$1.25
Lehigh	\$1.25	Luzerne	\$1.25
Lycoming	\$1.25	McKean	\$1.50
Mercer	\$1.25	Mifflin	\$1.50
Monroe	\$1.25	Montgomery	\$1.00
Montour	\$1.50	Northampton	\$1.25
Northumberland	\$1.25	Perry	\$1.50
Philadelphia	\$1.00	Pike	\$1.50
Potter	\$1.50	Schuylkill	\$1.25
Snyder	\$1.50	Somerset	\$1.50
Sullivan	\$1.50	Susquehanna	\$1.50
Tioga	\$1.50	Union	\$1.50
Venango	\$1.50	Warren	\$1.50
Washington	\$1.25	Wayne	\$1.50
Westmoreland	\$1.25	Wyoming	\$1.50
York	\$1.25		

Source: Pennsylvania Emergency Management Agency.

The existing 911 program statute calls for both the wireless E-911 surcharge fee and the prepaid wireless E-911 surcharge fee to terminate on June 30, 2014, unless extended by an act of the General Assembly.²

Point-of-Sale Surcharge: Act 2010-118 enacted provisions to collect a surcharge on the purchase of both prepaid phones and additional minutes when either is purchased in a retail transaction, whether in person, on the telephone, through the Internet, or any other method. The surcharge is one dollar per transaction and is to be proportionally increased or reduced upon any change to the wireless E-911 surcharge. For the first 180 days after July 1, 2011, sellers were able to deduct and retain 35 percent of the surcharges they collected for direct start-up costs. After that period, they may retain 3 percent. Surcharges are to be remitted to the Department of Revenue and paid to the State Treasurer for deposit into the Wireless E-911 Emergency Services Fund. The Department of Revenue may retain 2 percent of remittances for its administrative costs. Because the statute does not prohibit it, PEMA also is taking a 2 percent administrative fee for its role in administering the prepaid wireless funds.

The wireless and point-of-sale funds are disbursed to PSAPs and providers by PEMA for costs as defined by statute, which include costs of PSAPs and wireless providers to provide 911 services. Counties must apply each year to PEMA to access these surcharge funds.

Voice over Internet Protocol Surcharge: Act 2008-72 added provisions to impose a surcharge for phones that use Voice over Internet Protocol. Like wireless surcharges, each VoIP provider is to collect a one dollar a month surcharge to each telephone number assigned to a VoIP service customer with outbound calling capability. Like wireline funds, VoIP funds go directly to counties, although they are remitted in one of two ways. In most counties, providers are to remit fees to the county treasurer on a quarterly or monthly basis. In home rule counties only, providers may remit to PEMA, which then forwards the funds to the appropriate county. The providers that remit surcharge funds to the state, again either monthly or quarterly, generally follow the same procedures as wireless providers utilizing the "VoIP 911 Fee State Remittance Report." VoIP providers remitting directly to counties must also use a standardized form, developed by PEMA, to do so.

If a VoIP provider makes the remittance directly to a county, the provider may retain 2 percent of total fees collected for administrative costs. If funds are remitted to the State Treasurer, providers may only retain 1 percent. PEMA may also retain up to 1 percent of VoIP monies remitted for its administrative costs. VoIP funds are used to assist counties with the implementation of their county 911 plans.

² 35 Pa.C.S.A. §5311.4(h).

Total Funds Remitted in PA

Table 2 shows total surcharge revenues by source, i.e., wireline, wireless, and VoIP, received by PEMA and all PSAPs from CY 2007 to CY 2011. Over this time frame, wireline revenues have decreased by 33 percent, while wireless revenues have increased by 27 percent. Since 2004, counties report wireline contribution rate revenue has decreased by 48 percent. VoIP surcharges have risen 66 percent from CY 2009 to CY 2011, the first three full years of the surcharge's implementation. Overall, from 2007 to 2011, surcharge funds from all sources have increased by 6.0 percent.

Total 911 Surcharge Revenues				
	Total Wireline <u>Funds</u>	Total Wireless <u>Funds by FY</u> ^a	Total VoIP <u>Funds</u>	Totals
2007	\$ 95,115,371	\$ 90,702,994	N/A	\$185,818,365
2008	91,260,287	98,560,282	\$ 727,690	190,548,259
2009	79,416,199	105,357,828	10,578,902	195,352,929
2010	71,682,317	108,538,009	14,333,944	194,554,270
2011	63,995,252	<u>115,254,818^a</u>	<u>17,546,911</u>	<u>196,796,982</u>
Totals Since 2007	\$401,469,426	\$518,413,931	\$43,187,448	\$962,923,682
% Change From 2007	-33%	+27%	+66%	+6.0%

Table 2

^a By fiscal year. Includes prepaid wireless monies received by the Department of Revenue through December 2011.

Source: Developed by LB&FC staff with data from PEMA and counties' annual reports, and the Department of Revenue.

Surcharge Rates and Collection in Other States

Act 2010-118 directed the LB&FC to review 911 funding systems used in other states. To do this, we reviewed 17 states: Florida, Illinois, Indiana, Maine, Maryland, Michigan, Minnesota, Missouri, New Jersey, New Mexico, New York, North Carolina, Ohio, South Dakota, Tennessee, Virginia, and Washington. We administered a phone survey to these states, to determine the manner and amounts of collection and remittance; how 911 programming is structured; how surcharges are distributed and expended; steps states may have taken toward consolidation, and other related information.

All of the states we reviewed, with the exception of Missouri, have charges for both wireline and wireless phones, most have VoIP surcharges, and five have surcharges on prepaid wireless phones. (See Exhibit 1, below, for surcharges specific to each state we reviewed.) For wireline surcharges, most states have set rates,

Exhibit 1

	-		-	
	Windling Date		VelD Dete	Point of Sale Prepaid
Florido		twireless Rate	VOIP Rate	Rate
Fiorida	\$0.41 - \$0.50	\$0.50	\$0.50	Suspended
Illinois	\$0.25 - \$5.00	\$0.73 (\$2.50 in Chicago).	\$0.25-\$5.00	\$0.73
Indiana	\$0.34 cents to \$3.32	\$0.50	\$0.34 cents to \$3.32	\$0.25
	set by counties at rate		set by counties at rate	
	of 3% or 10% of		of 3% or 10% of	
	monthly access de-		monthly access de-	
	pending on county		pending on county	
	size.	A a a a	size.	
Maine	\$0.45	\$0.45	\$0.45	\$0.45
Maryland	\$0.75 County Fee	\$0.75 County Fee	\$0.75 County Fee	NO
	\$0.25 State Fee	\$0.25 State Fee	\$0.25 State Fee	
Michigan	\$0.19 State Fee	Same as wireline	Same as Wireline	\$0.90
	\$0 – \$3.64 by County	Same as wireline	Same as Wireline	
Minnesota	\$0.97	\$0.90	\$0.80	NO
Missouri	15% of Base Rate (51 Counties)	None		
	.5% of Sales Tax (41 Counties)			
	Varies Funding Methods – Remaining Counties			
New Jersey	\$0.90	\$0.90	\$0.90	NO
New Mexico	\$0.51	\$0.51	NO	NO
New York	\$0.35 - \$1.00	\$1.20 - \$1.50	\$0.35	NO
North Carolina ^a	\$0.60	\$0.60	\$0.60	NO
Ohio	\$0.50 (Max)	\$0.28	NO	NO
Pennsylvania	\$1.00-\$1.50	\$1.00	\$1.00	\$1.00
South Dakota	\$0.75	\$0.75	\$0.75	NO
Tennessee	\$0.65 - \$1.50 Res./	\$1.00	\$1.00	NO
	\$2.00 - \$3 Bus			
Virginia	\$0.75	\$0.75	\$0.75	\$0.50
Washington	\$0.20 Statewide	\$0.20 Statewide	\$0.20 Statewide	
	\$0.70 by Counties	\$0.70 by Counties	\$0.70 by Counties	

911 Surcharges in Seventeen Selected States

^a North Carolina's surcharge will be effective as of July 31, 2013.

Source: Developed by LB&FC staff with data from NENA. Surcharges are current as of July 2011.

but several, including Florida, Illinois, Michigan, and Tennessee, have ranges of surcharges. In Ohio, the wireline surcharge is legally limited to only a few counties, and there is no statewide surcharge. Indiana charges from 3 percent to 10 percent of the wireline monthly base rate, depending on the county. Wireline surcharges range from a low of \$.19 in Michigan to a high of \$5.00 in Illinois.

Wireless rates are flat in all states except Michigan and New York, which have a range of surcharges depending on the county. Surcharges range from a low of \$.19 in Michigan to a high of \$2.50 in Illinois (Chicago). Fifteen of the 17 states we reviewed also have a VoIP surcharge. Again, most are flat rates, with the exception of Indiana, Illinois, and Michigan, whose VoIP surcharges fluctuate much like their wireline charges. Please see Appendix A for a complete list of state and local 911 surcharge rates, including prepaid surcharges.

Five of the states we reviewed have surcharges on point-of-sale prepaid wireless phones. These are all set rates, ranging from \$.25 to \$.90. Florida did impose a surcharge on prepaid wireless, however that surcharge has been suspended. Throughout the United States, fifteen states have point-of-sale prepaid surcharges ranging from \$.25 to \$1.00. Four of those states, none of which were in our 17-state survey, use a percentage rather than a set amount, ranging from 1.4 percent to 6.0 percent of the cost of the device or minutes purchased. As in Pennsylvania, providers in other states may keep a percentage of collected surcharges for administrative costs. These percentages range from 1 percent to 5 percent.

States also vary on how they direct and use the collected surcharges. A summary of each state follows:

Florida: All surcharges are collected and remitted by the state through Florida's E-911 Board. Wireline funds are disbursed as follows: 97 percent to provide E-911 services overall (based on the number of subscribers in each county), 2 percent to provide extra assistance to rural counties for 911, and 1 percent is retained by the board for administration and operations. Wireless surcharges are disbursed as follows: 71 percent (based on the number of wireless subscribers in each county) to counties for purposes of providing E-911 services, 25 percent to providers in response to sworn invoices for the actual costs incurred in providing 911 service, 3 percent to provide extra assistance to rural counties for 911, and 1 percent is retained by the board for administration and operations.

Illinois: Wireline surcharges are under the purview of the counties and range from \$.25 to \$5.00. These funds remain completely local and the state has no role in wireline funds. Of the \$.73 wireless surcharge, which is collected by the state, 80 percent goes to PSAPs as divided by the number of customers in a county or municipality, with the number of customers being provided by the companies. The remaining 20 percent goes to providers to recover their costs, although most do not

seek reimbursement. Prepaid wireless surcharges are divided in the same manner as regular wireless surcharges.

Indiana: Wireline and VoIP surcharges go directly to local governments for 911 purposes. Wireless and prepaid surcharges are remitted to the Indiana Wireless E-911 Advisory Board for distribution to county and municipal PSAPs for 911 purposes based on a formula. Wireless funds are distributed as follows: Indiana Wireless E-911 Advisory Board retains \$.01 for administration, each PSAP receives an equal share of \$.039 as an equal share, \$.344 is divided based on population, \$.10 is distributed to a technical savings account, and \$.07 is retained by wireless carriers for the cost of collection and remittance.

Maine: All surcharge fees are remitted to the state for disbursement for 911 use. There is no formula for disbursement and no amount is guaranteed to any one PSAP. PSAPs must submit requests to the Emergency Services Communications Bureau within the Public Utilities Commission. The Bureau oversees the implementation and operation of the statewide Enhanced 911 system.

Maryland: The state controller collects all surcharges (wireline, wireless, and VoIP), which are remitted monthly by providers, and distributed to the counties. Up until the past two years, interest on surcharges was distributed proportionally, but the legislature now uses the interest for other purposes. All three surcharges are one dollar, with \$.75 going to counties and \$.25 going to the state Emergency Number System Board. The state spends this money for various purposes including: PSAP phone equipment (which is on a five-year replacement schedule), statewide mapping data for phase II, protocol software for PSAPs that direct call-takers to ask questions, and training. Part of this surcharge is also placed in a trust fund, which allows counties to make special requests to the Board.

Michigan: Each county determines how its 911 operations are funded. Sixtysix of 83 counties have surcharges ranging from \$.19 to \$3.64. Anything over \$.42 must have voter approval. Of the \$.19 state-imposed surcharge, 82.5 percent goes to counties on a quarterly basis. Of these funds, 40 percent goes to each county equally and 60 percent goes to counties by census population. Of the remaining 17.5 percent, 6 percent goes to a fund for dispatcher training, 7.75 percent goes to a fund that goes to providers for connecting calls to PSAPs, 1.87 percent funds the state 911 office, and 1.88 percent goes to three state police PSAPs. Counties may also impose a limited-time additional property tax, which also needs voter approval.

Minnesota: Surcharge revenue for 911 goes to the Department of Public Safety Emergency Communication Networks Division. Funds from the E-911 fee are sent monthly to the qualifying cities, counties, or other governmental entities operating 911 centers. Distribution is on a modified pro rata basis, with half the amount divided equally among the 87 counties and included cities and 13 other

governmental entities, and the other half divided only among counties and cities on the basis of percentage or population.

Missouri: There is no separate agency or department in Missouri state government with statutory responsibility for 911 as one of its primary functions, and no state-level funding stream to support 911 at the state level. The Missouri state legislature established a Committee on 911 Service Oversight in the late 1990s, which currently is the responsibility of the Homeland Security Coordinator, within the Office of Homeland Security. State statute permits local jurisdictions to establish funding through one of two methods (specific county sales tax or tariff on the local service rate where emergency telephone service has been contracted). Of the 114 counties in the state, 97 have chosen to establish a local funding mechanism using one of these methods.

New Jersey: In New Jersey, the state keeps all surcharge funds. With these funds the state maintains a contract with Verizon for the trunks that route the calls to PSAPs and to maintain the network. This contract is about \$10.5 million per year. Anything above this amount funds other expenses not directly related to 911.

New Mexico: Both wireline and wireless surcharge funds are remitted to the Department of Finance and Administration, Local Government Division, Special Programs Bureau, from which it is dispersed to PSAPs via grants. The Special Programs Bureau does not use a formula when awarding grants, and a specific level of funding is not guaranteed to each PSAP. Some PSAPs might get more funding than they actually collect and others who collect more might not get back that amount. Grants are based upon past history and need.

New York: All wireline surcharges stay local, with no state involvement with the funds. The wireless surcharge is remitted to and collected by the Tax Department, with \$.50 going to the general fund and \$.70 going to the Emergency Services Revolving Loan Fund. Additionally, the Local Enhanced Wireless 911 Program provides assistance to counties with PSAPs, for which counties must submit claims for reimbursement.

North Carolina: All surcharge funds go to the North Carolina 911 Board located within the Division of Information Technology Services, Office of Information Technology Services, and is then distributed to PSAPs for 911 use only. Funds are distributed monthly to all primary PSAPs based on their reported fiscal year 2007 revenues. Funds received in excess of the "base" amount may be distributed to primary PSAPs on a per capita basis.

Ohio: For wireline, providers have Public Utilities Commission of Ohio (PUCO) approved tariffs called a Bill & Keep System. The surcharge varies by provider in the tariff process (providers were required to disclose their costs to PUCO).

As a result of this recovery, there are no charges to counties for trunk lines, ANI/ALI, network, etc. The wireline companies do, however, charge PSAPs for connecting the wireless calls and transferring them into PSAPs. This is paid for with wireless funds. Wireline and wireless are kept separate in Ohio. For wireless, PUCO collects the surcharge and remits it to counties monthly based on address. Counties also have several local tax options that they may impose, if they receive local approval. These include a property tax, a sales tax, and an improved realty tax.

South Dakota: Wireline, wireless, and VoIP surcharges all go directly to local governments. Beginning in 2008, prepaid surcharges go to the 911 Coordination Board. These funds are not currently dispersed to local governments for PSAPs as the funds are being used to pay for expenses of the 911 Coordination Board. At some point in the future officials hope to redirect a portion of this funding to PSAPs. No timeline, however, for this has been established. A state official stated that it has been a challenge to identify prepaid providers.

Tennessee: The Tennessee Emergency Communications Board (TECB) collects 911 fees on non-wireline communications services capable of connecting a person dialing or entering the digits 911 to a PSAP. Approximately 84 percent of the TECB's expenditures in FY 2010 were distributed to counties. Another 13 percent was paid to telecommunications carriers to reimburse expenditures to implement, operate, maintain, or enhance wireless 911 services in the state. The amount each county receives is based on the proportion of the total state population in that county. Funds are distributed every two months.

Virginia: Wireline funds are remitted by providers to the Department of Taxation and distributed to localities on a monthly basis. Wireless and prepaid surcharges are remitted by providers to the Wireless E-911 Services Board for deposit into the fund. The surcharge is imposed on each customer whose place of primary use is in Virginia. Distribution is as follows: 60 percent distributed monthly to PSAPs according to the percentage of recurring wireless funding as determined by the board, 30 percent to providers, and 10 percent distributed to PSAPs based on grant requests. Part of the wireless funds are provided to the Virginia State Police to accept wireless E-911 calls for those PSAPs not yet taking those calls directly and also to fund the salaries of the employees of the Division of Public Safety Communications.

Washington: It is the responsibility of counties and local government to administer and operate a 911 program. Counties may impose a surcharge of \$.70 as of January 2011, and the state may impose a surcharge of \$.25 as of January 2011 on wireline, wireless, and VoIP. In 2010, the surcharge was \$.50 and \$.20, respectively. Both state and county enhanced 911 excise taxes are to be paid to the Department of Revenue, which has established procedures for determining the amount for

which each PSAP in the state qualifies. Counties must first impose the maximum county E-911 tax allowed to qualify for funding.

Total Surcharge Revenues Collected in Other States

Table 3, below, shows total revenues for every state as reported to the FCC by each state. Like Pennsylvania, many states reported a decrease in overall collected surcharge amounts from 2009 to 2010. In Pennsylvania, this has been attributed to the fact that the wireless surcharge rate is less than our wireline rate, and as wireline phones are being replaced by wireless and VoIP devices, overall surcharge collections are decreasing. However, states reported overall amounts as being lower, even in those states that have rates that are the same from one type of device to another. For those that did report an increase over 2009, the amounts were very modest. This suggests that surcharge revenue has likely leveled off in most states and that significant fluctuations, given no surcharge changes, should remain fairly constant going forward.

In most of the states that we reviewed, county funds are used to supplement PSAPs. Several other states allow additional taxes specifically for 911 funding. As noted above, in South Dakota, counties and municipalities may apply an additional tax on homeowners and businesses. Ohio allows counties to impose additional property taxes, a sales tax, or improved realty taxes with local approval. In Indiana, Maine, and New Mexico, 911 funding is supplemented with local property taxes. In the state of Washington, shortages in 911 surcharges are made up by users fees or local property taxes for fire and police. In Florida and Maryland, like Pennsylvania, counties pay any differences in 911 funding through their county general funds. In Michigan, counties may impose a limited time property tax to help supplement their 911 program, which necessitates voter approval.

Table 3

Reported 911 Surcharge Revenues, 2010* From Low to High

Louisiana	\$ 3,017,672	Ohio	\$ 29,175,929
Vermont	4,605,803	lowa	31,304,377
Dist. of Columbia	6,350,000 ^a	West Virginia	35,375,580
Kansas	6,700,000 ^a	Oregon	39,592,560
Maine	7,786,855	Indiana	39,600,000 ^b
Delaware	8,044,859	Colorado	45,000,000 ^a
South Dakota	8,100,000 ^a	Florida	45,888,321 ^b
North Dakota	8,369,366 ^a	Virginia	53,217,635
Alaska	8,649,083	Maryland	54,560,255
Georgia	8,950,569 ^c	Kentucky	54,900,000 ^a
Hawaii	9,544,397	Mississippi	56,335,986
New Hampshire	9,832,831	Minnesota	58,821,937
New Mexico	13,081,062	Illinois	69,700,000 ^d
Montana	13,715,064	Washington	71,244,435
Rhode Island	15,488,729	Massachusetts	75,125,185
Arizona	16,348,353	North Carolina	80,001,662
Nebraska	16,434,767	Michigan	87,673,893
Idaho	18,013,902	California	100,000,000 ^a
Connecticut	20,723,228	Tennessee	102,400,000 ^a
Puerto Rico	20,952,458 ^a	New Jersey	137,000,000 ^a
South Carolina	21,988,052 ^d	New York	193,194,759 ^c
Utah	23,909,566	Pennsylvania	194,554,311
Alabama	28,680,846 ^c	Texas	199,025,787

*Arkansas, Missouri, Nevada, New Jersey, Oklahoma, Wisconsin, and Wyoming did not provide information to the ^a Estimated. ^b Wireline only. ^c Did not provide local collections. ^d Wireless only.

Source: FCC 2011 Report to Congress in accordance with NET 911 Act of 2008.

II.B. At Least Some Entities Are Not Submitting Required Surcharge Fees, but It Is Difficult to Determine the Extent of Noncompliance

Under Chapter 53 (Emergency Telephone Service) of Title 35, all wireline providers must remit from \$1 to \$1.50 per month, depending on class of county, directly to the counties for each local exchange line. Further, all wireless providers must remit \$1 per month for each device that provides wireless service for which that customer is billed by a wireless provider. VoIP providers must remit a \$1 surcharge for each telephone number or successor dialing protocol assigned by a VoIP provider to a customer with outbound calling ability. Additionally, retailers selling prepaid phones and additional minutes must collect a \$1 surcharge for each retail transaction.

Efforts to Determine Comprehensive Lists of Providers

We attempted to develop a comprehensive list of all wireline, wireless, and VoIP providers and resellers with customers in Pennsylvania, but were ultimately unsuccessful. We began by asking telecommunications providers how they would go about identifying all telephone service companies that should be collecting and remitting the required 911 surcharges to both the Commonwealth and the counties. The providers suggested we contact various agencies such as the Federal Communications Commission, the Pennsylvania Public Utility Commission, the National Emergency Number Association (NENA), and the Department of State. We contacted all of these agencies, and most were able to provide us with lists of telecommunications companies potentially doing business in Pennsylvania. However, in each case there were limitations on the information.

For example, we contacted the Pennsylvania Department of State's Corporation Bureau to see if they could help us determine the number and identity of telephone/telecommunications companies (wireless, wireline, VoIP, and resellers of these services) registered to do business in Pennsylvania and which would be required under the law to collect and remit a 911 surcharge. Every business, including telecommunications companies doing business in Pennsylvania, is required to register with the Department of State, and submit the form "Docketing Statement DSCB:15-134A." This form includes a question, in which a company must give a description of its business activity in Pennsylvania. A copy of this form is included in this report as Appendix B.

The Department of State was able to give us the lists of companies, by county of location, which fit our criteria.¹ This list totaled 4,650 entries. Although we acknowledge that companies that are involved in several lines of business, such as Verizon, appear several times on the list, the number of entries on the Department

¹ We suggested they use the following key words: telephony, telephone, wireless, cellular, VoIP, voice-overinternet protocol, land line, wire line, satellite, and communications resellers.

of State's list far exceeds the lists of providers who have actually remitted surcharge funds in FY 2009-10.²

Wireline: Because wireline telephone service is regulated by the PA Public Utility Commission, we were able to obtain a listing from the PUC of all Incumbent Local Exchange Carriers (ILECs) and Competitive Local Exchange Carriers (CLECs) doing business in Pennsylvania. However, we were unable to compare these providers to those that are remitting to counties because we do not have listings from each county as to which providers are remitting to them. This information is not collected or compiled by PEMA because it is seen as a county responsibility. Additionally, we would need to know which ILECs and CLECs operate in which counties, which is information neither PEMA nor the PUC requires to be reported. We were also unable to directly match the PUC's list of ILECs or CLECs to the Federal Communications Commission's (FCC) list,³ which may be due, in part, to their having different requirements for registering/reporting. The PUC lists 37 ILECs doing business in Pennsylvania and the FCC reports there are 27. The PUC lists 137 CLECs, whereas the FCC lists 151 CLECs. Not only are the aggregate numbers different, but several of the companies appear on only one of the lists. This issue has been compounded due to the relatively new business practice of VoIP companies registering as CLECs.

We found that some PSAPs do have processes in place to help verify that they are capturing surcharges from all companies. One PSAP employs outside consultants to generate a list of all local exchanges utilized by the applicable wireline companies. This list is compared periodically to a call list generated by 911 calltracking software for possible new providers not remitting. Those providers are then contacted and made aware of the state requirements, and follow-up is conducted to ensure compliance. Another county contracts with a consultant to help it identify and collect surcharges from the phone companies operating in the county.

Wireless: We asked PEMA how it identified wireless companies upon implementation of Act 2003-56, which established the \$1.00 surcharge on wireless phones. PEMA reported that in October 2004 a letter was sent to the sixteen wireless carriers that were found to be operating in Pennsylvania advising them of the passage of Act 2003-56 and of their responsibility for collecting and remitting the \$1.00 surcharge. According to the agency, since the mailing of the original letter, any wireless carriers that are discovered, either by PEMA or a PSAP, to be providing service in Pennsylvania are mailed compliance letters. There is, however, no systematic approach (e.g., an annual review of Department of State records) to identify new providers that should be remitting.

 $^{^2}$ Since wireline surcharges are remitted directly to counties, we are not aware of the total number of different wireline providers that have remitted and instead have based this comment on the number of ILECs and CLECs registered in Pennsylvania with the PUC.

³ The PUC lists as of June 2010; the FCC data is as of December 2010.

In an attempt to determine if any wireless carriers are doing business in Pennsylvania and not remitting surcharges, we first compared the PUC's list⁴ of facilities-based wireless companies⁵ against PEMA's list of wireless providers that are remitting to the agency.⁶ This comparison was not particularly useful, however, because the PUC lists only those facilities-based wireless companies eligible to receive telephone numbers,⁷ and not the myriad of resellers⁸ that are also required to remit the 911 surcharge to PEMA. The Federal Communications Commission, in its *Local Telephone Competition: Status as of December 31, 2010,* collects, biannually, information on wireless companies. Again, however, this list includes only facilitiesbased companies. Moreover, the FCC listing did not match the PUC's list. According to the PUC, there are 21 facilities-based wireless providers in Pennsylvania, while the FCC lists only 15. We found only 11 companies that appear on both lists. The only available information on resellers is the listing of those that are remitting to PEMA.

PEMA lists 93 wireless providers who are remitting or who have remitted surcharges in the past. Of this list, 30 providers are facilities-based wireless providers, with some companies, e.g., Verizon and AT&T, being listed several times with different "doing business as" company names. The remainder is resellers. Of the 93 total wireless providers, only 50 are reported as having remitted funds in FY 2009-10.

VoIP: We asked PEMA what procedures they used to identify VoIP companies upon implementation of Act 2008-72, which established the dollar surcharge on VoIP phone services. PEMA reported it pursued several avenues in an attempt to determine the identities of all of the VoIP service providers that were providing service in Pennsylvania and develop a comprehensive list. PEMA searched the databases of the FCC Form 499-A and extracted the names and contact information of the VoIP providers listed as registered as doing business in Pennsylvania. PEMA also reported it searched NENA's website for listings of known VoIP providers and contacted known entities that provide 911 database solutions to the emergency telecommunications industry for lists of their customers that provide VoIP service.⁹

⁴ PUC listing as of June 2011.

⁵ A facilities-based carrier is a telecommunications carrier which owns most of its own facilities, such as switching equipment and transmission lines.

⁶ PEMA list as of December 2011.

⁷ According to a PUC official, telephone numbers are distributed and assigned to providers by the North American Numbering Plan Administration (NANPA) and are only available to ILECs and CLECs. Any reseller or VoIP companies must partner with one of those entities in order to obtain numbers, as the FCC does not allow them to obtain numbers on their own. This is the same case for facilities-based wireless carriers as well; they may obtain numbers from NANPA and resellers must work with them to get their own numbers.

⁸ A reseller is a company that purchases a block of numbers from another carrier for resale to its customers. According to the FCC, in Pennsylvania, as of June 30, 2010, 11 percent of mobile phone subscribers purchase their service from a wireless reseller.

⁹ According to PEMA, these entities included: Intrado, TCS, HBF, and VIXXI.

PEMA noted that after it compiled its list of VoIP service providers, it was sent to all PSAPs with a request that the 911 Coordinators for each PSAP review the list and provide comments on any additional providers that might be operating in their respective geographic areas. After the agency received feedback from the PSAPs, approximately 300 letters were sent to all listed VoIP providers advising them of the passage of Act 2008-72 and their responsibilities for collection and remittance of the fees. PEMA states that, since the initial mailing, any VoIP providers that are identified by PEMA or a PSAP to be providing service in Pennsylvania that were not on the original list are mailed compliance letters.

In our attempt to identify VoIP providers, we found many VoIP providers that appear to be providing service in Pennsylvania but that are not on PEMA's list as having remitted funds. Cumulatively, there have been 51 VoIP providers that have remitted surcharges to PEMA as of May 2011, which is significantly lower than the 300 providers that were originally sent notification letters. And not all providers have remitted every year. In FY 2010-11, the number of VoIP providers who remitted surcharges to PEMA was 43. We compared this list to the list provided by the FCC, which shows Pennsylvania having 94 VoIP providers in 2010, as well as a list provided by NENA, which includes 52 VoIP companies. Again, none of these lists match, each list being comprised of many different companies than the others. We did a simple Internet search for VoIP companies from whom Pennsylvanians could buy VoIP service and found there are more companies indicating they are doing business in Pennsylvania than are currently remitting to PEMA. Some of these VoIP providers may be remitting directly to the counties, but we did not have access to that information.

Point-of-sale Prepaid: The Department of Revenue (DOR) is responsible for collecting the point-of-sale prepaid surcharges, which as of July 2011, are required to be remitted by retailers and providers. According to the DOR, the Department notified retailers who should be remitting the surcharge by sending notice to all pertinent retailers who collect and remit sales tax. The Department intends to enforce the provisions by using the same resources it employs to enforce sales tax collection, including audits, field visits and assessments.

The Department anticipates performing audits of the 911 surcharges after the first full year of implementation of the surcharge. Collections and Taxpayer Services within the Department will enforce the surcharges and any resulting penalty and interest when collecting on outstanding liabilities. They believe that site visits will also help ensure compliance. Although this surcharge has only been in existence for approximately eight months, we found the level of new surcharges being remitted has been below expectations (see Chapter II.C). Although only anecdotal, we also note that when one of our staff members purchased a cell phone from a large pre-paid provider at a large box store in the Harrisburg area well after this new law went into effect, the receipt did not show that any surcharge was charged or collected.

New Services and Technology

We attempted to determine if there are other services that should be remitting a 911 surcharge. If a service, e.g., VoIP, is one that is defined in statute as having an associated 911 surcharge, the surcharge should be remitted appropriately. We reviewed a variety of services to determine if they are remitting surcharges to PEMA or the counties.

New VolP Services: Two newer types of telephone services exist that would appear to be required to collect 911 surcharges, but are not. The first, Magic Jack, is a device that plugs into a computer's USB port and uses a standard phone jack to provide VoIP service to the U.S. and Canada.

Based on PEMA's list of VoIP providers who are remitting surcharges, Magic Jack, owned by YMAX Communications Corporation, a CLEC, does not remit any surcharges to PEMA, as required of VoIP companies by statute. We found no evidence that they are remitting directly to counties either. Magic Jack initially bills customers at \$39.95 for the first year, and every year after that at \$19.95 per year. Although we have no method of determining exactly how much in surcharges the Commonwealth could be collecting from this company, it would appear the company should be remitting at least some surcharges. We attempted several times to contact this company but were unable to do so. An official at the PUC informed us that the Bureau of Enforcement within the FCC is investigating Magic Jack on behalf of the many states that have undertaken their own actions against Magic Jack. Thus far, the FCC has not shared any information regarding this investigation.

A second new service, Ooma, is also a VoIP service. A customer can purchase an Ooma box for about \$250 but must have a high speed internet connection to use the service. After the initial purchase, all calls are free. According to the company website, the customer is also required to pay all fees and taxes, which are listed at approximately \$3.50 a month. However, based on PEMA's list of VoIP providers who are remitting surcharges, Ooma does not remit any surcharges.

Other Services: We reviewed mobile satellite service phones (MSS) which do not connect directly to a PSAP, but whose callers can reach a 911 call center through an intermediary. In 2003, the Federal Communications Commission established 911 emergency calling requirements for MSS carriers. MSS carriers providing voice service that is interconnected to the public switched network must establish call centers to which all subscriber emergency calls are routed. The MSS provided call center can then contact the appropriate PSAP. Presumably, call centers are being billed by telephone companies for the 911 surcharge for the state in
which the call center is located, which may be in a different state than the PSAP receiving the call.

We did, however, find one satellite company on PEMA's list of wireless providers who is remitting surcharges. According to a company official, although MSS companies are not required to remit surcharges, the company does remit surcharges for its customer base in Pennsylvania, preferring to err on the side of remitting. It is unknown to us whether they are passing on these surcharges to their customers directly or if the company is absorbing these costs.

Another service that works in a similar manner is OnStar, a service available on General Motors vehicles that allows drivers to contact OnStar representatives for emergency services, vehicle diagnostics, and directions. An emergency call goes through one of three call centers, which then contacts the appropriate PSAP to initiate the emergency response. Like satellite service, these call centers are presumably being billed by telephone companies for the 911 surcharge in whichever state the call center is located. OnStar also offers mobile phone services in certain vehicles. According to PEMA, it does remit 911 surcharges for these devices, as OnStar essentially works as a cellular reseller in these situations. This was confirmed by an OnStar official.

Additional Devices: Additional types of devices are capable of reaching a 911 call center, including medical alert devices, some pacemakers, and certain security systems. These devices would not appear to be required to submit 911 surcharges as the devices do not provide two-way voice service, and we could find no surcharge amounts being remitted for these types of devices. Recently, however, Maine announced that they will be adding their 911 surcharge to data plans for tablet devices and medical equipment that sends notifications to 911 centers.¹⁰ The added revenue would go toward next-generation emergency equipment upgrades.

Programs for Limited Income Customers: Programs for limited income customers exist for both wireline and wireless customers; both are paid for by the Universal Services Fund and administered by the Universal Services Administrative Company. Lifeline 135 is available for wireline customers of all qualified phone companies, and Lifeline is available to Verizon PA and Verizon North Telephone wireline customers who have incomes at or below 135 percent or 100 percent of the federal poverty level, respectively. These programs help to reduce the cost of monthly service for one telephone line and allow customers to qualify for discounts on telephone connection charges. According to a PUC official, customers of these programs are paying the 911 surcharge through their service providers.

Two relatively new services, Assurance, owned by Virgin Mobile, and Safelink Wireless, owned by TracFone, also provide wireless services for limited income

¹⁰ Bangor Daily News, January 12, 2010.

customers. According to a provider, the telephone service providers pay for the phone devices and are reimbursed for the basic phone service out of the federal Universal Services Fund and administered by the Universal Services Administrative Company. According to an official from the company, Fund moneys may not be used to pay taxes or surcharges. If a customer chooses basic service, there is no billing and no 911 surcharge is collected. This official also stated that if a customer should purchase a texting plan or additional minutes, the surcharge should be collected by the point-of-sale retailer, or in the case of a direct sale by provider, by the provider. A provider to whom we spoke confirmed that a surcharge should be collected at all point-of-sale transactions.

II.C. It Is Difficult for PEMA and the Counties to Verify the Accuracy of the 911 Surcharges Being Remitted by Telephony Providers

Act 118 directs the LB&FC to examine the methods used to collect 911 surcharges, including the newly enacted charges for prepaid point-of-sale transactions. As noted previously, telephony providers and retailers are to collect and remit surcharges as follows:

Wireline: Counties may collect surcharges ranging from \$1.00 to \$1.50 per month on local exchange access lines (discounts apply to subscribers with more than 25 access lines). Funds are to be submitted by providers to counties on a quarterly basis.¹

Wireless: Each customer shall pay a \$1 surcharge per month for each device that provides wireless service for which that customer is billed by a wireless provider for wireless service. Remittances are to be submitted by providers on a quarterly basis.²

VoIP: VoIP providers collect a \$1 per month surcharge for each telephone number or successor dialing protocol assigned by a VoIP provider to a customer with outbound calling ability. Surcharges are to be remitted monthly or quarterly at the option of the provider.³

Point-of-sale Prepaid: Beginning in July 2011, retailers are to collect \$1 per transaction from customers purchasing prepaid mobile phones and additional minutes. The retailers are to submit the funds to the Department of Revenue with their sales tax remittances, either monthly, quarterly, or semi-annually.⁴

Determining Accurate Access Line Counts and Number of Customers

PEMA and the counties reported that telephony providers (both wireline and wireless) consider specific county-by-county line count and customer count information to be proprietary and therefore do not release this information. We therefore could not determine whether providers are remitting all the required surcharges. More importantly, these proprietary concerns mean that the counties and PEMA are also unable to verify the accuracy of the surcharges being submitted. Capturing all required surcharges is especially important given that wireline revenues are decreasing and that cell phone saturation is high, suggesting there will be little additional revenue growth in these areas.

 $^{^1}$ 35 Pa.C.S.A. 5305(g),(g.1), 5307(a)(1).

² 35 Pa.C.S.A. §5311.4(b) and §5311.4(c)

³ 35 Pa.C.S.A. §5311.14(a).

⁴ 35 Pa.C.S.A. §5311.4(b),(b.1).

Wireline: For PSAPs to verify that providers are remitting the correct amount of surcharges, they need accurate line and customer counts from the providers. Several counties that have attempted to obtain such information, however, told us that providers consider this information to be proprietary and often will not provide it.⁵ According to our survey, most counties therefore rely on the honor system and accept that service providers are remitting properly to them.

The term "access line" also creates difficulties in attempting to determine whether providers are properly submitting surcharge fees.⁶ According to the PUC, the term "access line" is not defined in statute or in the Commission's regulations, and as far as the PUC is aware, no determination has been made either by the PUC⁷ or PEMA as to what types of access lines are to be counted for 911 purposes. The PUC noted this can be especially problematic when considering services such as ISDN (integrated services digital network) and T1 (truck level 1) that have 23 or 24 voice-capable channels.

The PUC also told us that the correlation between access lines, on which surcharges are based, and telephone numbers, is not one-to-one. Some services, such as direct inward dialing,⁸ offer many telephone numbers and may not be associated with a corresponding number of access lines. Moreover, not all access lines are billed at 100 percent of the surcharge; subscribers with more than 25 lines receive discounts as provided for in Chapter 53.

Another difficulty for PSAPs in determining the accuracy of access line surcharge revenue is that just because an ILEC or CLEC has assigned numbers, it does not mean that all of those numbers are in use. According to a PUC official, telephone numbers are distributed to providers and administered by the North American Numbering Plan Administration (NANPA) and are only available to ILECs and CLECs. Any reseller⁹ or VoIP company must partner with one of those entities in order to obtain numbers, as the FCC does not allow them to obtain numbers on their own. This is the same case for facilities-based wireless carriers;¹⁰ they may obtain numbers from NANPA, and resellers must work with them to get their own numbers.

⁵ §5309 of the statute states that a telephone service supplier shall provide customer telephone numbers, names, and service addresses to PSAPs when requested for use in responding to 911 calls.

⁶ According to Newton's Telecom Dictionary, access line is defined as a telephone line reaching from the telephone company's central office to a point on another premise.

 $^{^{7}}$ In a memo to the LB&FC from a PUC official, the PUC stated that it is not clear whether the agency has the authority to determine what types of lines are to be counted for 911 purposes.

⁸ Direct Inward Dialing (DID) is a service of a local phone company (or LEC) that provides a block of telephone numbers for calling into a company's private branch exchange (PBX) system. Using DID, a company can offer its customers individual phone numbers for each person or workstation within the company without requiring a physical line into the PBX for each possible connection.

 $^{^9\,\}mathrm{A}$ reseller is a company which purchases a block of numbers from a facilities based carrier for resale to its customers.

¹⁰ A facilities based carrier is a telecommunications carrier that owns most of its own facilities, such as switching equipment and transmission lines.

We asked several counties to explain the methodology that they use to ensure that the amounts received from the wireline providers in their counties (and VoIP, if applicable) are accurately accounted for and remitted to them. It is apparent from these conversations that the counties generally do not have a systematic process for verifying that providers are remitting the correct amount of collected surcharges. According to APCO/NENA, counties typically rely on the honor system with regard to the wireline counts provided by ILECs and CLECs.

One county informed us it does attempt to track remittances by wireline providers. This listing is reviewed frequently for any providers that have missed payments, stopped payments, or had an unusual drop in the number of lines being reported. Yearly, the county reviews this spreadsheet against the actual revenue received.

Other counties simply try to keep aware of any significant reductions in remittances or compare 911 phone calls received against the numbers contained in their ALI databases, but this cannot produce solid proof of errors. Another county noted that a PSAP can ask the phone companies for subscriber numbers, but even if it obtains the information, the numbers will soon be obsolete. People move and their phones change with them, as well as their selection of phone services, i.e. wireline, VoIP, or wireless.

A major wireline provider we spoke to confirmed that because no single carrier has responsibility for all phone numbers assigned in Pennsylvania, it would be difficult to determine the amount of revenues that should be coming into the 911 system.

Wireless: On their forms for remittance to Comptroller Operations (See Appendix C), wireless providers are to report the number of devices for which they are remitting surcharges and certify that the reported numbers are accurate, complete, and that the amount due is correct. The form is to include the signature of an authorized representative of the provider. While this provides a certain level of assurance, PEMA is limited in its ability to verify the reported numbers because the number of customers is considered proprietary. As a result, PEMA believes it has little choice but to trust that the remittances are correct.

One wireless provider told us that obtaining wireless revenues by state is difficult since the wireless industry was originally developed around local markets which could overlap state boundaries. As a result, most providers do not maintain accounting records based on state boundaries. Another provider said that there are a number of variables that make it difficult to generate a precise number for revenues that should be being remitted. These variables include changes in the number of prepaid versus postpaid customers within a provider's portfolio and that the actual number of point-of-sale customer renewals varies from month to month. **VoIP:** Similar certifications are on the forms that VoIP companies complete for their submissions to both the state and counties. It is a three-page form that VoIP companies must use if they are remitting directly to the state. Like the wire-less remittance form, it also must be signed by an authorized representative of the provider. Again, PEMA reports it has little choice but to trust that companies are remitting the proper amounts.

Point-of-sale Prepaid: According to the Department of Revenue (DOR), retailers are remitting point of sale surcharges with few problems. Although the DOR has not yet reviewed compliance because the program is so new (surcharges on point-of-sale transactions began in July 2011), it intends to use the same resources it employs to enforce sales tax collection, including audits, field visits, and assessments. The Department anticipates performing audits of the 911 surcharges after the first full year of implementation. The Bureau of Collections and Taxpayer Services within the Department will enforce the surcharges and any resulting penalty and interest when collecting on outstanding liabilities. They also plan on performing site visits to help to ensure compliance. Revenues generated by point-of-sale transactions are, however, running significantly below expectations (see page 32).

Determining Accurate Surcharge Amounts

Because we were not able to determine how much surcharge revenue should be remitted by providers, we attempted to develop estimates based on publicly available information; in particular, the FCC reports, *Local Telephone Competition: Status as of June 30, 2010* and *Status as of December 31, 2010*. These reports contain information, self-reported by telephone providers, on the number of subscribers for wireline, wireless, and VoIP companies. We used these numbers to try to develop a rough estimate of how much providers should be remitting. Because counties' fiscal years run on a calendar year basis, for wireline and VoIP, we used the FCC's June 2010 data because wireless data is reported on a fiscal year basis.

As reported to the FCC, as of December 31, 2010, Pennsylvania had 5,515,000 wireline access lines with service from ILECs and CLECs. Since county contribution rates vary, we averaged all counties' rates (\$1.36) for our calculations. Table 4 shows, that with 5,515,000 access lines, we would expect wireline surcharge revenues to be approximately \$90 million. Actual wireline revenues were \$71,862,316, which would suggest a possible shortage of over \$18 million. (We recognize there are caveats in using access line counts for these calculations, as discussed above.)

Table 4

L	LB&FC Estimate of Wireline Revenues Based on FCC Access Line Counts (As Reported by the FCC as of December 31, 2010)				
	Number of Access Lines	5,515,000			
	Average Monthly Surcharge	\$1.36			
	Estimated Annual Revenue	\$90,004,800			
	Minus Actual 2010 Revenue	<u>71,682,317</u>			
	Potential Shortage	\$18,322,483			
Source	Developed by LB&FC staff with data from PEMA and the FCC.				

We also attempted to assess the accuracy of wireline revenues based on the number of access lines as reported by each PSAP when they file their annual reports with PEMA. Table 5 below, shows the results of this county-by-county assessment of this issue. As the table shows, this analysis yields an even greater discrepancy, with estimated annual revenues of \$101.1 million and actual collections of \$71.7 million. The table also shows that the difference between our estimated revenue and actual collections vary widely from county to county. To some extent, however, this is to be expected, particularly in counties that have many multi-line subscribers (subscribers with more than 25 lines receive discounts as provided for in Chapter 53).

County		Suraharga	Estimated Day ^a	Actual Wireline Day
County	2010 Access Lines	Surcharge	Estimated Rev.	Actual Wireline Rev.
Adams	51,083	\$1.50	\$ 919,494	\$ 527,289 C 005 407
Allegheny	678,172	1.00	8,138,064	0,220,437
Armstrong	30,398	1.50	547,164	468,113
Beaver	81,528	1.25	1,222,920	704,326
Bedford	21,596	1.50	388,728	362,564
Berks	220,985	1.25	3,314,775	2,250,015
Blair	67,669	1.25	1,015,035	1,010,216
Bradford	43,558	1.50	784,044	509,143
Bucks	396,577	1.00	4,758,924	2,984,005
Butler	50,000	1.25	750,000	704,462
Cambria	72,867	1.25	1,093,005	774,640
Cameron	2,776	1.50	49,968	59,644
Carbon	32,439	1.50	583,902	437,212
Centre	62,727	1.25	940,905	718,255
Chester	401,643	1.25	6,024,645	2,694,463
City of Allentown.	64,008	1.25	960,120	841,213
City of Bethlehem	55,426	1.25	831,390	616,979
Clarion	22,114	1.50	398,052	350,263
Clearfield	37,545	1.50	675,810	633,180
Clinton	19,192	1.50	345,456	266,890
Columbia	36,634	1.50	659,412	499,367
Crawford	23,473	1.50	422,514	581,954
Cumberland	75,575	1.25	1,133,625	1,273,140
Dauphin	203,828	1.25	3,057,420	1,945,128
Delaware	370,000	1.00	4,440,000	2,424,922
Elk	16,455	1.50	296,190	294,300
Erie	124,748	1.25	1,871,220	1,539,867
Fayette	54,393	1.25	815,895	825,280
Forest	3,908	1.50	70,344	71,283
Franklin	59,278	1.24	882,057	569,358
Fulton	6,404	1.50	115,272	106,208
Greene	18,995	1.50	341,910	308,011
Huntingdon	23,324	1.50	419,832	395,274
Indiana	44,747	1.50	805,446	622,054
Jefferson	24,532	1.50	441,576	357,446
Juniata	10.415	1.50	187.470	159,352
Lackawanna	142.477	1.25	2,137.155	2,076,933
Lancaster	260,363	1.25	3,905,445	2,849,221

Table 5

Table 5 (Continued)

<u>County</u>	2010 Access Lines	<u>Surcharge</u>	Estimated Rev. ^a	Actual Wireline Rev.
Lawrence	47,896	\$1.25	\$ 718,440	\$ 510,049
Lebanon	54,657	1.25	819,855	859,221
Lehigh	98,552	1.25	1,478,280	1,404,023
Luzerne	176,629	1.25	2,649,435	2,229,863
Lycoming	64,762	1.25	971,430	674,822
McKean	20,132	1.50	362,376	355,598
Mercer	39,963	1.25	599,445	569,321
Mifflin	21,000	1.50	378,000	346,072
Monroe	82,171	1.25	1,232,565	948,652
Montgomery	664,025	1.00	7,968,300	4,982,878
Montour	8,900	1.50	160,200	119,483
Northampton	135,650	1.25	2,034,750	1,440,419
Northumberland	34,083	1.25	511,245	430,948
Perry	17,030	1.50	306,540	275,366
Philadelphia	1,037,950	1.00	12,455,400	6,686,652
Pike	20,988	1.50	377,784	501,260
Potter	11,153	1.50	200,754	156,113
Schuylkill	72,753	1.25	1,091,295	889,973
Snyder	16,215	1.50	291,870	271,163
Somerset	41,500	1.50	747,000	596,649
Sullivan	6,106	1.25	91,590	83,404
Susquehanna	21,798	1.50	392,364	395,152
Tioga	27,530	1.50	495,540	380,813
Union	22,270	1.50	400,860	416,678
Venango	27,385	1.50	492,930	421,637
Warren	22,108	1.50	397,944	369,200
Washington	123,346	1.25	1,850,190	959,968
Wayne	30,777	1.50	553,986	596,792
Westmoreland	194,542	1.25	2,918,130	1,921,075
Wyoming	16,208	1.50	291,744	268,842
York	138,791	1.25	2,081,865	2,138,106
Totals	7,208,722		\$101,067,291	\$71,682,317

^a Our estimates assume all lines are active for the full year and do not account for discounts to subscribers who have multiple lines.

Source: Wireline access line counts as submitted by counties to PEMA for CY 2010.

For wireless, the FCC reported Pennsylvania had 11,141,000 wireless subscribers as of June 30, 2010. Subscribers are defined as the total number of subscribers that are served over a company's own facilities. Subscribers included are those that the company (including affiliates) bills directly (including through agents), prepaid subscribers, and subscribers served via unaffiliated mobile resellers.¹¹

Using the figure of 11,141,000 wireless subscribers in Pennsylvania, as shown in Table 6, we estimated wireless surcharge revenues to be approximately \$133,692,000 for the 12-month period. PEMA reports wireless receipts of \$108,538,009 for that same timeframe, or about 81 percent of our estimated revenues. Although our estimate may be high given that not all wireless subscribers will be subscribers for the full year, this indicates a potential of as much as \$25 million that may not be being captured in wireless revenues.

Table 6

LB&FC Estimate of Wireless Revenues Based on FCC Subscriber Counts (As Reported by the FCC as of June 30, 2010)

Number of Subscribers	11,141,000
Estimated Annual Revenue	\$133,692,000
Minus Actual 2009-10 Revenue	108,538,009
Potential Shortage	\$ 25,153,991

Source: Developed by LB&FC staff with data from PEMA and the FCC.

According to the FCC, there were 1,344,000 VoIP subscribers in Pennsylvania as of December 31, 2010. A VoIP subscriber is either an end user who purchased services from a VoIP company without also purchasing a broadband connection (including affiliates) or one that purchased VoIP services in conjunction with a broadband connection.¹²

Using the figure of 1,344,000 VoIP subscribers in Pennsylvania, as shown in Table 7, we estimated VoIP surcharge revenues to be approximately \$16.1 million. PEMA reports VoIP receipts of \$14,333,944, remitted to both PEMA and the counties, or about 89 percent of our estimated revenue. These figures indicate a potential shortage in VoIP revenues of about \$1.8 million.

 $^{^{\}rm 11}$ Instructions for FCC Form 477.

¹² Ibid.

Table 7

LB&FC Estimate of VoIP Revenues Based on FCC Subscriber Counts					
(As Reported by the FCC as of December 31, 2010)					
Number of VoIP Subscribers	1,344,000				
Estimated Annual Revenue	\$16,128,000				
Minus Actual 2010 Revenue	14,333,944				
Potential Shortage	\$ 1,794,056				
Source: Developed by LB&FC staff with data from PEMA and the	ne FCC.				

While our calculations regarding the amount of wireline, wireless, and VoIP surcharges are only estimates, they are based on provider's self-reported subscriber and access line numbers and suggest that at least some providers may not be submitting the full surcharges owed.

VoIP Funds Are Not Being Remitted as Provided for in Act 118.

In reviewing the procedures used to collect and remit VoIP surcharges, we noted that Act 2010-118 changed the manner in which providers are to remit VoIP surcharges. Prior to Act 118, VoIP providers had a choice in remitting the surcharges; they could remit on either a quarterly or monthly basis, and they could either remit funds directly to the counties or they could remit to the State Treasurer. If remitted to the State Treasury, PEMA would distribute the funds to the appropriate counties on a monthly basis.

Under Act 118, however, VoIP fees, minus any uncollectable amount, are to be remitted directly to county treasurers. In the case of home rule counties,¹³ the provider has the option to remit directly to the county official responsible for collection or to the State Treasurer. If providers remit directly to counties, they may keep 2 percent of the fees for administrative costs. If they remit to the State Treasurer, they may retain only 1 percent.

The change in Act 2010-118 regarding how providers are to remit the surcharges became effective on January 1, 2011. However, in CY 2011 the counties reported directly receiving \$2,834,644 in VoIP surcharges, while PEMA received \$14,712,267. Thus, only 19 percent of VoIP surcharges were remitted directly to the counties, only a minor change from 2010, when 13 percent of VoIP funds were remitted directly to the counties.

The impact of VoIP providers remitting to PEMA rather than directly to the counties may, however, not be a major issue. Although PEMA retains 1 percent of the VoIP funds it receives for administrative cost, VoIP providers could retain an

 $^{^{\}rm 13}$ Home rule counties in Pennsylvania include: Allegheny, Delaware, Erie, Lackawanna, Lehigh, and North-ampton.

additional 1 percent if they submit directly to counties. The net amount received by the county, therefore, may be essentially the same whether remitted to PEMA or directly to the county.

Wireless Prepaid Point-of-sale Surcharge Amounts

Pennsylvania enacted, as part of Act 2010-118, a new 911 surcharge on wireless prepaid point-of-sale transactions.¹⁴ The act requires surcharges of \$1 per retail transaction on both phones and purchases of minutes, effective July 2011. Prior to passage of the act, certain wireless providers and some resellers had already been remitting the \$1 per month wireless surcharge to PEMA. In FY 2010-11, PEMA reported these prepaid wireless revenues to be about \$9.7 million. Table 8 below, shows total prepaid wireless remittances to PEMA from FY 2005-06 through FY 2010-11. It was anticipated that the new surcharges would generate significant additional revenues beyond the amounts already being collected.

Prior to Act 118's passage, there were several estimates regarding how much in additional net new revenue the new surcharge would generate. When we first spoke to the Department of Revenue regarding the new surcharge, officials there estimated an additional \$5 million to \$10 million would be generated. A consulting firm working on behalf of Pennsylvania's wireless providers prior to the law's passage estimated that prepaid revenues in the first 12 months after enactment would generate about \$9 million in new revenues. Two other estimates came from the House and Senate Appropriations Committees' fiscal notes. The House stated that, "PEMA expects that in the first full year of operation, additional new revenues for the Wireless E-911 Emergency Services Fund will exceed \$13 million."¹⁵ The Senate fiscal note estimates an increase of \$13.3 million by FY 2012-13.

FY 2005-06 to FY 2010-11						
	Fiscal Year	Prepaid Revenues				
	2005-06	\$3,855,183				
	2006-07	5,116,645				
	2007-08	7,753,670				
	2008-09	8,025,467				
	2009-10	9,677,521				
	2010-11	9,790,500				

Table 8
Prepaid Wireless Surcharge Revenues as Remitted to PEMA

Source: Developed by LB&FC staff from data provided by PEMA.

¹⁴ 35 Pa.C.S.A. §5311.4(b),(b.1).

¹⁵ House Committee on Appropriations, 2009-10 Session Fiscal Notes on HB 2321, PN 4469.

As shown in Table 9, however, prepaid receipts have been trending much lower than expected. Based upon collections for the first six months of FY 2011-12, we estimate the new surcharge on prepaid retail transactions has generated only an additional \$1.85 million. Annualized, this would be approximately \$3.7 million in new revenues, far below the \$9 million to \$13 million anticipated when the act was passed.

Table 9						
Prepaid Wireless Surcharge Comparison						
2010-11 PEMA 2011-12 DOR Prepaid Receipts Prepaid Receipts						
August September October November December January	\$ 270,309 230,529 1,833,511 388,242 329,622 <u>1,591,317</u>	\$ 584,089 754,904 754,331 744,873 689,097 <u>825,111</u>				
Total Actuals Plus Allowance for Retailers ^a	\$4,643,530	\$4,352,405 <u>2,143,722</u>				
New Revenues for First 6 months:	\$1,852,597	\$6,496,127				

^a Under Act 118, retailers are allowed to retain 35 percent of the amount they collect for the first 6 months (July-December 2011). For the purposes of this table, we used 33 percent so the FY 2010-11 and FY 2011-12 actuals would be comparable (providers were allowed to retain 2 percent in 2010-11).

Source: Developed by LB&FC staff utilizing actual prepaid receipts from PEMA (2010-11) and Department of Revenue (2011-12).

When we asked a major provider of prepaid services why revenues are not meeting expectations, we were told that prior to the new law, at least some wireless prepaid providers were remitting surcharges on a per customer, per month basis, not a transaction basis. PEMA also was told by wireless providers that the lower fee revenues being generated may be due to these prepaid providers now submitting fees on a transaction, versus monthly, basis. If a significant number of these customers make fewer than 12 transactions a year (e.g., renew their minutes on a bimonthly or quarterly basis), fee revenues under Act 118 would be less than anticipated.

Verification of Remittances in Other States

Several of the states we surveyed also do not verify that remittances are correct, and essentially trust that providers are sending the correct amounts. In Michigan, providers submit subscriber counts, but their staff is too short-handed to be able to use the data constructively. A Michigan official pointed out that even if it were to find that providers were not submitting correctly, there is no mechanism to collect outstanding funds. In Indiana, providers submit annual reports, but not the detailed information that would allow the state office to verify the reported numbers.

Maryland did attempt to find out if providers were submitting improperly and sent auditors to both large and small providers. The auditors found that not only were most companies remitting properly, but that some were remitting more than they owed. Maryland told us that they spent more on conducting the audits than any funds they recovered.

II.D. Issues and Options Regarding Future Funding Sources for Pennsylvania's 911 Systems, Including Technology Neutral Funding Sources

Act 2010-118 calls on the LB&FC to consider the efficacy of the 911 surcharges, including any "technology-neutral" funding options (i.e., funding options which do not rely on specific technologies).

Surcharge Rates

Act 1990-78 established maximum wireline contribution rates at \$1.00, \$1.25, or \$1.50, depending on the class of county. These amounts have not been increased since implementation of the act. We used an inflation calculator to determine what the surcharges would be in 2011 if adjusted for inflation. Table 10 shows adjustments for inflation from 1990 to 2011 for the wireline surcharge. It also shows the inflation-adjusted \$1 wireless surcharge from 2004, the year of its implementation, to 2011, and the inflation adjusted VoIP surcharge rate from 2008 to 2011.

	Wireline					
Class of County	1990 Contribution Rate	Inflation-adjusted Contribution Rate - 2011				
First and Second Class A Third Through Fifth Class Sixth Through Eighth Class	\$1.00 \$1.25 \$1.50	\$1.72 \$2.15 \$2.58				
	VoIP					
2008 Surcharge	li <u>Cont</u>	nflation-adjusted <u>ribution Rate - 2011</u>				
\$1.00		\$1.04				
	Wireless					
Inflation-adjusted <u>2004 Surcharge</u> <u>Contribution Rate - 2011</u>						
\$1.00		\$1.19				

Table 10

We used these inflation-adjusted figures to determine how much wireline, wireless, and VoIP revenue would have been remitted to the counties and PEMA in 2011 if the surcharge rates were raised to reflect inflation. Table 11, below, shows that the counties, that received approximately \$64 million in wireline revenues in 2011, would have realized slightly more than \$110 million in wireline revenue in 2011 if the contribution rate had risen commensurate with inflation, or an additional \$46.1 million. Similarly, if the wireless rate had been adjusted for inflation, PEMA would have received almost \$132 million, up from the \$110.9 million actually remitted in 2011. The increase in VoIP funds would not have been as significant since it is the most recent 911 surcharge to be enacted (in 2008). VoIP revenues were \$17,546,911 in 2011; adjusted for inflation, revenues would have been approximately \$18.2 million. Taken together had all of Pennsylvania's surcharges been increased for inflation over time, the total additional surcharge revenue statewide for 2011 would have been approximately \$67.9 million.

Diffe	Difference in 911 Revenues if Adjusted for Inflation				
	Actual 2011 Revenues	Adjusted Revenues	Difference		
Wireline	\$ 63,996,252	\$110,073,553	\$ 46,077,301		
Wireless ^{a, b}	110,902,413	131,973,871	21,071,458		
VolP ^b	17,546,911	18,248,787	701,876		
Total Additional			\$67,850,635		

Table 11

^aWireless revenue used is FY 2010-11, therefore it does not include prepaid revenues collected after 7/1/2011 and remitted to the Department of Revenue.

^bThese figures include what PEMA retained in administrative holdbacks.

So urge: Developed by LB&FC staff with information from PEMA's and the counties' surcharge collection data reports and inflation rates from <u>www.bls.gov/cpi/cpicalc.htm</u>.

VoIP Surcharges

We also sought to determine how much additional revenue counties would be receiving if the \$1 per month VoIP surcharge were to match county wireline contribution rates. We did this analysis because many states impose the same surcharge on VoIP services as they do for wireline services. This approach seems reasonable in that VoIP generally replaces wireline, not wireless, devices.

In 2011, total VoIP revenues to the counties were \$17,399,789. As shown in Table 12, if VoIP surcharge rates were the same as the corresponding wireline contribution rates, VoIP revenues would have totaled approximately \$20.1 million, an increase of \$2.7 million. Going forward, this increase is likely to become more significant as VoIP services are a growing share of the telecommunications market.

Table 12

VoIP 2011 Actual Revenue to Counties	\$17,399,788
VoIP 2011 Revenue to Counties If Charged at Wireline Rate	<u>20,111,321</u>
Additional Revenue to Counties	\$ 2,711,532
Source: Developed by LBFC staff with data from PEMA and counties' annual reports.	

VOIP Revenue If Surcharges Mirrored Wireline Rates

Surcharge Rate Caps Are Well Below the Rates Found Justified by the PUC

When Pennsylvania's wireline surcharge rates were first enacted, a process was established that called for each of the counties to justify their contribution rates to the PUC based on their proposed expenditures. Table 13, below, shows each county's most recent and current justified contribution rate, their approved contribution rates (all are at their statutory maximums), and the date of their most recent PUC county 911 plan approval. As the table shows, every county's justified contribution rate exceeds their approved contribution rate.

Table 13

PUC Justified Contribution Rates

County	Class of County	Statutory Maximum Contribution Rate	PUC Approved Contribution Rate	Justified Contribution Rate Per Most Current Plan	PUC Approval Date of Most Current Plan
Adams	6th	\$1.50	\$1.50	\$15.23	11/19/10
Allegheny	2nd	\$1.00	\$1.00	\$2.25	6/18/09
Armstrong	6th	\$1.50	\$1.50	\$2.31	2/10/11
Beaver	4th	\$1.25	\$1.25	\$3.03	7/14/11
Bedford	6th	\$1.50	\$1.50	\$10.08	8/18/10
Berks	3rd	\$1.25	\$1.25	\$2.39	12/3/09
Blair	5th	\$1.25	\$1.25	\$6.04	9/12/11
Bradford	6th	\$1.50	\$1.50	\$3.07	9/24/09
Bucks	2nd	\$1.00	\$1.00	\$5.07	12/2/10
Butler	4th	\$1.25	\$1.25	\$3.19	11/19/09
Cambria	4th	\$1.25	\$1.25	\$2.58	11/13/08
Cameron	8th	\$1.50	\$1.50	\$3.85	7/23/09
Carbon	6th	\$1.50	\$1.50	\$3.52	4/15/10
Centre	5th	\$1.25	\$1.25	\$3.51	11/19/10
Chester	3rd	\$1.25	\$1.25	\$3.17	1/14/10
City of Allentown	3rd	\$1.25	\$1.25	\$4.01	12/16/10
City of Bethlehem	3rd	\$1.25	\$1.25	\$4.53	3/31/11
Clarion	6th	\$1.50	\$1.50	\$4.33	6/18/09
Clearfield	6th	\$1.50	\$1.50	\$3.74	12/16/10
Clinton	6th	\$1.50	\$1.50	\$4.05	7/23/09
Columbia	6th	\$1.50	\$1.50	\$2.07	6/18/09
Crawford	6th	\$1.50	\$1.50	\$3.13	1/28/10
Cumberland	3rd	\$1.25	\$1.25	\$4.16	5/28/09
Dauphin	3rd	\$1.25	\$1.25	\$2.96	1/28/10
Delaware	2nd	\$1.00	\$1.00	\$3.08	9/22/11
Elk	6th	\$1.50	\$1.50	\$4.22	5/14/09
Erie	3rd	\$1.25	\$1.25	\$3.35	8/18/10
Fayette	4th	\$1.25	\$1.25	\$2.82	9/10/09
Forest	8th	\$1.50	\$1.50	\$2.56	12/15/11
Franklin	5th	\$1.25	\$1.25	\$4.23	3/25/10
Fulton	8th	\$1.50	\$1.50	\$3.19	4/22/10
Greene	6th	\$1.50	\$1.50	\$2.92	5/14/09
Huntingdon	6th	\$1.50	\$1.50	\$2.36	3/17/11
Indiana	6th	\$1.50	\$1.50	\$5.43	9/12/11
Jefferson	6th	\$1.50	\$1.50	\$4.06	3/25/10
Juniata	7th	\$1.50	\$1.50	\$5.51	7/15/10

Table 13 (Continued)

County	Class of County	Statutory Maximum Contribution Rate	PUC Approved Contribution Rate	Justified Contribution Rate Per Most Current Plan	PUC Approval Date of Most Current Plan
Lackawanna	3rd	\$1.25	\$1.25	\$2.45	6/16/10
Lancaster	3rd	\$1.25	\$1.25	\$2.34	10/14/10
Lawrence	5th	\$1.25	\$1.25	\$2.81	12/1/11
Lebanon	5th	\$1.25	\$1.25	\$3.86	8/25/11
Lehigh	3rd	\$1.25	\$1.25	\$3.57	10/14/11
Luzerne	3rd	\$1.25	\$1.25	\$2.46	9/16/10
Lycoming	5th	\$1.25	\$1.25	\$5.02	6/18/09
McKean	6th	\$1.50	\$1.50	\$5.50	12/2/10
Mercer	5th	\$1.25	\$1.25	\$2.80	11/6/09
Mifflin	6th	\$1.50	\$1.50	\$4.33	1/27/12
Monroe	5th	\$1.25	\$1.25	\$3.71	4/30/09
Montgomery	2nd	\$1.00	\$1.00	\$2.01	1/22/09
Montour	8th	\$1.50	\$1.50	\$2.88	7/29/10
Northampton	3rd	\$1.25	\$1.25	\$2.46	5/28/09
Northumberland	5th	\$1.25	\$1.25	\$5.72	8/11/11
Perry	7th	\$1.50	\$1.50	\$3.58	9/24/09
Philadelphia	1st	\$1.00	\$1.00	\$4.07	9/24/09
Pike	6th	\$1.50	\$1.50	\$2.65	9/10/09
Potter	8th	\$1.50	\$1.50	\$6.32	3/11/10
Schuylkill	4th	\$1.25	\$1.25	\$4.55	2/16/12
Snyder	7th	\$1.50	\$1.50	\$3.62	10/28/11
Somerset	6th	\$1.50	\$1.50	\$2.07	4/16/09
Sullivan	8th	\$1.50	\$1.50	\$2.09	12/16/10
Susquehanna	6th	\$1.50	\$1.50	\$2.69	7/23/09
Tioga	6th	\$1.50	\$1.50	\$4.47	10/21/10
Union	7th	\$1.50	\$1.50	\$4.42	7/15/10
Venango	6th	\$1.50	\$1.50	\$2.42	11/6/09
Warren	6th	\$1.50	\$1.50	\$2.95	1/14/10
Washington	4th	\$1.25	\$1.25	\$2.25	9/22/11
Wayne	6th	\$1.50	\$1.50	\$2.44	12/2/10
Westmoreland	3rd	\$1.25	\$1.25	\$2.96	10/21/10
Wyoming	7th	\$1.50	\$1.50	\$6.81	1/12/12
York	3rd	\$1.25	\$1.25	\$3.31	5/6/10

Source: PEMA 911 Bureau.

According to the NENA, the majority of states have some mechanism to review their fee structures, either through a state board, the local entities involved, or their General Assembly. Maine, Ohio, and Maryland, are examples of states that have a scheduled, periodic assessment of the sufficiency of their surcharges to fund their programs. Maine's Public Utilities Commission, for example, recently announced that it will be seeking authorization to both raise and expand its 911 fees.

Administrative Holdbacks

The statute allows for providers, counties, and state agencies to keep a certain percentage of 911 surcharge collections for administrative costs.¹ We calculated that, since 2000, these administrative holdbacks by providers, counties, and PEMA could potentially have totaled over \$62.5 million had all these entities withheld the full amounts allowed (exact figures are not available).

As shown by Table 14, from CYs 2000 to 2011, approximately \$1.1 billion has been remitted in wireline funds from wireline providers to counties, after the providers had deducted their administrative fees.^{2, 3} Although not all providers take the full 2 percent allowed them, if they had, they would have retained a total of \$23,366,385, which is in addition to 1 percent (\$11,449,528) allowed to be retained by counties.

¹ 35 Pa.C.S.A. §§5307, 5311.4(b)(1), 5311.10, 5311.14, and 5311.4(b),(b.1).

 $^{^2}$ Counties' audits reported that although many wireline providers take the full allowable 2 percent, many others do not, from a low of 1.04 percent to the full 2 percent.

³ When PEMA gave us the data for wireline funds collected, there were several counties that had no reports on file, so the numbers we are reporting here would actually be higher if all counties had reported.

Table 14

	Total Remitted ^a	Provider Holdbacks <u>Allowed</u>	County and/or PEMA Holdbacks Allowed
CY 2000-11			
Wireline	\$1,144,952,845	\$23,366,385	\$11,449,528
FYs 2004-05 to 2010-11			
Wireless Remitted to PEMA	658,516,687	13,439,116	13,170,334
FYs 2008-09 to 2010-11			
VoIP	43,187,455	<u>657,677^b</u>	431,875
Totals	\$1,846,656,987	\$37,463,178	\$25,051,737
Total Potential Administrative Holdbacks: \$62,514,915			

Funds Remitted and Potential Administrative Holdbacks

^a Amounts remitted for wireline and VoIP are from PEMA and county annual reports and additional information provided by PEMA. Wireless fund data is from data given to us by PEMA detailing wireless providers' remittances. ^b Providers may take 2 percent if remitting to counties and 1 percent if remitting to PEMA so we used an average of 1.5 percent for our calculations.

Source: Developed by LB&FC staff with data provided by PEMA.

Table 14 also shows that since the inception of the wireless surcharge, from FYs 2004-05 to 2010-11, a total of \$658,516,687 has been remitted to PEMA by wireless phone providers. If all providers took the allowable 2 percent in administrative fees, they would have retained \$13,439,116, which is in addition to the 2 percent that PEMA may keep, \$13,170,334. This results in a potential total of \$26,609,450 in wireless surcharges being used for provider and PEMA administrative costs.

For VoIP funds, which were initially collected beginning in November 2008, a total of \$43,187,455 has been remitted to both the counties and PEMA through CY 2011. Providers who remit directly to the counties may take a 2 percent holdback; providers who remit directly to PEMA may only retain 1 percent.⁴ As discussed in Chapter II.C, most providers have been remitting directly to PEMA and not the counties, although the statute directs VoIP providers to remit to counties. Using an average holdback of 1.5 percent, we calculated total potential holdbacks for VoIP services amounted to approximately \$1.1 million.

Under the new prepaid point-of-sale provisions, retailers and providers who sell point-of-sale prepaid phones and minutes were allowed to retain 35 percent of the surcharges for direct start-up costs for the first 180 days after the effective date of the act, which was July 1, 2011. Based on actual receipts for the first six months of the new statute, the amount that providers and retailers could have retained

^{4 35} Pa.C.S.A. §5311.4.

was \$2,343,603. After this period, retailers and providers may retain 3 percent for administrative costs. The Department of Revenue also may keep 2 percent of these remittances for its administrative costs. The Department of Revenue told us that it does not intend to use its allowable 2 percent for administration until it can determine what its monthly administrative costs will be. PEMA is also allowed to retain 2 percent of the prepaid wireless funds for administrative costs. Therefore, after the first six months of the prepaid wireless program, ongoing administrative holdbacks are based on the amount they receive, not the gross amount collected from purchasers).

Many of the providers to whom we spoke told us that holdbacks are still necessary to cover their administrative costs. One wireline provider said that the holdbacks are adequate and still necessary because of the costs involved to bill customers and remit funds to the proper taxing authorities. Another company that provides both wireline and wireless services stated that, as long as the providers are required to bill and collect for the 911 surcharge, the administrative fee should continue. Another wireless provider told us that the procedures for collecting 911 fees in Pennsylvania are more time consuming and complex than in other states, and that the most appropriate means for recovering those costs is from the revenues received from billing 911 fees.

APCO/NENA told us that they think the 2 percent surcharge for wireline providers is excessive because technology has been updated and the administrative costs of collecting and remitting the surcharge probably does not approach 2 percent. The County Commissioners Association of Pennsylvania supports a reasonable cost recovery, but believes that 2 percent is probably higher than necessary. CCAP also noted that counties have no way of knowing whether the 2 percent holdback for providers is sufficient or excessive.

Administrative Holdbacks in Other States

Other states we surveyed also have allowed administrative holdbacks for both government entities and providers, although seven states we spoke to have no holdbacks for governmental entities. Exhibit 2 below shows governmental holdbacks for different services.

Administrative Holdbacks for Government in Other States

Unidentified if Wireline or Wireless		
State	Amount	
Indiana	.01 Per Line Per Month	
Minnesota	No Charge Specified	
New Mexico	5%	
North Carolina	1% for State 911 Board	
Ohio	Up to 2%	
Washington	1% for Department of Revenue 6% for State 911 Office	

Prepaid Only		
State Amount		
Maine	Not to Exceed 2%	
South Dakota	State Keeps All Prepaid	

Wireline		
State	Amount	
Florida	1%	
Pennsylvania	1%	

Wireless		
State	Amount	
Florida	1%	
Pennsylvania	2%	

States With No Administrative Holdbacks for Government
Missouri
Illinois
Maryland
Michigan
New Jersey
New York
Tennessee

Source: Developed by LB&FC staff using information obtained from other states surveys.

Seven out of seventeen states other than Pennsylvania do not allow any administrative holdbacks for the state. Others, like Maine and South Dakota, allow it for prepaid wireless only. Florida, like Pennsylvania, collects fees on both wireline and wireless service. For the remainder of states that allow administrative holdbacks for government (Indiana, Minnesota, New Mexico, North Carolina, Washington, and Ohio), the type of services (wireline, wireless, prepaid) is not specified.

Exhibit 3 below shows administrative holdbacks that providers are permitted to retain.

Administrative Holdbacks for Providers in Other States	5
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Wireline/VoIP		
State	Amount	
Illinois	3%	
Indiana	3%	
Michigan	2%	
New Mexico	1%	
North Carolina	1%	
Ohio	3%	
Pennsylvania	1% to 2%	
Tennessee	3%	

Wireless		
State	Amount	
Florida	25%	
Indiana	1%	
Maryland	.75% of state portion of surcharge	
Michigan	2%	
New Mexico	1%	
North Carolina	1%	
Pennsylvania	2%	
South Dakota	1%	
Tennessee	3%	
Virginia	30%	

Prepaid Retailers		
State	Amount	
Indiana	1%	
Maine	3%	
Pennsylvania	3%	

States With No Administrative Holdbacks for Providers	
Washington	
New Jersey	

Source: Developed by LB&FC staff using information obtained from other states surveys.

Six states, like Pennsylvania, allow holdbacks for both wireline and wirelesss providers. Two states, Illinois and Ohio, allow holdbacks for wireline only and four states, Florida, Maryland, South Dakota, and Virginia, allow holdbacks for wireless only. Two states, Indiana and Maine, allow holdbacks for prepaid retailers. Only two of the states we surveyed, Washington and New Jersey, had no type of allowable administrative holdback for providers.

Uncollectible Surcharges

Under Chapter 53, telephony providers are not required to collect 911 surcharges if the customer does not pay them. With wireline services, the governing body of the county may request, on an annual basis, a list of the names and addresses of those service users who have not paid their 911 surcharge.⁵ However, none of the counties who responded to our questions reported that they have made such a request, so the extent of revenue being lost—or that could potentially be recovered—through uncollectable surcharges is unknown.

With wireless uncollectible sucharges, action may be brought by or on behalf of PEMA. PEMA may also request, on an annual basis, a list of the names and

⁵ 35 Pa.C.S.A. §5307(e)(2).

addresses of customers who have not paid their 911 surcharges.⁶ PEMA, however, does not request the lists of customers carrying balances from providers and does not have a formal policy regarding uncollected surcharges, so the extent of uncollectable surcharges for wireless customers is also unknown.

For VoIP surcharges, there is no similar section in the statute that would allow either PEMA or the counties to seek list of customers with balances due to nonpayment of the 911 surcharge. For prepaid retail transactions, if the Department of Revenue should discover a retail outlet that has uncollectible surcharges, the Department can enforce the requirement in the same manner it enforces other sales tax collections.

911 Surcharges on Government Entities

Our conversations with stakeholders suggest there is inconsistency in how governmental entities in the Commonwealth are treated with regard to 911 surcharges. Chapter 53 is silent on the matter (i.e., it neither specifically requires nor exempts subscribers such as state offices, counties, municipalities, and school districts from the obligation to pay the 911 surcharges). Some telephony providers apparently do collect 911 fees from these entities, but others do not. The inconsistency may be attributable, at least in part, to the exception granted to the federal government; states cannot tax the federal government, and therefore providers do not collect 911 surcharges from federal agencies.⁷ It is possible some providers may have extended this exception to state and local governmental agencies.

Technology-neutral Funding Options

As noted in Chapter II.A, almost all states rely heavily on telephone surcharge fees to fund their 911 programs. However, there are additional funding options that states are considering for their 911 programs, especially as states are preparing to move into a Next Generation 911 environment. Please see Exhibit 4 for an analysis of current and future funding options and their viability as funding sources for Next Generation technologies.

⁶ 35 Pa.C.S.A. §5311.4(b)(1).

⁷ McCulloch v. Maryland, 17 U.S. 316 (1819).

Exhibit 4

Different Type of Funding Practices for 911 and the Issues That Affect the Viability of Such Funding for Next Generation 911*

Current 911 Funding Method	Funding Issues	Future Funding Issues
911 surcharge on wireline telephone subscribers (local and/or state)	 The number of subscribers continues to decline. Funds are insufficient in most cases to fund what is necessary today. States with good fund management and equity in collections among all service types are in better shape fiscally. 	 Subscribership is predicted to continue to decline. Funds will continue to be insufficient for current operations let alone for investment required to implement NG911 and to maintain parallel systems for a period of time. It is unknown whether funds will be sufficient.
E-911 surcharge on wireless telephone subscribers (local and/or state)	 The number of subscribers continues to rise as subscribers shift from traditional wireline service to wireless service. Funds may not be sufficient in some applications. Cost recovery (if applicable) to carriers erodes funds available. 	 The number of subscribers is expected to continue to increase for a period and then plateau over time. Subscribers are shifting service from wireline to wireless or VoIP. Location accuracy enhancements will likely escalate costs. It is unknown whether funds will be sufficient.
911 surcharge on VoIP sub- scribers (local and/or state)	 Surcharge reporting and remitting is voluntary in most states. Even with legislation, methods to collect are inconsistent. 	 Regulations must require VoIP provider to register and report subscribers so accurate funds can be collected; however, regulation and forced registration may not be possible with offshore service providers. Collections methods will continue to be a challenge for some time to come and are complicated further by non-US-based providers. In states where legislation has been adopted to equalize collections on VoIP 911 access (as with wireline and wireless), this fund will continue to grow. It is unknown whether funds will be sufficient.

Exhibit 4 (Continued)

Current 911 Funding Method	Funding Issues	Future Funding Issues
Prepaid cellular point of sale (POS) charge	 Erratic collection mechanisms are used. Few states have legislative requirements. Services have resisted collecting the 911 fee from their customers on the basis that the law, as written, does not apply to them. 	 No monthly billing/no contract exists as a mechanism for collections. Eighty percent of prepaid services are sold by third parties such as Wal-Mart, K-Mart, Radio Shack, and Target, which do not have a rela- tionship with the customer. Collection methods will continue to be a challenge for some time to come. It is unclear where to assess the fee. Retail point of sale legislation is needed to ensure collections. It is unknown whether funds will be sufficient.
General Fund tax	 In current difficult economic times, increases in taxes are a difficult political position. Sometimes levy limits prohibit additional taxing for Public Safety application. The mechanism has not always kept pace with costs. 	 Already stressed funding mecha- nism will not likely be able to provide all necessary additional funding needed for NG911.
State Universal Service type fee	 This fee is Vermont specific, universal service in name; it is not a true Universal Ser- vice as defined in federal law. This mechanism is not to be confused with post-1996 fed- eral universal service rules that explicitly prohibit the use of Federal Universal Service Fee (FUSF) for support of a dedicated 911 service net- work, including PSAPs. Thir- teen states have their own state Universal Service Fee (USF)-type collection mech- anism but none, other than Vermont, can use it for 911. In all cases, state USF-type mechanisms must be coordi- nated with FUSF. 	 State in this context means State PUC, not state 911 authority. In Vermont, local 911 funding sources are not aligned with the current trend of mobility. The funds are col- lected to pay for 911 at the point of billing—not the POS. Before wide- spread cellular and VoIP usage, these two points were the same, but this is not true today. Out-of-state visitors call 911; out-of-state college students use cellular telephones billed to their home area; in-state residents have out-of-state service (either cellular or VoIP). In all of these cases, a local agency pro- vides 911 response service but sees no 911 revenue. This is coupled with the fact that competition in the telecommunications marketplace is driving down what subscribers pay, and thus the percentage-based 911 funding. It is unknown whether funds will be sufficient.

Exhibit 4 (Continued)

Current 911 Funding Method	Funding Issues	Future Funding Issues
Percentage of toll revenue	 In Texas and California, legacy 911 is funded, in part, with explicit assessments against intrastate (predominantly wireline) toll revenue. The Federal Telecommunications Act of 1996 opened all communications markets to competition, thus continuation/expansion of such legacy methodology is neither competitively nor technologically neutral. 	 Owing to wireless and VoIP substitution, toll is a seriously declining revenue source for service providers. As such, it is an unsustainable source of funding for Basic 911, E-911, and NG-911. Assessment and collection methodologies should be equitable among all communications service providers that have an obligation to provide subscribers with access to 911.
Percentage of local service revenue	 This mechanism is applicable to wireline only. It does not take into account most of the calling methods employed today. This is an inconsistent and declining source of funds. 	 This mechanism will not provide sufficient funding for NG-911 needs.
Grants	 This mechanism is often one time and limited in scope. 	 This funding source is unreliable and limited in scope. It is unknown whether funds will be sufficient.
Other	• In New York, the Targeted Accessibility Fund (TAF) as- sesses, collects, and houses support for E-911, Lifeline, and Telephone Relay Ser- vice.	 This mechanism has limited application for funds. It is unknown whether funds will be sufficient.

^{*}Most funding methods employed today by state and/or local governments are a combination of two or more of the above methods. No one source has been adequate.

Source: *Working Group 4B: Transition to Next Generation 911 Final Report,* Communications Security, Reliability and Interoperability Council, March 2011, pp. 83-86.

From its inception, Pennsylvania's 911 authorizing statute included language that provides for funding the program from additional sources—both state and local—besides 911 surcharge fees. For example, although General Fund monies have never been used for this purpose, the statute establishing the Wireless E-911 Emergency Services Fund specifically authorized deposits to be allowed by the General Fund (§5311.4).

With regard to local funding options, at least two counties in Pennsylvania require municipalities to financially support 911 operations. In Berks County, municipalities are billed to help support call taking and dispatching services by the PSAP. Each municipality in the county, as well as Port Clinton in Schuylkill County, is billed for these services. For the City of Reading, the county only bills for fire and EMS, as Reading dispatches its own police.

The Berks County Commissioners establish different rates for police, fire, and EMS dispatching, and those rates are charged to each municipality based on the population as determined by the U.S. Census. The County Commissioners have agreements with each municipality that are renewed annually. The Commissioners review the total expected costs of the PSAP to provide emergency services and then factor in what the PSAP anticipates it will receive in wireline, wireless, VoIP, and prepaid revenue. They then consider what is a reasonable charge that municipalities can pay. Any remaining revenue needed is provided by the county itself.

The amount Berks charges each municipality can change annually. According to a county official, the Commissioners raised the amount paid by each municipality by 6 percent last year to pay for expected communication center costs. She estimated that they receive approximately \$2 million in fees from municipalities annually. The revenue received from municipalities is deposited in the Communications Center budget. It can be used for any Communications Center expenses, including wages for call taking and dispatching, equipment if not covered by the capital expenses budget, and any other expenses related to the operation of the Communication Center.

In Monroe County, both municipalities and school districts are billed to help support call taking and dispatching services by the control center (PSAP). As shown in Table 15, below, each municipality and school district is assessed for dispatch services based upon the level of service they receive, which is then multiplied by their respective population figure. In 2010, total revenue from these sources was \$1,294,358. In 2012, total income from municipalities is anticipated to be just over \$1 million, with an additional \$9,360 expected from school districts and \$169,842 from the county. Revenue can be used for operational expenses needed to run the control center, including salaries and benefits.

Tabl	e 1	5
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Dispatch Fee Structure for	Monroe	County
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Dispatch Service Required	Annual Per Capita Rate
Full-time Municipal Police, Fire, and EMS	\$7.29
Out of County PA State Police, Fire, and EMS ^a	\$4.96
PA State Police, Fire, and EMS	\$3.58
Monroe County	\$1.00
Full-time School Police (per student enrolled)	\$4.70
Flat Fee for Emergency Service Only	\$2,340.00

^aThe PSAP dispatches for Lehman Township in Pike County. They do not have their own local police department and rely on the PA State Police.

Source: Developed by LB&FC staff using information provided by Monroe County officials.

Local Taxing Authority in Other States

In many of the states we reviewed, 911 surcharges are not enough to fully fund PSAP operations and often, as in Pennsylvania, the necessary additional revenues come from county and municipal general funds. We did find, however, several states that allow local government entities responsible for PSAPs to impose an additional tax specifically for 911 services.

Idaho: In 2008, the Idaho Legislature promulgated the implementation of an Enhanced Emergency Communications Grant Fee. This additional fee can be imposed by the boards of commissioners of Idaho counties in the amount of \$0.25 per month per access line to be contributed to the Enhanced Emergency Communications Grant Fund. The funds are distributed via a grant process governed by the Idaho Emergency Communications Commission. Thirty-six Idaho counties have begun assessing the enhanced fee.

Kansas: To support and implement the operation of an emergency telephone service, Kansas allows governing bodies to impose an emergency telephone tax for 911 service in those portions of the governing body's jurisdiction for which emergency telephone service has been contracted.

Michigan: Each of the 83 Michigan counties may assess a county-wide surcharge on all communications devices billed to an address in their county. Sixtyseven counties requested surcharge approval by the Michigan Public Service Commission in January 2008. Counties may also enact a limited time property tax to supplement their 911 programming. This tax requires voter approval.

Missouri: Missouri has two mechanisms for funding 911 operations. As in Pennsylvania, the state allows local jurisdictions to impose a wireline fee, which 91 of 114 counties have done. The remaining counties have used the alternate funding mechanism, which allows them to impose a county sales tax. The tax may be

imposed at a rate not to exceed 1 percent of the receipts from the sale of all tangible personal property or taxable services.

Ohio: Ohio allows its counties several options for charges they may impose to generate revenues for 911 operations. These options include charges on improved realty, monthly telephone bill charge, monthly telephone access line charge, property tax, and local sales tax.

Indiana: Legislation in Indiana gave counties more flexibility to fund the cost of local government with income taxes, rather than property taxes, with three new options. One option allows counties to adopt a local income tax for public safety purposes, which would include 911 programming. The amount of the tax may be up to the lesser of .25 percent or the local option income tax rate imposed for property tax relief. According to an Indiana official, no county has exercised this option for 911 funding purposes.

III. Issues Concerning 911 Expenditures

Act 2010-118 directs us to review 911 expenditures, the methods used by PEMA to disburse 911 wireless funds, and state and county audit requirements regarding 911 expenditures. This chapter addresses these issues.

A. 911 Surcharges Cover About 71 Percent of PSAP Expenditures, With Personnel Costs Being the Single Largest Expenditure

Table 16, below, shows the total 911 PSAP expenditures reported by counties from CY 2007 to CY 2011 compared to the total surcharge revenues received (wireline, wireless, and VoIP).

Table 16				
Total Surcharge Based Revenues to PSAPs and Total PSAP Expenditures				
			Excess of	
	Total Surcharge <u>Revenues</u> ª	Total <u>Expenditures</u>	Expenditures Over Surcharge Revenues	Revenues as a % of <u>Expenditures</u>
2011	\$192,398,454	\$272,638,757	\$80,240,305	71%
2010	195,204,650	267,765,220	72,560,571	73
2009	188,665,447	252,471,983	63,806,536	75
2008	190,354,520	255,899,232	65,544,712	74
2007	182,415,107	244,398,358	61,983,251	75
2006	191,793,562	213,869,649	22,076,087	90

^aCounty surcharge revenues include wireline, VOIP (both PEMA and County collected), and wireless disbursements.

Source: PEMA Annual Reports to the General Assembly

As Table 16 also shows, total PSAP expenditures had increased from \$213.9 million in 2006 to \$272.6 million in 2011, a 27 percent increase. Table 16 also shows the shortfall between expenditures and surcharge revenues has generally been growing in dollar terms, with a 2011 shortfall of over \$80 million. As a result, the number of counties that report receiving sufficient surcharge revenues to fully fund their 911 operations has fallen from 24 in 2008 (35 percent of all PSAPs) to 7 (10 percent of all PSAPs) in 2011 (see Exhibit 5, below).

Exhibit 5

PSAPs Which Had Fewer Expenditures Than the Total Amount of Surcharge Revenue Received (2008 Through 2011)

<u>2008: 24 (35%)</u>	<u>2009: 10 (14%)</u>	<u>2010: 10 (14%)</u>	<u>2011: 7 (10%)</u>
Armstrong	Bradford	Bedford	Bedford
Beaver	Cambria	Blair	Bucks
Blair	Carbon	Bradford	Butler
Cameron	City of Bethlehem	Lackawanna	Clearfield
Carbon	Columbia	Lawrence	Crawford
City of Bethlehem	Dauphin	Lehigh	Lawrence
Clarion	Erie	Potter	Lehigh
Dauphin	Monroe	Snyder	
Forest	Montgomery	Tioga	
Fulton	Schuylkill	Union	
Huntingdon			
Lackawanna			
Lehigh			
McKean			
Mifflin			
Monroe			
Northumberland			
Perry			
Pike			
Snyder			
Somerset			
Sullivan			
i ioga			
venango			

Source: Developed by LB&FC staff from information reported in PEMA's Annual Reports.

Surcharge revenue and total expenditure figures per county for the most recent year are shown in Table 17; figures for the two prior years are included in Appendix D. If PSAPs do not receive enough revenue from surcharge sources, county governments must make up the difference, generally through transfers from county general funds.

Total Surcharge Revenue and Total Expenditures by Individual PSAP (2011)

Surcharge Revenue	Expenditures	<u>Difference</u>
\$ 1,403,192	\$ 1,837,990	\$ (434,798)
14,550,567	21,938,820	(7,388,253)
514,219	1,144,247	(630,028)
2,646,775	3,082,412	(435,637)
818,413	704,129	114,284
6,403,707	9,774,131	(3,370,424)
1,597,665	1,849,037	(251,372)
889,779	1,025,407	(135,628)
14,486,088	14,321,847	164,240
2,140,372	2,136,649	3,723
1,787,273	2,696,243	(908,970)
129,049	132,957	(3,908)
426,473	1,538,870	(1,112,397)
1,658,667	2,880,128	(1,221,461)
8,730,881	14,182,320	(5,451,439)
2,212,937	2,726,420	(513,483)
1,751,967	2,421,085	(669,118)
1,143,947	1,198,774	(54,827)
1,807,142	1,502,470	304,672
1,004,233	1,060,760	(56,527)
913,549	949,155	(35,606)
1,224,339	614,317	610,022
4,474,254	7,914,516	(3,440,262)
4,871,787	7,179,818	(2,308,031)
8,075,075	14,124,277	(6,049,202)
612,878	1,104,781	(491,903)
3,706,033	5,397,202	(1,691,169)
1,694,035	1,964,804	(270,769)
67,916	117,382	(49,466)
1,946,624	3,629,956	(1,683,333)
110,278	606,662	(496,384)
490,789	797,779	(306,990)
349,882	624,172	(274,290)
1,051,761	1,362,083	(310,323)
1,080,105	1,131,762	(51,656)
578,407	1,231,212	(652,805)
3,183,572	4,503,263	(1,319,691)
6,304,175	8,955,343	(2,651,168)
1,208,573	1,164,651	43,922
	Surcharge Revenue $$$ 1,403,19214,550,567514,2192,646,775818,4136,403,7071,597,665889,77914,486,0882,140,3721,787,273129,049426,4731,658,6678,730,8812,212,9371,751,9671,143,9471,807,1421,004,233913,5491,224,3394,474,2544,871,7878,075,075612,8783,706,0331,694,03567,9161,946,624110,278490,789349,8821,051,7611,080,105578,4073,183,5726,304,1751,208,573	Surcharge RevenueExpenditures\$ 1,403,192\$ 1,837,99014,550,56721,938,820514,2191,144,2472,646,7753,082,412818,413704,1296,403,7079,774,1311,597,6651,849,037889,7791,025,40714,486,08814,321,8472,140,3722,136,6491,787,2732,696,243129,049132,957426,4731,538,8701,658,6672,880,1288,730,88114,182,3202,212,9372,726,4201,751,9672,421,0851,143,9471,198,7741,807,1421,502,4701,004,2331,060,760913,549949,1551,224,339614,3174,474,2547,914,5164,871,7877,179,8188,075,07514,124,277612,8781,104,7813,706,0335,397,2021,694,0351,964,80467,916117,3821,946,6243,629,956110,278606,662490,789797,779349,882624,1721,051,7611,362,0831,080,1051,131,762578,4071,231,2123,183,5724,503,2636,304,1758,955,3431,208,5731,164,651

Table 17 (Continued)

<u>County</u>	<u>Surcharge Reven</u>	ue <u>Expenditures</u>	<u>Difference</u>
Lebanon	\$ 1,953,913	\$ 3,358,265	\$ (1,404,353)
Lehigh	3,336,397	3,176,833	159,564
Luzerne	5,801,663	6,982,818	(1,181,155)
Lycoming	1,629,041	2,061,683	(432,642)
McKean	819,913	1,376,387	(556,474)
Mercer	1,467,279	1,938,988	(471,709)
Mifflin	329,878	1,032,196	(702,318)
Monroe	4,016,330	4,656,000	(639,670)
Montgomery	12,431,254	12,689,033	(257,779)
Montour	339,509	532,700	(193,191)
Northampton	3,038,753	4,581,934	(1,543,181)
Northumberland	1,216,497	1,640,743	(424,246)
Perry	626,961	1,131,361	(504,400)
Philadelphia	22,459,054	39,690,463	(17,231,409)
Pike	1,048,237	1,755,808	(707,571)
Potter	637,804	903,533	(265,729)
Schuylkill	2,618,592	3,501,202	(882,610)
Snyder	657,017	709,949	(52,932)
Somerset	1,131,149	1,187,085	(55,935)
Sullivan	85,398	364,729	(279,330)
Susquehanna	832,974	1,047,641	(214,667)
Tioga	1,181,366	1,860,635	(679,268)
Union	438,490	760,203	(321,713)
Venango	429,153	772,265	(343,112)
Warren	480,701	717,755	(237,054)
Washington	2,896,519	3,800,460	(903,941
Wayne	614,623	1,105,106	(490,483)
Westmoreland	5,355,814	8,123,233	(2,767,419)
Wyoming	822,031	1,059,773	(237,742)
York	5,654,768	8,592,146	<u>(2,937,378)</u>
Totals	\$192,398,454	\$272,638,758	\$80,240,305

Source: Revenue and expenditure data obtained from PEMA 911 Annual Reports.

Personnel Costs

Personnel costs are the single largest PSAP expenditure; statewide, in 2011, \$174.9 million, or 64 percent of total PSAP expenditures, were devoted to personnel costs compared to \$132.8 million in 2006. Table 18, below, shows PSAP personnel expenditures as a percentage of overall expenditures by county for 2010.

Cost per staff member varies widely across the Commonwealth. As might be expected, the highest personnel costs per staff member tend to be in the more populous counties of southeastern and southcentral Pennsylvania, with smaller, more rural counties tending to have lower costs per staff member. As a word of caution, however, we did not have a breakdown of part-time vs. full-time employees or the longevity of staff as counties do not report this information to PEMA.

To derive an average cost per PSAP staff member, we divided total personnel costs by the number of staff members (including supervisors) certified in each PSAP by PEMA to be call takers and/or dispatchers (see Table 19). Certified is defined as those employees that have been deemed eligible by PEMA to be call takers and/or dispatchers.
PSAPs Personnel Expenditures as a Percentage of Overall Expenditures 2010

County	Total Expenditures	Expenditures on Personnel	Personnel as % of Total	County	Total Expenditures	Expenditures on Personnel	Personne as % of Total
Forest	\$ 251,996	\$6,780	2.7%	Armstrong	\$ 1,035,032	\$ 645,198	62.4%
Sullivan	1,229,842	37,515	3.1	Montour	559,287	350,761	62.8
Fulton	618,884	43,428	7.1	Susquehanna .	1,006,578	636,112	63.2
Cameron	155,483	20,248	13.1	Lackawanna	4,303,279	2,735,187	63.6
Huntingdon	941,207	196,829	21.0	Tioga	1,188,289	759,303	63.9
Potter	836,739	218,044	26.1	Union	982,895	630,497	64.2
Cumberland	9,109,744	3,101,988	34.1	Philadelphia	37,524,477	24,252,149	64.7
Jefferson	1,415,110	535,388	37.9	Berks	7,416,370	4,845,047	65.4
Northumberland	1,911,630	794,084	41.6	Perry	720,826	474,233	65.8
Lycoming	3,736,240	1,582,840	42.4	Adams	1,631,455	1,076,896	66.0
Mifflin	1,706,325	726,366	42.6	Venango	811,132	546,646	67.4
Clearfield	2,658,707	1,179,058	44.4	Fayette	2,211,512	1,495,220	67.7
Wyoming	985,535	450,366	45.7	Luzerne	6,531,594	4,426,657	67.8
Lebanon	2,981,673	1,369,438	46.0	Elk	946,381	643,520	68.0
Juniata	1,150,442	529,526	46.1	Washington	3,202,098	2,208,010	69.0
Schuylkill	3,389,895	1,608,385	47.5	Columbia	911,955	632,588	69.4
Carbon	1,566,289	747,130	47.7	Montgomery	11,757,739	8,192,612	69.7
Northampton	7,212,272	3,455,711	48.0	Lehigh	3,206,576	2,241,776	70.0
Westmoreland	8,294,442	4,055,929	48.9	Wayne	930,483	652,717	70.2
Clinton	1,128,239	564,658	50.1	Pike	1,064,910	755,424	71.0
Bradford	819,265	412,212	50.4	Crawford	1,223,875	871,733	71.3
Erie	5,435,156	2,855,599	52.6	Allegheny	22,748,874	16,298,620	71.7
McKean	1,255,669	683,521	54.5	Blair	1,433,277	1,029,752	71.9
Franklin	2,746,408	1,552,190	56.6	Somerset	1,131,099	816,339	72.2
Cambria	2,566,530	1,455,294	56.7	Delaware	13,849,313	10,075,847	72.8
Snyder	625,032	359,647	57.6	Lancaster	8,932,063	6,622,419	74.2
Chester	12,437,835	7,229,972	58.2	Lawrence	1,075,744	802,064	74.6
Butler	2,194,235	1,280,700	58.4	Dauphin	5,850,885	4,452,739	76.1
Clarion	1,069,690	629,093	58.9	York	7,996,379	6,143,761	76.9
Greene	712,456	419,795	59.0	Mercer	1,742,580	1,381,672	79.3
Monroe City of	4,498,450	2,681,923	59.7	Indiana City of	1,283,822	1,018,104	79.3
Bethlehem	2,754,935	1,646,047	59.8	Allentown	2,803,847	2,242,683	80.0
Bedford	666,634	408,219	61.2	Warren	669,170	546,344	81.7
Centre	2,233,475	1,379,619	61.8	Bucks	13,702,231	11,288,363	82.4
Beaver	4,082,730	2,532,041	62.1				

Source: Developed by LB&FC staff with data from the counties annual reports and PEMA's annual reports

<u>County</u> ^a	Personnel <u>Expenditures</u>	Number of <u>Staff</u>	Cost/Staff Member
Sullivan	\$ 37,515	6	\$ 6,253
Fulton	43,428	6	7,238
Huntingdon	196,829	19	10,359
Snyder	359,647	23	15,637
Potter	218,044	11	19,822
Bradford	412,212	19	21,695
Warren	546,344	24	22,764
Perry	474,233	19	24,960
Wyoming	450,366	18	25,020
Bedford	408,219	15	27,215
Venango	546,646	20	27,332
Armstrong	645,198	23	28,052
Jefferson	535,388	19	28,178
Greene	419,795	14	29,985
Blair	1,029,752	34	30,287
Wayne	652,717	21	31,082
Clarion	629,093	20	31,455
Montour	350,761	11	31,887
Elk	643,520	20	32,176
Washington	2,208,010	68	32,471
Indiana	1,018,104	31	32,842
Adams	1,076,896	32	33,653
Clinton	564,658	16	35,291
Fayette	1,495,220	42	35,600
Lackawanna	2,735,187	76	35,989
Franklin	1,552,190	43	36,097
Tioga	759,303	21	36,157
Somerset	816,339	22	37,106
Crawford	871,733	23	37,901
Mifflin	726,366	19	38,230
Cambria	1,455,294	38	38,297
Clearfield	1,179,058	30	39,302
Columbia	632,588	16	39,537
Schuylkill	1,608,385	40	40,210

PSAP's Cost Per Staff Member Based on Personnel Costs* 2010

Table 19 (Continued)

<u>County</u> ^a	Personnel <u>Expenditures</u>	Number of <u>Staff</u>	Cost/Staff Member
Erie	\$ 2.855.599	69	\$41.385
Butler	1,280,700	30	42,690
Juniata	529,526	12	44,127
Mercer	1,381,672	31	44,570
Centre	1,379,619	30	45,987
Northumberland	794,084	17	46,711
Pike	755,424	16	47,214
Union	630,497	13	48,500
McKean	683,521	14	48,823
Luzerne	4,426,657	89	49,738
Carbon	747,130	15	49,809
Berks	4,845,047	89	54,439
Allegheny	16,298,620	262	62,208
Susquehanna	636,112	11	57,828
City of Bethlehem	1,646,047	28	58,787
Lehigh	2,241,776	38	58,994
Monroe	2,681,923	45	59,598
Lycoming	1,582,840	26	60,878
Philadelphia	24,252,149	395	61,398
Westmoreland	4,055,929	66	61,453
Lawrence	802,064	13	61,697
Beaver	2,532,041	40	63,301
City of Allentown	2,242,683	35	64,077
Chester	7,229,972	112	64,553
Northampton	3,455,711	51	67,759
Lancaster	6,622,419	89	74,409
York	6,143,761	81	75,849
Lebanon	1,369,438	18	76,080
Cumberland	3,101,988	39	79,538
Montgomery	8,192,612	102	80,320
Delaware	10,075,847	124	81,257
Bucks	11,288,363	135	83,618
Dauphin	4,452,739	50	89,055
Totals and Ave. Cost/Staff	\$168,513,548	3,044	\$55,359

* Please see Appendix E for this same information presented by class of county. a Forest and Cameron Counties are not included in this table because they did not report any staff numbers to PEMA.

Source: Developed by LB&FC staff with data from the counties' annual reports and PSAP staffing figures provided by PEMA. Please see Appendix F.

PSAP Staffing Templates/Standardization: Although various staffing templates and models exist, PEMA does not require that any particular one be used, noting that it is the PSAPs' responsibility to staff themselves to be able to meet call standards delineated in PEMA's regulations.

Several counties that responded to our survey reported that they base their staffing on call volumes and time of day. Other counties reported they use various formulas, calculations, and in-house staffing studies. One uses "The Theory of Full Time Equivalents" developed by Francis Holt, which is a mathematical formula that determines the number of full-time staff needed to handle a certain call volume.

APCO/NENA also reported that counties have used a variety of methods, such as:

- Erlanger C calculations Erlang C is a traffic modeling formula used in <u>call center</u> scheduling to calculate delays or predict waiting times for callers. Erlang C bases its formula on three factors: the number of reps providing service; the number of callers waiting; and the average amount of time it takes to serve each caller. Erlang C can also calculate the resources that will be needed to keep wait times within the call center's target limits. This method assumes that there are no lost calls or busy signals, and therefore may overestimate the staff that is required.
- APCO Project RETAINS is a research project that examined public safety communications center personnel. A "tool kit" for determining proper staffing levels is available to members.
- ISO Staffing Levels.
- U.S. DOJ Staffing Tables.

Additionally, L. Robert Kimball & Associates, Inc. and 9-1-1 SME Consulting have performed a PSAP Staffing Survey and Analysis Study for the National Emergency Number Association (NENA) SWAT Team Operations Group. The objectives of the study were to develop staffing and budget models for E-911 implementation from data collected from existing PSAPs that had not yet transitioned to E-911. Also, both the National Emergency Number Association (NENA) and the Associated Public-Safety Communications Officials (APCO) have additional printed material and standards available to help with this decision-making process within PSAPs. However, in Pennsylvania, due to our current statutory language, final decisions on staffing levels rest with the county PSAP.

Trunk Lines

Trunk lines are another major expenditure for PSAPs. (Trunk lines are the high-speed connections between telephone central offices and the PSAP. Trunk lines can potentially transmit thousands of simultaneous calls.) Unlike personnel costs, PSAPs are not required to separately report trunk line costs, so we were unable to determine how much of total 911 expenditures are devoted to this.

Each PSAP needs to have a certain number of trunk lines, for which they are billed by ILECs and CLECs. Adequate trunk lines are essential in ensuring compliance with standards contained in the regulations,¹ such as that 90 percent of 911 calls are to be answered within 10 seconds. Under PEMA regulations, PSAPs are to provide, at a minimum, a level or grade of service that would result in no more than one busy signal in 1,000 first attempts during the average busy hour.

PEMA's regulations include a formula for determining a reasonable number of trunk lines necessary for each PSAP to meet these standards. The trunk capacity is based on the operational experience of the PSAP so that local jurisdictional requirements are considered when using the formula. The formula includes:

- the number of access lines in a particular county (AL),
- the average length of a 911 call (ACL),
- the busy hour 911 traffic, between 10 and 15 percent of the total day, 24 hour traffic (BHT), and
- the number of 911 calls per 1,000 access lines, assumed to be 2.5 calls per hour (CPT).

Thus, the formula is: $\frac{AL \times ACL \times BHT \times CPT}{1,000 \times 100}$

The trunking requirements formula is in regulations that were effective on April 18, 1992, (when oversight for 911 programming was transferred from the Department of Community Affairs to PEMA) and is based solely on wireline access lines. A PEMA official told us they currently do not enforce its use. This could be due, in part, to the fact that the regulations have not been updated in 20 years.

Nevertheless, we reviewed the number of PSAP trunk lines to determine how they compared to this regulatory standard. For number of access lines, we used the access line figures provided by counties in their latest PUC-approved triennial plans. The regulations state that busy hour traffic shall be assumed to be no less than 10 percent and no greater than 15 percent of the total day's (24 hours) traffic. We utilized the 15 percent busy hour traffic maximum allowed under the regula-

¹ 4 Pa. Code §120b.104.

tions in performing our calculations since we could not determine if counties were using the 10 percent or 15 percent standard. As Table 20, below, shows, we found that, according to our calculations, Pennsylvania's PSAPs would require a minimum of 1,938 trunk lines. PSAPs actually have 2,332 trunk lines, a difference of 394.

While, overall, PSAPs have more trunk lines than the minimum required, many counties appear to be under-trunked. Some counties have two or more times as many trunks as minimally needed.

Counties' Wireline Trunking Requirements and Actual Wireline Trunks

County	Access Lines in Latest Triennial Plans	LB&FC Calculated	Actual Trunks	PUC Approval Date of Most
Adama	26.947	0	7	<u>11/10/10</u>
Alloghopy	20,047	106	210	6/19/10
Arrestrong	39.140	100	219	2/10/11
Annistiony	30,149	10	ر ۲	2/10/11
Deaver	01,020	20	24 7	7/14/11 9/19/10
	23,100	0 50	7 51	0/10/10
Deiks	67 660	59	51	0/12/11
Diali	40 921	23	24	9/12/11
	40,031	14	24 120	9/24/09
Ducks	579,112	120	120	12/2/10
Butter	56,240 85,005	19	35	11/19/09
	80,030	29	42	7/02/00
Cameron	3,079	1	4	1/23/09
	31,161	11	5	4/15/10
Centre	59,163	20	28	11/19/10
	233,846	79	68	1/14/10
City of Allentown	59,797	20	12	12/16/10
City of Bethlehem	55,808	19	1/	3/31/11
	21,136	1	34	6/18/09
Clearfield	31,727	11	26	12/16/10
Clinton	20,097	7	15	7/23/09
Columbia	34,837	12	21	6/18/09
Crawford	26,430	9	25	1/28/10
Cumberland	40,238	14	10	5/28/09
Dauphin	112,502	38	48	1/28/10
Delaware	274,911	93	63	9/22/11
Elk	21,893	7	23	5/14/09
Erie	126,806	43	69	8/18/10
Fayette	48,934	17	29	9/10/09
Forest	3,359	1	6	12/15/11
Franklin	58,601	20	15	3/25/10
Fulton	16,603	6	13	4/22/10
Greene	18,995	6	26	5/14/09
Huntingdon	29,431	10	17	3/17/11
Indiana	32,186	11	45	9/12/11
Jefferson	21,211	7	28	3/25/10

Table 20 (Continued)

County	Access Lines in Latest Triennial Plans	LB&FC Calculated	Actual	PUC Approval Date of Most
lunioto	10 599	<u>11011K3</u>	2	<u>2/15/10</u>
	10,566	4	ა ეი	6/16/10
	129,524	44	20	6/16/10
Lancaster	299,281	101	39	10/14/10
	44,738	15	16	12/1/11
Lebanon	51,433	17	15	8/25/11
Lehigh	98,552	33	26	10/14/11
Luzerne	76,042	26	46	9/16/10
Lycoming	54,022	18	20	6/18/09
McKean	22,881	8	19	12/2/10
Mercer	47,640	16	43	11/6/09
Mifflin	25,959	9	15	1/27/12
Monroe	57,252	19	27	4/30/09
Montgomery	372,154	126	89	1/22/09
Montour	8,913	3	13	7/29/10
Northampton	147,974	50	10	5/28/09
Northumberland	28,937	10	14	8/11/11
Perry	18,670	6	9	9/24/09
Philadelphia	743,192	251	215	9/24/09
Pike	24,802	8	15	9/10/09
Potter	10,637	4	31	3/11/10
Schuylkill	59,551	20	51	2/16/12
Snyder	16,215	5	6	10/28/11
Somerset	41,372	14	30	4/16/09
Sullivan	6,294	2	3	12/16/10
Susquehanna	25,793	9	23	7/23/09
Tioga	12,391	4	17	10/21/10
Union	22,770	8	7	7/15/10
Venango	28,890	10	24	11/6/09
Warren	22,108	7	16	1/14/10
Washington	82,728	28	63	9/22/11
Wayne	27,340	9	19	12/2/10
Westmoreland	244,894	83	79	10/21/10
Wyoming	16,208	5	4	1/12/12
York	194,380	66	110	5/6/10
Total	5,743,163	1,938	2,332	

Source: Developed by LB&FC staff using data provided from counties' triennial plans. Date of PUC plan approval provided by PEMA

According to APCO/NENA, there are multiple factors that need to be taken into consideration when a PSAP determines its trunking needs, most notably the number of wireless calls it might receive (as noted above, the regulatory formula does not take wireless calls). Additionally, this group stated that PSAPs have no incentive to over-trunk because it would be an inefficient use of funds.

From speaking with other states we learned that some have different methods of paying for trunk lines and alleviating that expenditure for PSAPs. For example, Ohio has a Bill and Keep System. This system is for land lines only and began in the 1980s. ILECs, of which there are 42 in Ohio with one host ILEC per county, file cost-based tariffs with the Public Utility Commission of Ohio, including charges they pass onto their customers for providing and maintaining the basic network that allows PSAPs to receive 911 calls. This network includes trunk lines and ANI/ALI and the associated data bases. PSAPs do not have to expend any funds for their networks, leaving them more funds for other essential 911 services. Customer charges from each ILEC range from 12 cents to 25 cents per month.

In New Jersey, the 911 surcharge is used, in part,² to contract with Verizon to maintain the state's 911 infrastructure. This includes the ANI/ALI databases, trunk lines, and four selective routers that send calls to PSAPs. PSAPs therefore do not need to expend funds for these items, and New Jersey reports it benefits from greater purchasing power.

In Maine, 911 surcharges are also used for the purchase and maintenance of trunk and other communication lines and systems going to or used by PSAPs. The state buys the necessary equipment for PSAPs and is responsible for maintaining that equipment. The state also pays for PSAP staff training. As a result, all PSAPs in Maine are standardized with equipment, maintenance of that equipment, phone lines, training of staff and other necessary functions.

Selective Routing

Selective Routing, the routing of a 911 call to the appropriate PSAP based on the caller's location,³ is another significant expenditure for at least some PSAPs. We reviewed the funded amounts for selective routing costs for FY 2011-12 and

² According to a letter from New Jersey's Chief Technology Officer to the FCC, the state uses 911 surcharges to fund programming in its Departments of Health and Senior Services, Law and Public Safety, and Military and Veterans Affairs.

³ Newton, Harry. Newton's Telecom Dictionary, 2004.

found that all 47 counties⁴ that requested selective routing costs were funded in this fiscal year.

Counties primarily received these funds under the Local Exchange Carrier (LEC) category of expenditures that were yearly recurring costs. These costs are for wireless services only. Seven counties requested funds under Shared Monthly recurring costs; one of those counties also requested funds under Shared Non-recurring costs. Shared costs are those that are calculated using the PSAPs' percentage of wireless calls and are intended for both wireline and wireless services.

Table 21 below shows the counties that have received selective routing funds for FY 2011-12. Selective routing requests for which PEMA approved funding ranged from \$468 annually to \$2,029,900 annually, with an average funded amount of \$46,543. The highest funded amount for selective routing, \$165,873 per month as a recurring cost, is more than 10 times the next highest county's funded amount for selective routing, which was funded in the amount of \$10,609 per month. The majority of counties' funded expenditures for selective routing were under \$10,000 per year, with only 14 counties' selective routing costs being funded at over \$10,000 per year.

⁴ These PSAPs are Allegheny, Allentown, Armstrong, Beaver, Berks, Bethlehem, Blair, Bradford, Bucks, Cambria, Carbon, Centre, Chester, Clarion, Clearfield, Clinton, Columbia, Cumberland, Dauphin, Erie, Fayette, Franklin, Huntingdon, Lackawanna, Lawrence, Lebanon, Lehigh, Luzerne, Lycoming, McKean, Mercer, Montour, Northampton, Northumberland, Philadelphia, Schuylkill, Snyder, Somerset, Sullivan, Tioga, Warren, Washington, Westmoreland, Wyoming, and York.

Table 21

PSAPs Selective Routing Funding Amounts FY 2011-12

Shared Costs

	Requested Monthly Recurring Costs	Approved Monthly Recurring Costs <u>After Calculations</u>	Approved Amount
Allegheny ^a	\$279,238	\$165,873	\$1,990,475
Armstrong	N/A	71	850
	N/A	71	850
	N/A	253	3,031
	N/A	104	1,249
	N/A	423	5,080
	N/A	104	1,249
Cambria	126	66	788
Cumberland	N/A	9,149	109,782
Dauphin	206	124	1,490
Tioga	N/A	10,609	127,309
Warren	2,975	1,005	12,061
	416	141	1,687

Local Exchange Carrier Cost

	Requested	Approved
	Yearly Recurring Cost	Yearly Recurring Cost
Allentown	\$ 4,290	\$ 4,290
Armstrong	4,672	2,376
	5,180	4,752
Beaver	6,318	6,318
Berks	17,238	17,238
Bethlehem	4,290	4,290
Blair	5,544	5,304
Bradford	3,198	2,964
	1,397	1,397
Bucks	28,080	28,080
Carbon	2,574	2,574
Centre	4,680	4,680
Chester	53,472	53,472
Clarion	1,794	1,794
Clearfield	2,418	2,418
Clinton	1,716	1,716

Table 21 (Continued)

	Requested	Approved
	Yearly Recurring Cost	Yearly Recurring Cost
Columbia	\$ 2,652	\$ 2,652
Erie	6,524	6,524
	9,672	9,672
Fayette	4,758	4,758
Franklin	17,332	17,332
Huntingdon	1,794	1,794
Lackawanna	11,076	11,076
Lawrence	3,588	3,588
	3,024	3,024
Lebanon	4,290	4,290
Lehigh	11,460	11,460
Luzerne	13,728	13,728
Lycoming	5,070	5,070
McKean	1,560	1,560
Mercer	7,515	7,515
Monroe	6,396	6,396
Montour	1,794	1,794
Northampton	10,608	10,608
Northumberland	3,900	3,900
Philadelphia	80,964	80,964
Schuylkill	5,772	5,772
Snyder	1,404	1,404
Somerset	38,040	36,335
Sullivan	468	468
Venango	2,184	2,184
Washington	18,960	18,960
Westmoreland	15,912	15,912
Wyoming	1,404	1,404
York	17,238	17,238
	46,200	46,200

^aAllegheny County's approved amount for FY 2011-12 also includes a one-time shared amount of \$39,425. Source: Developed by LB&FC staff with data from counties' 2011-12 wireless funding applications.

III.B. Today's PSAPs Often Perform Many Responsibilities That Were Not Anticipated When the 911 Program Was First Authorized, Which Can Result in Significant Additional Costs.

County 911 systems in Pennsylvania have developed much at their own pace and in very individualized ways. Although their minimum statutory responsibilities are fairly structured, PSAPs are county agencies and consequently must be responsive to the needs of their county governments. As a result, PSAPs often undertake various additional, and sometimes only tangentially related, public safety duties. PSAPs have told us they believe they have been given these duties because they are seen as an obvious choice for public safety responsibilities that are either centralized in nature or are best performed by an entity that has 24/7 capabilities. As one PSAP director stated, "Today, we're the axle in the public safety wheel. All of the spokes emanate from us." The addition of these responsibilities has almost certainly added significantly to the costs of running PSAPs, especially as they relate to staffing.

Described below is a fairly comprehensive list of "other duties" that Pennsylvania PSAPs might handle. This illustrates just how broad the expectations of today's PSAP have become and how far beyond what the statute envisioned in 1990 when the statewide 911 program was created. While we worked with the Lancaster County 911 Center to create this list, APCO/NENA informed us that many PSAPs in Pennsylvania perform many of these same duties.

- Answer Non-Emergency Calls Made Directly to the PSAP All PSAPs have non-emergency telephone numbers from which to receive telephone calls from the general public, media, and other public safety agencies. Some typical reasons for these calls include police officers requesting information that will assist them in completing their reports, a citizen complaining that a neighbor's grass is too high, a store owner's dumpster is blocked by an illegally parked vehicle, someone needs a phone number to a municipal office, to name a few.
- **Dispatching 911 Calls** Since 1990, when the Commonwealth first enacted legislation authorizing counties to develop 911 emergency communications systems, PSAPs have increasingly taken on the role of dispatching emergency responders. While it is unclear whether this role was originally intended, Act 118 specifically disallows surcharge funds to be used for the hiring of dispatchers—PEMA allows counties to use surcharge funds to pay the salaries and benefits of dispatchers. As a practical matter, this is reasonable as in many PSAPs the call-takers are also the dispatchers. The ability of the same individual to perform both functions has been greatly expanded with the advent of computer-aided dispatching, in which many of the dispatching functions are automated.

The Lancaster County PSAP, for example, began dispatching for the Lancaster City Police Department about 10 years ago. Although this added significantly to their workload, the PSAP receives no remuneration from the police department for these services.

According to the Lancaster County PSAP director, the length of time their call-takers/dispatchers spend on the dispatching aspect of the call can easily be two to three times what it would take to simply take the 911 call and transfer it to someone else for dispatching. And depending on the situation (described further below), the call-taker/dispatcher may remain on the line with the emergency responders for an extended period of time.

- Answer After Hour Telephone Calls Made to Police Departments Most police departments throughout the Commonwealth have administrative staff to answer telephone calls during normal business hours. Once the administrative office closes, these departments often have an automated attendant, or answering machine, that directs the caller to the county PSAP for assistance. In some instances, calls are automatically routed to the 911 center after normal business hours. This can include calls made when the office is closed for lunch, as well as weekends and holidays.
- Monitor Responder Safety Once a responder has been dispatched and has made it to the location of an incident, additional steps may be taken to monitor the responder's safety. Examples of such situations include: (1) If an Emergency Medical Service (EMS) unit is on the scene for an unusual amount of time, PSAP staff will contact them to ensure everything is alright. (2) When a police officer is sent to a high risk call, such as a domestic disturbance, PSAP staff will contact them at regular intervals to make certain they are safe. (3) When firefighters enter a burning building, some PSAPs will alert the incident commander at 20-minute intervals to remind them their interior firefighting crew is coming to the end of their air supply.
- Assist First Responders With Geographic Information Systems (GIS) – Utilizing the same mapping software used to locate wireless 911 callers, the PSAP is able to provide timely assistance to first responders. Examples include: providing directions to responders, helping locate water sources for rural firefighting, and examining terrain to aid in finding fleeing suspects, lost children, hunters, hikers, or elderly patients with dementia who may have walked away from their residence or care facility.
- Employ and Monitor the Commonwealth Law Enforcement Agency Network (CLEAN), the National Crime Information Center

(NCIC), and the Justice Network (JNET) Computer Databases – PSAP dispatchers use the CLEAN system to aid police officers on traffic stops by confirming the validity of a driver's license and current insurance, verifying that the occupants of the car are not wanted, and verifying the car is not stolen. Additionally, PSAP staff use the system to enter wanted persons and stolen vehicles and personal belongings. Beginning in 2007, PSAP personnel in all counties began doing quality assurance auditing of municipal agency CLEAN entries and equipment certification for entities within their counties for CLEAN terminals that are not directly connected to the PSP, such as juvenile probation, county sheriffs, adult probation, and park ranger departments.

NCIC is maintained by the Federal Bureau of Investigation. This system is similar to CLEAN, but spans all states and territories of the United States. PSAP staff use this system in a similar fashion to CLEAN, except on an interstate level. JNET is a database maintained by the Administrative Office of Pennsylvania Courts (AOPC). JNET allows information from criminal justice and other related resources to be shared among federal, state, county, and municipal agencies. Active warrants held by the local district magistrates are available in this system.

- **Point-of-Contact Central Repository** There are numerous local, • state, and federal agencies that first responders need access to in the performance of their duties. PSAPs often serve as the central point-of-contact for local first responders seeking information from these agencies. Examples of such agencies include County Coroner, On-call District Attorney representative, County Animal Response Team (for animal emergencies, perhaps an overturned semi-trailer with farm animals), Critical Incident Stress Management Team (used to debrief responders after an especially tragic event), Crash Teams (police officers with specific training for investigating vehicle accidents), Federal Bureau of Investigation, Special Emergency Response Team (SERT aka SWAT - responds to calls such as a barricaded gunman), Probation and Parole (county or state - contacted when a parolee is picked-up by police department), On-Call Sheriff (contacted when a wanted subject is picked-up by a police department on a warrant issued by a county judge), On-Call U.S. Marshal representative, On-Call PA Fish and Boat Commission officer, On-Call PA Game Commission officer, Utilities (electric, gas, water, and telephone – in the event of a fire or explosion), and On-Call District Magistrate (to arraign someone who has been arrested).
- **Media Contact** Although a number of PSAPs issue general media faxes or display general incident information online regarding PSAP activity, the media often call PSAPs to learn what is happening throughout the

county. The media is referred to the responsible emergency service with jurisdictional control over the media-worthy incident.

- **Provide Quality Assurance/Improvement** PSAP quality activity is a requirement under state law. PSAPs must review a certain percentage of PSAP activity to ensure compliance with established standards. The larger the PSAP, the more PSAP staff is needed to perform this work.
- Notify PSAP Management of unusual events and, using pre-determined criteria, notify Pennsylvania Emergency Management Agency.
- Answer Crime Stoppers Line Lancaster County's PSAP answers the Crime Stoppers Line. This program allows anonymous callers to provide tips on criminal activity, or to help capture wanted individuals. The information is documented and then distributed to the law enforcement agency with jurisdiction concerning the crime. The caller is assigned a reference number and advised what they need to do to receive their reward.
- Monitor Bank Robbery Computer Software Marked money is tracked by PSAP staff using a computer program that monitors the robber's movements. The PSAP coordinates law enforcement activity enabling them to capture the suspect(s).
- Monitor Bait Car Computer Software Monitor the movements of a specially equipped car once it is stolen. The PSAP coordinates law enforcement activity enabling them to capture the suspect(s).
- **Monitor Call Boxes** Despite the popularity of wireless phones, call boxes are installed in many public parking garages, large parking lots, college campuses, and in some neighborhood developments. The call boxes are not the same public "pull stations" from years gone by. Many of these devices allow a two-way conversation between the person in-need and the PSAP.
- **Monitor Alarm Panels** Some PSAPs monitor alarm panels that have individual modules dedicated to subscribing businesses.
- **Repository for Warrants and Protection From Abuse Paperwork** Many PSAPs maintain this paperwork, as law enforcement typically has need of it after most court offices are closed.
- **Maintain the Enhanced 911 Database** PSAP staff help maintain the Enhanced 911 database that enables accurate location information for

people calling 911. PSAP staff identifies errant addresses that do not match verified block ranges in the Master Street Address Guide (MSAG). The MSAG plays a crucial role in delivering accurate wireline caller information to the PSAP when 911 is called. Many PSAPs are involved in municipal addressing projects that eliminate duplicate street names and door number conflicts.

- **Produce Audio Duplications for Civil and Criminal Court** All PSAPs field requests for audio duplication. Requests can come from first responders, or the District Attorney's Office, Public Defender, or private attorneys. Annually, on average, Lancaster County receives two of these requests per day. To fulfill the request, the PSAP must:
 - Find and print the CAD incident report(s).
 - Search the logging recorder for the primary call and any other related calls.
 - Select the call(s) to be duplicated.
 - Duplicate the selected call(s) onto CD.
 - If necessary, produce an audio duplication report as a written guideline to the audio that's contained on the CD.
 - Label the CD, enter the incident number onto a duplication log sheet, and file the original request.
 - Prepare the CD and any reports for mailing.
- Link Emergency Medical Service Units With Medical Command Although new radio systems are allowing direct communication between EMS and medical command physicians, many PSAPs still have to establish a radio "patch" to enable paramedics to receive orders from medical command physicians.
- Communicate With Deaf/Hard of Hearing and Speech Disabled Callers – PSAP staff use a Telecommunications Device for the Deaf (TDD) to communicate with callers in this category. These calls are more time consuming due to the slow exchange of information involved. This will not change with proposed ability for people to text 911 because, either way, typing is involved.
- **Communicate With Non-English Speaking Callers** In this instance PSAPs will use a contacted third party for interpretation services. These calls are time consuming, as well.
- Nuclear Plant Point of Contact PSAPs with nuclear plants have dedicated telephone systems from which they communicate for incidents such

as medical emergencies and security concerns. Additionally, the PSAPs have initial siren activation responsibilities in the event of a substantial emergency.

- Emergency Medical Dispatch (EMD) A requirement of the law, EMD certification requires PSAP staff to be certified in providing Cardiopulmonary Resuscitation (CPR) and in the use of Automated External Defibrillators (AED).
- **Mobile Communications** In an effort to eliminate pressure on PSAPs during large or long-term incidents, some PSAPs deploy a vehicle or trailer to the scene to handle communications dedicated to that incident. This allows the PSAP to handle normal requests for service that continue to be received. These vehicles are not eligible to receive 911 funding.

The PSAP directors noted that the list of expectations of PSAPs continues to grow. For example, recently, the American Heart Association (AHA) discussed the involvement of 911 dispatchers in emergency medical services. As stated in its journal *Circulation*, "more people would survive a cardiac arrest if 911 dispatchers followed specific measures aimed at helping bystanders assess victims and begin CPR." The AHA already had guidelines calling for dispatchers to help bystanders, but researchers from the Medical College of Wisconsin went further, spelling out how it should be done and emphasizing the importance of following up to see how well the 911 crews performed. There is also an increasing expectation that 911 personnel will know the locations of access points and defibrillators in all public buildings in their county and be able to assist fire personnel with building schematics developed as part of a prefire survey.

Although the Lancaster County PSAP director could not identify the specific costs for each of these services, he did note that they employ an additional five dedicated staff simply to maintain the database accuracy of their Computer Aided Dispatch, CLEAN/NCIC, Enhanced 911, and GIS systems.

III.C. Counties Have Wide Discretion Over How They Spend Wireline and Wireless Surcharge Revenues, Provided the Funds Are Used for Eligible Expenses

PEMA has the statutory authority to oversee the development, implementation, operation, and maintenance of a statewide integrated wireless 911 system. The statute also, however, vests county governments with the responsibility to create and implement plans for answering emergency calls and dispatching a proper response. This bifurcation of responsibility is further reflected in how 911 surcharge revenues are disbursed. Pennsylvania's 911 program statute allows counties to receive surcharge funds directly from the providers of wireline and VoIP services (wireline funds), but they must apply to PEMA for wireless and prepaid wireless point-of-sale funds (wireless funds).

Although surcharge funds can only be spent for eligible purposes and are subject to audit requirements (see III.E), PEMA has relatively little authority or control over how counties choose to spend their wireline funds. PEMA has greater control over the disbursement of wireless funds, but still has limited ability to deny county requests, provided the requests are for eligible expenses and conform to the county's approved 911 plan.

Wireline Fund Expenditures

Chapter 53 requires that wireline funds collected by the counties be utilized for the payment of nonrecurring and recurring costs of a 911 system, pursuant to PEMA's approval of a 911 plan. The legislation broadly defines the types of items that qualify as eligible nonrecurring and recurring expenditures.¹

Eligible expenditures are further outlined in PEMA's Funding Eligibility Matrix (see Appendix G). The Matrix includes separate columns delineating which expenditures are eligible under each funding stream. The Matrix is divided into three major categories: Equipment, Systems and Services/Shared Costs; Local Exchange Carrier Services; and Personnel Costs. Each category is further broken down to more specific items, each of which has been assigned a budgetary cost estimate and life cycle.

Expenses not eligible for reimbursement include the purchase of real estate, cosmetic remodeling, central office upgrades, hiring of dispatchers, ambulances, fire engines, other emergency vehicles, utilities, taxes, and other expenses as determined by PEMA. The statute only identifies one expense that is limited: no more than 70 percent of wireline revenues may be used to fund personnel costs, including training, salary, and benefits.

¹ 35 Pa.C.S.A. §§5305(g),(g.1)(2)(ii) and 5308(a) and (b).

PEMA reports it has little authority over the counties' use of wireline funds, noting that counties have broad authority to spend their wireline surcharge funds as they deem necessary for the maintenance and operation of their 911 system, provided the expenditures are within statutory limits. PEMA exercises its authority over wireline funds primary through the review of PSAP triennial plans to ensure they are in compliance with statutory and regulatory requirements and by reviewing the county's planned expenditures for eligibility as determined by Chapter 53.

To aid PEMA in its review of wireline funds, counties must submit two documents to the agency. The first, the county Annual Report, provides basic revenue and expenditure data via PEMA's Web Tool. Some of the elements that counties must include in this report are: call volume, municipalities and their addressing status, wireline and VoIP funds collected, interest collected, total expenditures, personnel expenditures, and fund balances. The report also is to include a Progress Report and Anticipated Changes section, in which counties are to include information regarding system upgrades or expansions. Our review of county Annual Reports is contained in III.E.

The second document counties must submit to PEMA is the triennial audit, with roughly one third of counties submitting each year.² The triennial audit, which includes information on both wireline and wireless funds, is further discussed in III.D.

Wireless Fund Expenditures

Unlike wireline funds, which providers submit directly to counties, wireless funds are submitted to PEMA, which then disburses them to counties based upon approved requests. Applications are submitted annually online by PSAPs via PEMA's WebTool and must include documentation in the form of vendor quotes, contracts, or leases and the PSAP's current year's operating budgets. Requests must be in line with counties' triennial plans as well as the Statewide Wireless E-911 plan.

To provide guidance to counties in making funding application requests, PEMA has developed, with the help and input of the E-911 Advisory Committee, an Eligibility Funding Matrix (see Appendix G) that delineates eligible and ineligible expenditures for both wireline and wireless funds. It also provides estimated allowable cost figures, expected life cycle costs, and ranks the various items into Tier³

 $^{^2}$ According to PEMA, counties began submitting triennial audits three years after each PSAP became officially recognized by the state.

³ Tier I includes network, database, equipment, and/or services that provide essential elements of 911 service, including replacement and maintenance. Tier II includes activities, equipment, and/or services that directly support and enhance the delivery of 911 calls and level of service provided, e.g., voice/data recorder and head-sets. Tier III includes activities, equipment, and/or services that provide auxiliary enhancements, e.g., MIS and public education.

and shared cost level (i.e., how costs are shared between wireline and wireless funds) priorities. As noted previously, the statute does limit one expense: personnel salaries, benefits, and training are not to exceed 70 percent of total wireline and wireless funds received by the PSAPs.⁴

Under Chapter 53,⁵ any expenses that are incurred by a PSAP (or, as discussed later, a wireless provider to comply with the FCC's E-911 Order) must be paid for or reimbursed by PEMA, as long as PEMA determines that the expenses have been properly submitted and are eligible for payment from the fund.

Spending Guidelines in Other States

In the FCC's report to Congress for CY 2010, states were specifically asked about the locus of control for approval of expenditures of funds collected from 911 surcharges. As reported in that document, a total of thirty-three states responded that the state controls expenditures of all funds collected, while nine cede control of 911 funds to local jurisdictions. Like Pennsylvania, a total of seven states have a hybrid approach, typically with the state controlling the wireless portion of the funds while the local jurisdiction maintains control over the wireline portion of collected funds.

Of the fifteen states⁶ (Florida, Illinois, Indiana, Maine, Maryland, Michigan, Minnesota, Missouri, New Mexico, North Carolina, Ohio, South Dakota, Tennessee, Virginia, and Washington) that answered this question in our more in depth review, we found the following with regard to their specific parameters on eligible and ineligible expenses.

- Personnel Expenses: Twelve of 15 states allow surcharge funds to be used for personnel expenses. Indiana, Missouri, South Dakota, Washington, Florida, Illinois, Maryland, and Michigan have no caps on this expense. In Ohio, funds may be spent on personnel after a PSAP has been in operation for one year if other costs are paid first. In Virginia, funds may be spent on personnel proportional to the percentage of wireless 911 calls (emergency calls). Surcharge funds may be used for personnel in Tennessee if the PSAP also performs the dispatching function. Maine, New Mexico, and North Carolina do not allow surcharge funds to be spent on personnel.
- Equipment: All fifteen states allow 911 surcharges to be spent on equipment.

⁴ 35 Pa.C.S.A. §§5308(b)(3) and 5311.5(b).

⁵ 35 Pa.C.S.A. §5311.4(d)(4).

⁶ In New Jersey, PSAPs do not receive any surcharge funding. Expenditures are local decisions. New York was unable to answer our funding eligibility questions.

- Communications (trunk lines and CAD): All fifteen states allow 911 surcharges to be spent on communications, with the exception of New Mexico, which does not allow funds to be spent on CAD.
- Buildings: Five states allow funds to be spent on the purchase of buildings: Missouri, South Dakota, Tennessee, Ohio, and Illinois. The remainder of states considers buildings an ineligible expense.⁷
- Professional Services: Ten of the fifteen states may use surcharge funds for professional services: Indiana, Missouri, South Dakota, Tennessee, Florida, Illinois, Maryland, Michigan, Ohio, and Virginia. The remainder of states considers professional services an ineligible expense.

PEMA's Process for Disbursing Wireless Funds

Although PEMA approves all eligible requests for wireless funds, because the Wireless E-911 Emergency Services Fund does not have enough money to fund all requests, PSAPs must sometimes wait until the following year(s) to receive reimbursement.

The process for distributing wireless funds is outlined in statute and provides for such pro-rata sharing of funds.⁸ The pro-rated disbursements are computed based upon the total dollar amount available in the fund multiplied by the ratio of the total dollar amount of approved but unpaid costs of that PSAP (or wireless provider) to the total dollar amount of all agency-approved but unpaid costs. Any remaining unfunded, but approved, requests are carried forward for payment in the next quarter. This "carryforward" process is continued until all approved requests have been funded.

Table 22, below, shows the total funds that had to be disbursed in a year following approval due to not having sufficient funds in the initial year of approval. In every year, at least 10 percent—and in one year over 40 percent—of the approved amounts were covered from wireless funds received in a subsequent year.

This practice, while ensuring that approved amounts are funded, limits the amount available to PSAPs for new requests/expenditures. This funding approach also gives counties an incentive to request as much funding as they can justify, as the amounts approved in one year will be funded in a subsequent year, even if sufficient funds are not available in the initial year. As a consequence, APCO/NENA told us that the rule of thumb for most PSAPs is to apply for full funding for every eligible cost or item that can be justified, and then wait for a final determination of what PEMA is able to provide from the fund.

 $^{^7}$ We were unable to obtain information from Virginia on this question.

⁸ 35 Pa.C.S.A. §5311.5(d).

	Appro Initia	oved but Unfun al Year of Appi	ded in ^r oval	<u>Wireless Fun</u>	<u>ds Available</u>	Percent of Available Dedicated to an Expense Approved in <u>a Prior Year</u>
Fiscal Year	PSAPs	Carriers	Totals			
2011-12	\$31,801,291	\$2,778,454	\$34,579,745	FY 2010-11	\$110,902,413	31%
2010-11	8,358,062	2,194,472	10,552,534	FY 2009-10	108,538,009	10
2009-10	10,567,295	1,410,222	11,977,516	FY 2008-09	105,357,863	11
2008-09	12,297,254	2,649,176	14,946,430	FY 2007-08	98,560,283	15
2007-08	39,913,262	0	39,913,262	FY 2006-07	90,684,997	44
Source: Develo	oped by LB&FC s	taff with informa	tion provided by P	EMA.		

Wireless Funds Approved in One Year But Disbursed in a Subsequent Year

Many of the counties we surveyed for this study thought that the application and disbursement process for wireless funds is fair. But others believe the process is too subjective, citing that some counties have been denied funding for a particular request for which a neighboring county was approved. In their response to our questions, APCO/NENA stated that they believe that the process for distributing wireless funds is fundamentally fair, but there are ambiguities in the process that tend to allow disparity in the allocation of some funds (e.g., PSAPs applying for the same funding in a number of different ways), and that it is not easy for PEMA to evaluate all the applications on the same basis. APCO/NENA suggested that the eligibility and disbursement process be reviewed on a regular basis and made more standardized.

Disbursement of Wireless Funds by Formula

Another county stated that the wireless funding process established in Act 2003-56 has been faulty since its inception. This county, along with some others, believes that providers should remit wireless funds directly to the counties, similar to wireline and VoIP funds. When the wireless surcharge was originally enacted in 2003, there was discussion that the surcharges should be distributed directly to the counties where they are collected, much like the wireline surcharge. Smaller, more rural counties were not in favor of this because of their relatively small populations and lack of cell phone coverage and use. They believed that this methodology would not afford them an adequate funding stream to effectively establish an E-911 program for their residents. This lack of agreement resulted in the methodology that exists today, in which PEMA collects and distributes wireless surcharges to the counties using the process described above.

Several wireless distribution formulas that have been discussed through the years in Pennsylvania include various weighted factors such as population and call volumes. Most formulas also contemplate the inclusion of a base amount of a certain percentage that would be distributed equally to all counties to balance out the smaller, more rural counties with our larger, more urban counties. All of these variants could be weighted in different degrees, such as 40 percent population, 30 percent call volume, and 30 percent equal share, to name one possible scenario, to achieve the desired results. Benefits to such an approach include a simplification of the process and expenses to administer the program, and an enhanced ability for the counties to plan ahead because they will know ahead of time what amount they will receive.

We also found that several other states use formulas to distribute their 911 surcharge funds, mainly for their wireless funds. This is because in many states, including Pennsylvania, wireline funds are under the jurisdiction of counties or other local governments, with state governments having the authority to distribute the wireless funds. The states that use some kind of formula include:

Colorado: Effective January 1, 2011, additional statutory language requires the collection of funds from prepaid wireless minutes purchased in a retail establishment in Colorado or delivered to a consumer in Colorado. These collected funds are remitted to the Colorado Department of Revenue, which is required by the statute to distribute the funds to the various local 911 Authorities using a formula based on wireless call volume.

Connecticut: Funds collected for E-911 are distributed under formulas established by regulation for regional PSAPs, for PSAPs in cities with populations greater than 40,000, and for multi-town PSAPs. Additional funds are distributed to all PSAPs, regardless of size, on a per-capita basis for telecommunicator training and for coordinated medical emergency dispatch.

Delaware: Each county receives an amount from the fund equal to 50 cents per month for each wireline residential customer from which the monthly surcharge is collected in that county, less the costs identified for wireless providers, or the amount received by that county in calendar year 2000 from telephone providers from E-911 surcharges, whichever is greater. Disbursements from the Fund shall be made to the counties by the 15th day of the month following the month in which the wireline residential surcharges are deposited into the Fund by the provider.

Indiana: Indiana has established a procedure for distributing wireless funds collected under the Indiana Wireless Enhanced 911 Board. All 92 Indiana counties receive two wireless distributions on a monthly basis to be used specifically for 911 purposes. The first distribution uses a formula based on the population figures from the latest United States Census to distribute funds receipted proportionately

to all 92 counties. The second distribution is made equally to all 92 counties based on the funds received.

Michigan: Michigan counties receive an 82.5 percent share of the total Michigan state 911 charge and the prepaid device 911 charge. Forty percent goes to each county equally, 60 percent goes to counties based on census population.

Mississippi: According to Mississippi Code, the amounts collected by the wireless provider attributable to any emergency telephone service charge are to be remitted to the county treasurer monthly. Thirty percent of the funds are to be used to defray administrative expenses and the remaining 70 percent are distributed based on the number of wireless connections in a given zip code.

Montana: The state made quarterly distributions of the entire basic and enhanced 911 accounts on a per capita basis. Distribution of the wireless 911 account provided for a small county sunset provision that divided funds in that 84 percent was distributed to all counties on a per capita basis. The remaining 16 percent was divided evenly to counties with 1 percent or less of the population. This provision, however, sunsetted in 2011. In the new manner of distribution, the entire wireless account will be distributed based on per capita basis.

North Carolina: The 911 Board establishes a percentage of the fees received for distribution to primary PSAPs. As of December 31, 2009, the percentage designation was set at 99.5 percent. In addition to the percentage designation from wireless providers, all fees collected by all other voice communication providers are designated for distribution to primary PSAPs. Funds are distributed monthly to all primary PSAPs based on their reported fiscal year 2007 revenues. Funds received in excess of the "base" amount may be distributed to primary PSAPs on a per capita basis.

Ohio: The wireless service providers and the Public Utilities Commission of Ohio are each permitted to retain up to 2 percent of the collected funds. The remaining 96 percent is distributed monthly to each of the 88 counties in Ohio. County disbursements are calculated based upon a ratio of the number of wireless numbers with billing addresses in the individual county over the total number of wireless numbers with billing addresses in the state. Each county is guaranteed a minimum of \$90,000 per year.

South Carolina: Forty-six counties and four municipalities receive a quarterly distribution of a portion of the wireless surcharge based on total wireless call volume for that time period, which must be used specifically for 911 or E-911 purposes. An additional amount of the wireless surcharge is available for reimbursement to these counties and municipalities for upgrading, acquiring, maintaining, programming, and installing necessary data, hardware, and software to comply with certain FCC requirements.

Tennessee: The Tennessee Emergency Communications Board (TECB) distributes 25 percent of the revenue generated by the monthly service charge on users and subscribers of non-wireline telephone service to the state's Emergency Communications Districts (ECDs), based on the proportion of the population of each district to that of the state. The funds are distributed every two months.

The TECB also provides a number of non-statutory funding programs for the ECDs. The remaining budgeted funds are used in support of 911 statewide programs. For example, the TECB created a recurring operational funding (ROF) program in 2006 in part to address the disproportionate nature of the strictly population-based distribution required by Tennessee law. In 2010, this program was expanded from \$14 million to \$21.6 million to address decreasing local collections from landline 911 fees.

Under the ROF program, each district receives \$80,000 annually as an acknowledgement of the basic costs intrinsic to providing 911 services without regard to the size of the ECD. The remainder of the \$21.6 million (\$13.6 million) is divided among the districts based on seven population groups. A set amount is allocated to each group based on the average audited cost ratios of each of the population groups, determined from an analysis of audited financial statements from the 2004-05 fiscal year. In figuring this calculation, all personnel costs, including salaries and benefits, were excluded in order to assure more equal treatment between districts that dispatch and those that do not. Every ECD in each of the seven population groups receives the same dollar amount. In FY 2011, adjustments will be made based on 2010.

Virginia: Sixty percent of the Wireless E-911 fund is distributed, on a monthly basis to the PSAPs according to the percentage of recurring wireless 911 funding received by the PSAPs as determined by the Virginia Wireless E-911 Services Board. Thirty percent of the fund is distributed to wireless providers for their wireless E-911 costs. The remaining 10 percent of the fund and any funds remaining from the previous year from the 30 percent to providers, are to be distributed to PSAPs based on grant requests to the Board.

West Virginia: Portions of wireless funds, in addition to being distributed to PSAPs, are distributed to the West Virginia State Police, the Division of Homeland Security and Emergency Management, and West Virginia Public Service Commission. The remainder of funds is distributed to the counties. Funds are distributed to counties in the following manner:

Each county that does not have a 911 ordinance in effect as of 1997 or has enacted a 911 ordinance within the five years prior to 1997 will receive eight and one-half tenths of 1 percent of the fee revenues received by the Public Service Commission. After the effective date of a new statute, implemented in 2005, when two or more counties consolidate into one county to provide government services, the consolidated county shall receive 1 percent of the fee revenues received by the Public Service Commission for itself and for each county merged into the consolidated county. Each county shall receive eight and one-half tenths of 1 percent of the remainder of the fee revenues received by the Public Service Commission.

Then, from any moneys remaining, each county receives a pro rata portion of that remainder based on that county's population as determined in the most recent decennial census as a percentage of the state's total population. The Public Service Commission recalculates the county disbursement percentages on a yearly basis, with the changes effective on the first day of July, and using data as of the preceding first day of March. The public utilities which normally provide local exchange telecommunications service by means of lines, wires, cables, optical fibers, or by other means extended to subscriber premises supply the data to the Public Service Commission on a county-specific basis.

Shared Costs

Items on the matrix that are eligible for both wireline and wireless funding can "share" funding from both these sources. The amount a county receives for the wireless portion of the shared funding depends on the number of wireless 911 calls the PSAP receives. The greater the percentage of 911 calls the PSAP receives of total statewide wireless 911 calls, the more the county is eligible to receive in shared wireless funding.

This formula has led to some concerns over the lack of a clear definition of what constitutes a 911 call. PSAPs that define a 911 call broadly to include all (or almost all) calls received at the center, including those of an administrative or routine nature, would be at a financial advantage in the shared cost formula compared to PSAPs that only include actual emergency calls. As PSAPs may receive many more administrative or routine calls than emergency calls, this definitional issue could result in significant funding disparities. (PEMA informed us that beginning in CY 2011, it has asked PSAPs to separately report emergency 911 and non-emergency calls.)

Chapter 53 Contains Conflicting Provisions as to Whether Dispatching and Utilities Are Eligible Costs

In reviewing the disbursement of surcharge funds, we became aware of conflicting provisions regarding whether PSAP costs for dispatching and utilities are eligible for reimbursement.

Dispatching

Chapter 53⁹ specifically states that the "hiring of dispatchers" is an ineligible expense. PEMA has interpreted this provision narrowly; it considers only the preemployment costs associated with recruitment, hiring, and screening of new dispatchers to be ineligible. PEMA (and the PSAPs) therefore considers the on-going salary, benefits, and training costs for dispatchers to be an eligible expense. The issue of dispatching is also addressed in III.B.

Utilities

Chapter 53 is contradictory regarding the eligibility of utilities as an allowable expense. For example, utilities are listed as an ineligible expense for wireline funds in the statute under §5305(g),(g.1)(2)(iii) but are eligible under §5308(b)(1). For wireless funds, utilities are eligible under §5308(b)(1), but are ineligible under §5311.5. However, PEMA regulations at 4 Pa. Code §120b.106 state that utilities are ineligible costs, and they are not listed as an eligible expense on PEMA's Eligibility Funding Matrix. PEMA agrees that the statute is contradictory, but states that the regulations are specific that utilities are not an eligible expense.

Our review of the triennial audits (see III.E) found quite a few instances in which counties included utilities as an allowable expenditure. This occurred most often with wireline funds, but also occasionally with wireless funds. In the CY 2006-2008 triennial audit, we found five counties that reported using 911 funds for utility costs. In the CY 2007-2009 and CY 2008-2010 triennial audits, three and eight counties, respectively, reported using 911 funds for utility costs. The use of surcharge funds for these costs was not cited as a deficiency by any of the auditors, nor did PEMA send deficiency letters to these counties.

Funding to Counties That Do Not Have PSAPs

Five counties contract out their 911 call-taking responsibilities to a PSAP in another county. Table 23, below, shows the amount these counties received in wireline, wireless, and VoIP revenues and their corresponding expenditures for the six-year period from FY 2005-06 though FY 2010-11.

⁹ 35 Pa.C.S.A. §5305(g),(g.1)(2)(iii).

Table 23

Revenue and Expenditures for PSAPs Which Contract for Call Taking With Other PSAPs (Revenue and Expenditures Data Are Totals for FY 2005-06 Through FY 2010-11)*

		Revenue	Ð		Expend	itures			
						Personnel	Number of Call	Average 911	Cost Per
PSAP	<u>Wireless</u>	<u>Wireline</u>	VoIP	Other	<u>Total</u>	Only	<u>Taking Staff^a</u>	<u>Calls Answered^b</u>	<u>Call</u> ^c
Cameron	\$ 1,354,303	\$ 354,047	\$10,671	\$17,022	\$ 1,146,458	\$113,697	0	2,904	\$ 66
Forest	2,512,240	356,119	1,346	0	1,856,666	48,873	0	1,658	187
Fulton	2,054,484	691,641	16,999	0	2,686,773	91,291	4	5,153	87
Potter	11,610,147	1,125,840	27,324	23,028	12,103,408	906,457	6	14,256	141
Sullivan	3,131,340	538,485	583	98,150	4,298,946	222,458	e	2,580	278

^{*}Wireline, VoIP, and Other Revenue were not available for FY 2011-12. Expenditure data was not available for FY 2011-12. Call data was not available for FY 2011-12.

^a Number of call taking staff represents call takers who have been certified to answer 911 emergency calls. The number of certified staff does not include supervi-^b Average 911 Calls Answered was calculated by adding the total number of 911 calls answered by the county being contracted with to answer 911 calls for six county PSAP which has been contracted with to answer 911 calls is unable to do so because of equipment problems or because of a natural catastrophe, the sory staff that may also be certified. Call taking staff may be part-time or only called in to answer 911 calls when there is a specific need. For example, if the county that contracts for services could have its own certified staff answer 911 calls until the problem had been remedied.

years and dividing the total by six to determine the average number of 911 calls answered in each of the six years.

^c Cost Per Call was calculated by adding total expenditures for six years and total 911 calls answered in the same six years and then dividing the sum of total expenditures by the sum of total 911 calls answered.

Source: Developed by the LB&FC staff from data reported by PEMA in annual reports for 2006, 2007, 2008, 2009, and 2010, as well as data reported by individual PSAPs to PEMA.

We were particularly interested in Potter County, which received surcharge revenues of \$12.1 million, during this period, despite not operating a PSAP and having the fifth smallest population in the state. We found that in Potter County many of the expenditures were for capital costs—most notably for telephony connectivity. Potter County's 911 director informed us that its PSAP, although not operational on a daily basis, serves as a back-up PSAP for Tioga County. PEMA, however, informed us that it does not generally allow surcharge funds to be used for back-up PSAPs and because Potter County had filed an official county 911 plan, it had to fund the Potter County PSAP.

The E-911 Emergency Services Committee and Its Wireless Subcommittee

Act 2003-56¹⁰ established an E-911 Emergency Services Committee and the Wireless Subcommittee, and enumerates membership on both committees as follows:

Emergency Services Committee:

- Director or designee.
- Two county commissioners.
- Four wireless providers licensed by the FCC.
- Two landline providers.
- Two representatives each from fire services, emergency medical services, and police.
- The Chairmen and Minority Chairmen of the Senate Communications and Technology Committee and the House Veterans Affairs and Emergency Preparedness.

Wireless Subcommittee:

- Advisory Committee Chair.
- Two county commissioners.
- Four 911 program managers.
- Four reps of wireless providers licensed by the FCC.
- Two landline providers.

The E-911 Emergency Services Committee is mainly advisory, charged with making recommendations to PEMA regarding the formulation of technical, administrative, and operational standards for use in overseeing 911 programs statewide. According to PEMA, this committee originally met in 2005 to review and subsequently recommend approval of the Statewide Wireless 911 Plan. It also met

¹⁰ 35 Pa.C.S.A. §5311.3.

several times in 2006 for updates on the wireless program and to make recommendations for continued progress. This Committee has not met since 2006.

The role of the Wireless Subcommittee is to:

- Advise PEMA regarding the development, implementation, operation, and maintenance of statewide E-911.
- Make recommendations to PEMA regarding the preparation and periodic revision of an E-911 state plan.
- Make recommendations to the agency regarding the approval or disapproval of wireless provider service agreements and formulation of technical standards.
- Make recommendations to PEMA regarding the development of guidelines, rules, and regulations required to address the administration of E-911 plan and the disbursement of money from the fund.
- Make recommendations to the agency regarding the development of the annual report required of PEMA, including but not limited to recommendations regarding the 911 surcharge.

The Wireless Subcommittee is active; however, according to the Subcommittee's minutes, its membership more resembles the statutory membership of the E-911 Emergency Services Committee than the Wireless Subcommittee. The E-911 Committee originally included legislative representation, in that the chairmen and minority chairmen of the Senate Communications and Technology Committee and the House Veterans Affairs and Emergency Preparedness were included. The composition of the Subcommittee however, did not include any General Assembly representation. Minutes of Subcommittee meetings show, however, that, beginning in May 2008, representatives from these committees started attending Subcommittee meetings and are now listed as members.

According to PEMA, the Wireless Subcommittee meets to review PEMA's policies and procedures, including the yearly wireless funding eligibility list. The Subcommittee has historically met at least twice per year to review issues of funding eligibility and funding appeal requests, and make recommendations to PEMA on those issues.

In its 2008 triennial report, PEMA recommended changing legislation to combine the two bodies into one, with the composition being most like the E-911 Emergency Services Committee with some changes, such as adding two members of the public at large. PEMA's suggested committee composition also included the majority and minority chairmen of the Senate Communications and Technology Committee and the majority and minority chairmen of the House Veteran's Affairs and Emergency Preparedness Committee. In response to our questions about the committees, PEMA stated that it believes that a future rewrite of the statute should include just one advisory committee. PEMA advocates that the committee should be composed of public safety and private sector representatives, possibly with working groups specific to each respective area.

Based on the minutes of the Subcommittee, most of its business involves deciding PSAP appeals on funding decisions and debating and determining what items and services should and should not be listed as eligible expenses on the Matrix. The wireless funding process allows for PSAPs to appeal PEMA decisions. PSAPs must include all supporting documentation as they would for an original request. PEMA with the advice of the Wireless Subcommittee make all appeal determinations.

As shown in Table 24, the majority of appeals are denied, with about 75 percent being denied over the five-year period we reviewed.

Numbe	er of Wireles	ss Funding	Appeals and Ou	itcomes
	Number of <u>Appeals</u>	Number <u>Approved</u>	Number Denied	Percent <u>Denied</u>
2007	83	8	75	90%
2008	77	21	56	73
2009	125	41	85	68
2010	90	28	62	69
2011	21	5	16	76

Tabl	e 24
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Source: Developed by LB&FC staff from minutes of the Wireless Subcommittee

Wireless Fund Reallocations and Return

PSAPs may request to reallocate their wireless funds to items other than what was originally approved. This process is not included in statute, but rather was implemented by PEMA. Requests must include the previously approved item, the new item, the funding year associated with the purchase, and supporting documentation and justification to support the request. Reallocation requests must adhere to the same guidelines as initial funding requests. Unspent funds from one year may be reallocated to any approved, partially funded, or unfunded item from the same fiscal year.

Funds may be reallocated within a county, but not between counties. According to PEMA, such reallocations happen frequently. Since FY 2005-06, PSAPs have

made 772 reallocation requests. Only 20 requests, or 3 percent, of these requests have been denied. As a result, a total of \$13,176,278 has been reallocated during this time frame.

Another complicating aspect of the funding process is the return of wireless funds and/or wireless funds that are withheld from disbursement to PSAPs by PEMA. This occurs due to either an excess of unspent funds in the PSAPs' wireless account or because PSAPs had purchased ineligible items (as determined by the reconciliation process) and they did not reimburse their accounts for the ineligible items. Table 25 shows the total wireless funds returned to date and the total funds withheld from disbursements from 2007-08 forward.

	Table 25				
Surcharge Funds Returned or Withheld From Disbursement					
		Funds Withheld From			
<u>Fiscal Year</u>	Funds Returned	<u>Disbursement</u>			
2007-08	\$ 500,000.00				
2008-09	509,514.19				
2009-10	3,227,932.34				
2010-11		<u>\$6,695,718.10</u>			
Total	\$4,237,446.53	\$6,695,718.10			
Grand Total	\$10,9	993,164.63			
Source: Developed by LB&FC staff with information received from PEMA.					

Wireless Service Provider Cost Recovery

Chapter 53 also allows for wireless providers to apply for cost recovery from Wireless E-911 funds¹¹ for costs incurred resulting from compliance with the FCC E-911 Order, including development, implementation and testing, and operation and maintenance of a statewide integrated E-911 system. PEMA determines these amounts after allocating funds to the PSAPs. Table 26, below, shows that, from FY 2005-06 to FY 2009-10, wireless providers have requested almost \$38.2 million in cost recovery. Over this same time period, PEMA approved \$12.8 million.

¹¹ 35 Pa.C.S.A. §5311.4(d)(2).

Table 20	Tab	le	26
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Year	Providers	<u>Phase</u>	Requested <u>Amount</u>	Approved <u>Amount</u>	Disbursed <u>Amount</u>
2005-06	Cricket, Nextel/Sprint, Cingular, Verizon	I	\$ 1,600,000	0	0
2005-06	Nextel/Sprint	П	705,000	0	0
2006-07	Indigo, Immix, Verizon	I	21,486,976	\$ 3,210,488	0
2007-08	Immix, Indigo, Cricket, Verizon	I	8,962,057	3,810,311	\$3,210,149
2008-09	Immix, Indigo, Cricket, Verizon	I	3,275,147	3,735,148	1,085,972
2009-10	Immix, Indigo, MetroPCS	I	2,135,603	2,001,709	<u>3,240,663</u>
Totals			\$38,164,783	\$12,757,656	\$7,536,784
Source: Developed by LB&FC staff with data from PEMA Annual Reports. PEMA reports that no cost recovery was paid out prior to 2007-08.					

Amount of Cost Recovery by Wireless Providers

Any wireless provider that intends to seek cost recovery for Phase I and II costs must submit a letter of intent to PEMA, stating that such provider intends to seek cost recovery and will be submitting a Cost Recovery Plan. Each wireless provider submitting a letter of intent must also submit a Deployment Status Survey that indicates the provider's Phase I and II deployment status in every county in which it provides service within Pennsylvania.

Providers may also recover their costs for implementing and maintaining wireless 911 services directly from their customers.¹² However, no provider that charges fees to customers in the geographic area served by the requesting PSAP may also receive reimbursement from wireless fund monies. PEMA notes, however, it does not regulate the charges that providers may add to their customers' bills, and providers are not required to report these charges or how they are used to PEMA.

A 2008 Auditor General's report also noted that PEMA did not have access to providers' internal customer billing records and had no way to determine if the wireless providers who submitted cost recovery plans to PEMA also recouped their costs through customer billings.¹³ The Auditor General report recommended that PEMA implement procedures to prevent wireless providers from recovering costs both from the fund and directly from wireless customers. Although PEMA stated that it would consider the Auditor General's recommendation, it has not implemented any new procedures.

¹² 35 Pa.C.S.A. §5311.4(d)(5).

¹³ Wireless E-911 Emergency Services Program, October 2008.

Reconciliation Process

Each year, each PSAP's wireless funds are reconciled for the prior fiscal year to ensure that funds were spent in accordance with the statute, state plan, policies, and regulations. PSAPs submit certifications and supporting schedules (Reconciliation Forms) of the prior fiscal year amounts of approved and received funds, interest on wireless funds, expenditures, encumbrances, and the remaining unencumbered balance. Supporting schedules and documentation identify the amounts of expenditures and encumbrances in detail, e.g., purchase order date and number, vendor name, invoice date and number, as well as any reallocation of funds for which PSAPs received PEMA approval.

PEMA verifies completeness and accuracy of forms and schedules, and reviews all documentation submitted by PSAPs for a sampling of expenditures and encumbrances. All items greater than \$15,000 are reviewed. The agency also reviews each PSAP for variances between approved and actual costs within cost categories. If there are any unspent funds, PEMA reserves the right to request the funds be returned, but have generally allowed the PSAPs to retain the funds. However, PEMA has, on occasion, deducted that amount from the new requested amount in the application funding.

The Auditor General's report, *Wireless E-911 Emergency Services Program*, October 2008, noted that PEMA's administrative procedures for reconciliations at the time included a requirement for PEMA to conduct site visits to each PSAP once every three years for the purpose of verifying equipment purchases, documenting expenditures, and confirming other compliance criteria. The Auditor General's report noted, "site visits are critical for PEMA to ensure the integrity of the program. Otherwise, PEMA cannot ascertain that the funds it disbursed actually resulted in the purchase of related assets, and that funds were otherwise spent in accordance with statutory and regulatory requirements." The Auditor General report recommended that PEMA conduct such site visits at each PSAP each year.

When we asked PEMA why they had discontinued the site visits,¹⁴ we were told that site visits were only conducted during the first year of wireless funding reconciliation (2006) and were only for the purpose of collecting documentation. These visits were manpower intensive and time-consuming, were deemed to not be efficient, and were discontinued the following year. PEMA noted it only accepts valid vendor contracts, leases, and invoices as reconciliation documentation, except for personnel costs, for which county documentation is accepted. Any documentation that does not appear to be valid is not accepted, and the PSAP is contacted to resubmit valid documentation, or the expenditure is not accepted. PEMA also noted, however, that it is seeking to augment its audit staff, and if it can do so, will seek to complete a minimum of 23 PSAP site visits during each fiscal year for financial review.

¹⁴ PEMA has told us that they currently do perform annual site visits, but only for quality assurance purposes.

PEMA Administrative Cost Allowance

According to §5311.10 and §5311.14 of the statute, PEMA is authorized to retain up to 2 percent of the annual wireless surcharge and 1 percent of the VoIP proceeds remitted to the state to pay for agency expenses directly related to administering the wireless 911 provisions of the statute. Expenses include personnel, travel, administrative, financial, and printing costs. In recent years these surcharge allowances total about \$2.2 million annually. As shown below (Table 27), the financial documents we reviewed indicate that PEMA does not exceed this amount for its reported General Operations expense.

Gross Receipts and PEMA Expenditures From Administrative Holdbacks – Wireless Funds						
<u>Fiscal Year</u>	Gross Receipts Into <u>Wireless Fund</u> ^a	2% of Gross <u>Receipts</u>	Actual PEMA Expenditures			
2004-05	\$ 64,419,734	\$1,288,395	\$ 787,010			
2005-06	80,053,597	1,601,072	1,364,719			
2006-07	91,042,185	1,820,844	1,365,096			
2007-08	98,721,093	1,974,422	1,444,093			
2008-09	105,977,958	2,119,559	1,726,531			
2009-10	108,632,409	2,172,648	1,677,176			
2010-11	<u>110,815,905</u>	2,216,318	<u>1,253,919</u>			
Totals	\$659,662,881	\$13,193,258	\$9,618,544			

Table 27

^a The figures Gross Receipts into Wireless Fund column are slightly different than as presented in PEMA's Annual Reports as net receipts. This is because Annual Report Figures include any funds that were returned by PSAPs.

Source: Developed by LB&FC staff with data provided by PEMA from SAP Business Warehouse reports and the Department of Revenue.

However, we did note a difference between the amount reported being spent on Wireless E-911 Emergency Service Grants in the Governor's Executive Budget compared to the amount of wireless grants PEMA reports awarding to counties. For example, the Governor's Executive Budget shows \$113.8 million in wireless grants being disbursed in FY 2010-11. But in its Annual Report, PEMA reported expending only \$107.8 million for county wireless grants, a difference of \$6 million. Similar differences occurred in all six of the years we reviewed.

PEMA explained that the difference in the two reported numbers occurs because it uses some of the wireless surcharge funds for consultant contracts and certain other expenses that it considers beneficial to the statewide 911 system; expenses it believes do not constitute administrative costs. For example, PEMA used wireless funds over and above its 2 percent allowance to procure consulting services to assist it and the counties in wireless 911 deployment, post-deployment, and statewide strategic planning activities related to E-911 and Next Generation 911.
III.D. Counties and PEMA Are Largely in Compliance With Chapter 53's Reporting Requirements, PEMA's Triennial Report on Wireless E-911 Services, Last Submitted in June 2008, However, Is Overdue

In addition to the triennial audits counties must submit to PEMA (see III.E), Chapter 53 contains three other reporting requirements: a triennial plan by counties to PEMA, an annual report by PEMA to the General Assembly regarding the status and funding of wireless E-911 services, and a triennial report by PEMA to the General Assembly that is to include recommendations regarding wireless E-911 services. PEMA regulations have a fourth reporting requirement by counties to PEMA.

County Triennial Plans

Chapter 53 requires each county to submit a triennial plan to PEMA delineating the PSAP's proposed and existing wireline and wireless 911 systems and procedures. The county plans also include the county's proposed contribution (surcharge) rate for the forthcoming three years. In establishing contribution rates, regulations direct counties to provide justification of their rates. As part of this justification, PSAPs are to provide a narrative of the system, a diagram detailing the components of the system, and the estimated nonrecurring and recurring costs for each component of the 911 system for which the county is eligible to receive reimbursement.

Chapter 53 directs PEMA to establish technical standards for the county plans. County plans are to meet, at a minimum, PEMA standards. Chapter 53 also provides that "each 911 plan shall be designed to meet the individual circumstances of each community and the public agencies participating in the 911 system."

Counties submit their plans on a staggered basis; not all are submitted to PEMA at the same time. PEMA is to review the plans within 30 days for completeness, and if found to be deficient, the plan is to be sent back to the county for revision. If the plan is complete, PEMA forwards it to the PUC for review of the proposed contribution rate and to the Pennsylvania Emergency Management Council (PMC) for review of the overall plan. Both agencies have 90 calendar days to review the plan. The PMC submits its findings to PEMA with a recommendation for approval or denial. If it recommends denial, the reasons for the denial are to be provided, along with any recommendations for changes to the plan.

The PUC may only make recommendations to modify the proposed contribution rates if it finds them excessive. However, every county has justified rates that allow them to charge the maximum surcharge for their counties (see II.D for more information on the PUC's justified rates). The county plan is also to include (via PEMA regulations):

- A description of the current or proposed geographic area to be served by the system and a list of local governments and participating telephone companies and their respective exchange areas that are in the 911 system.
- A map that corresponds to the written description of the service area.
- A description of the operational plan for the system, including the technical components as required by the Agency, in sufficient detail to describe the operational aspects of the system, including staffing, supervision, training, interrelationship with public agencies, daily operations, emergency operations, and equipment requirements.
- The proposed contribution rate and supporting documentation for the rate to be established for subscribers within the 911 service area.
- The supplementary plan information as provided for in the supplementary plan information forms provided by the Agency.
- A comprehensive plan and time schedule for the implementation, upgrading, or expansion of 911 services.

Also through regulation, PEMA has established the following technical standards and capabilities that PSAPs must meet:

- Minimum standards and capabilities for PSAPs, such as trained operators answering 90 percent of 911 calls within 10 seconds, a minimum of two lines for each established exchange or central for incoming 911 calls, and the telephone number of the calling party, as well as the name and address shall be displayed to the operator.
- 911 minimum requirements for existing, proposed, or new services including forced disconnect and emergency ring back.
- Trunk capacity requirements including trunk identification (the number of trunks required to provide adequate 911 service for a given population) and trunk calculations (information regarding the number of calls and the average call duration shall be determined) derived via the trunk capacity formula provided by PEMA (see III.A).
- 911 enhanced options that may be incorporated into an existing or new 911 system, for example, manual transfer of 911 calls or automatic call distribution to available PSAP call attendants in the order the calls are received.

In reviewing the Triennial Plans, we first identified if PEMA's template included all of the elements required in regulation. The template includes all of the required elements and asks for additional information, such as an executive summary section; proposed upgrades and future plans and needs; and inter-agency/ inter-city, county, or any other mutual aid agreements.

We then reviewed the plans for completeness with the required elements. We only found one instance in one county where an element was not in the plan. Some elements, however, are not reported consistently. For example, in Section 5.2, List of Positions, some counties list positions by part-time or full-time employees. Others simply list all positions without additional detail. In Section 7.1.6, Call Volume and 911 Call Volume Breakdown, some counties list only 911 calls, while others list both 911 and administrative calls.

From our review of Section 2.4, Proposed Upgrades and Future Plans, it appears that most counties have put substantial efforts into identifying their planning needs. At least one-third of the counties have plans for radio upgrades, such as new radio systems, replacing equipment, replacing or upgrading tower sites, improving interoperability, replacing antennas, and replacing transmitters. Other projects and plans that counties are working on include:

- CAD upgrades and replacements,
- new facilities,
- replacing workstations and associated furniture,
- creating backup PSAPs,
- establish microwave redundancy,
- maintenance and expansion of GIS/mapping,
- transitioning for Next Generation 911,
- telephony upgrades,
- public education and outreach,
- field incident report team,
- voice recorder replacement,
- security upgrades,
- computer support projects, and
- personnel plans.

Section 3.3, Explanation of Modifications/Changes to Original Plan, includes information on the status of the plans reported in prior triennial plans. Several counties did not give specific answers in this section, but stated there had been significant changes to original plans and that these changes are noted in the current plans. Several counties noted that their PSAPs have become fully operational since prior plans.

County Annual Reports

PEMA regulations, 4 Pa. Code §120b.112, require that each county must submit a report to PEMA annually by December 1 of the current year. PEMA through their guidelines has changed the required submittal date to January 31 of the year following the data's collection. Although our review found that counties do submit these annual reports, not all reports contain all elements, and they are sometimes submitted past their due dates.

We found that all counties submitted annual reports for the years 2006 through 2011. The reports are available on PEMA's WebTool, which allows counties to submit these reports online. We reviewed each report for CY 2010 to verify that counties included all regulatory required elements.

Listed below are the elements required by regulation and our assessment of the counties'/PSAPs' compliance with each element for CY 2010:

- 1. Information including the contribution rate and number of access lines and call volumes, both wireless and wireline: All counties included this information.
- 2. Progress reports: Twelve counties did not give progress reports. They were: Adams, Allentown, Beaver, Butler, Cambria, Cumberland, Delaware, Elk, Fulton, Mercer, Mifflin, and Union.
- 3. Installation schedules and expenses: Only four counties reported any installation schedules or costs and included Cameron, Elk, Franklin, and Indiana. It is possible that counties did not include this information because they may not have had any costs or installation schedules during CY 2010.
- 4. Anticipated 911 system changes: Most counties included information on anticipated changes and what was planned for the coming year. Several counties, however, did not provide such information.
- 5. Other system related costs and other information deemed necessary by the Agency: In addition to the above elements, PEMA asks for the number of municipalities in each county and how many of those municipalities are addressed and mapped. PEMA also asks for wireline funds collected; interest on both wireline/VoIP funds and wireless funds; any other 911 income; total expenditures; total personnel costs; and balances on both wireline/VoIP and wireless funds. Counties provided this information in at least the vast majority of cases.

PEMA's WebTool has a brief definition of what is to be included in these various fields for counties' annual report submittal. However, we found that the definition of at least one key field—Any Other Type of Income Received—is vague and open to interpretation by the counties. In particular, some counties appear to include transfers received from the county General Fund as "other income," whereas other counties do not appear to include such transfers as "other income." In defining "other income," the PEMA WebTool simply states "Including, but not limited to, municipal service fees between counties for call taking and dispatching services." Because transfers from county general funds can be significant (in some cases approaching or exceeding the county's wireline revenues), it is difficult to get a true picture of how much counties are generating in additional 911 revenues if some counties report county transfers as other income.

PEMA's Annual Reports to the General Assembly

Under Act 2010-118,¹ PEMA is to submit an annual report by March 1 of each year to the Governor and the General Assembly. Listed below are the statutorily required elements that are to be included in the annual report, and the results of our review of the annual reports.

- 1. The extent to which wireless E-911 systems currently exist in this Commonwealth.
 - Included in all annual reports, 2006 2010
- 2. Those PSAPS which completed installation of wireless E-911 systems pursuant to the wireless E-911 plan and the costs and expenses for installation.
 - Not included in any annual report, 2006 2010. This is likely not included because all PSAPs in the Commonwealth are deployed to Phase II.
- 3. An itemization by PSAP or wireless provider, project and description and expenditure for each wireless E-911 emergency services fund disbursement made in the fiscal year just concluded. The itemization shall include an explanation of how each project contributed to the fulfillment of the existing E-911 state plan.
 - No report included itemizations by PSAP for each fund disbursement. Each report did include requests and disbursements from the fund to individual wireless providers; however, no explanation of the expenditure was included. According to PEMA, this information has not been included in the annual reports since the previous fiscal year's wireless

 $^{^1}$ 35 Pa.C.S.A. §5311.6(a).

funding reconciliations are not completed prior to the due date of the annual reports to the General Assembly.

- 4. The planned expenditures for the next fiscal year for installation of wireless E-911 systems pursuant to the Wireless E-911 State plan.
 - Not included in any annual report, 2006 2009, perhaps because every county now has E-911 capability.
- 5. The total aggregate fees collected from all wireless providers in the fiscal year just concluded based upon the reports of the providers submitted under 35 Pa.C.S.A. §5311.4(e).
 - Included in all annual reports, 2006 2010
- 6. The amount of any unexpended funds carried forward in the fund.
 - Included in all annual reports, 2006 2010
- 7. The amount of any remaining unpaid agency approved PSAP costs or wireless provider costs being carried forward for payment during the next fiscal quarter.
 - Included in annual reports, 2007 2010.
- 8. Any advances in a wireless provider's system technology or expansion of its customer service area which further the goal of providing access to a wireless E-911 system regardless of the customer's geographic location on any Pennsylvania interstate highway.
 - This was not provided in any great detail, however, reports from 2008 2010 included the following language: "Wireless providers continue to build out networks and deploy new technology service in the Commonwealth. This infrastructure must be appropriately deployed ensuring Phase II wireless service, while ensuring wireless service providers meet FCC-mandated wireless accuracy standards."

PEMA's Triennial "Study of Wireless E-911 Services Implementation and Operation"

Under Chapter 53, PEMA is to report no less than triennially on the implementation and operation of the state's wireless E-911 system, including actions which must be undertaken in response to the FCC's directive in the FCC E-911 order. The report is also to recommend measures to be taken by the General Assembly.² PEMA submitted such a report in June of 2008, but the report due in 2011 was still in draft form as of spring 2012.

² 35 Pa.C.S.A. §5311.6(b).

III.E. Counties Are Required to Undergo Audits of Expenditures From Their Wireline and Wireless Funds. These Audits Indicate Counties Are Generally in Compliance With Statutory and Regulatory Requirements.

Chapter 53 has two auditing requirements for the counties. The first requires triennial audits of each county's collection and disbursement of contribution rate (wireline) funds and expenditures for the recurring and nonrecurring costs, training, maintenance, and operation of 911 systems. Counties may pay for the audits with contribution rate revenues.¹ The second auditing requirement is a triennial audit of each PSAP's use of the disbursements it has received from the Wireless E-911 Emergency Services Fund. The cost of these audits shall also be paid from the fund.²

These triennial audits are to be consistent with the guidelines established by PEMA for this purpose, and they are available online at PEMA's website.

PEMA has little direct control or oversight particularly over counties' wireline funds, so the triennial audit serves as the primary document that PEMA receives detailing those revenues and expenditures.³

Review of Audits

We reviewed the triennial PSAP audits for years 2006-2008, 2007-2009, and 2008-2010, (approximately one third of the counties have triennial audits due each year).

For the first two groupings of audits (CY 2006-08 and 2007-09), all audits were submitted, except for Armstrong County's 2007-2009 triennial audit.⁴ Another county, Bucks, had just submitted the final year of its 2007-2009 audit, having been granted an extension by PEMA. For this group of audits, most included the elements required by statute—only one county did not include an audit of its wireless funds, and it was subsequently submitted to PEMA. We were unable to complete our review of audits for 2008-2010 because not all counties had submitted them to PEMA prior to our analysis. As of March 2012, the following counties had not submitted audits to PEMA for the 2008-2010 time frame: Berks, Crawford, Lebanon, McKean, Pike, and Somerset. Berks and Crawford Counties were granted extensions by PEMA.

¹ 35 Pa.C.S.A. §5308(d) and 4 Pa. Code §120b.111(e).

² 35 Pa.C.S.A. §5311.5(e).

³ The Annual Reports do include fields for counties to report wireline revenues and interest, but expenditure fields are not separated by surcharge source and include those made with income from all nonsurcharge sources. ⁴ PEMA was unaware that the audit had not been submitted. When contacted, an Armstrong County official stated that he was unaware that he needed to send the audit to PEMA and sent it immediately.

PEMA staff review each audit and produce a report for each one. $^{5}\,$ Audits are reviewed for:

- completeness, i.e., that both wireline and wireless are represented for all three years,
- whether the wireless revenues matched PEMA records,
- whether the 70 percent limit for personnel costs and the 1 percent county administrative limit were met,
- that wireline and wireless funds are not comingled, and
- whether or not auditors had any findings regarding the counties' 911 finances and the resolution to those findings; etc.

When counties are not within the required parameters PEMA often sends a letter requiring a remedy for a found deficiency. It is sometimes unclear, however, whether a county has addressed the issue because there are not necessarily return letters in the files from counties stating that they have done so. In other cases, however, auditors have found deficiencies which the county then reports having corrected prior to submitting audits to PEMA. PEMA's guidelines also require auditors to follow up on actions taken to correct prior audit deficiencies as part of the next triennial audit.

Audits for 2006-2008: Of the 21 audits submitted for calendar years 2006-2008, 11 were in full compliance and had no findings from either the auditors or PEMA. Ten of the audits had findings from either the auditors or PEMA, representing 48 percent of this grouping of audits. All audits were available for our review. Only one county, Erie, did not have a PEMA report attached to it. There were two instances when PEMA sent letters to counties, Clarion and Erie, asking them to explain the auditor's findings. However, no response from the counties was included in the files. A letter was sent to Jefferson County as well, noting an auditor's finding and recognizing that management intended to take action.

Part of each audit includes a note regarding Limitations on Recovery of Certain recurring costs. These costs include: telephone company administrative costs for billing and collection of the wireline surcharge, limited to 2 percent of collected monies; county costs for administration of the funds, limited to 1 percent; and personnel expenditures, limited to 70 percent of both wireline and wireless funds. We reviewed each audit to access compliance with these restrictions. Our review found:

• Telephone company administration: In nine of 21 counties, telephone companies took the full 2 percent for the three audited years. In all other years, telephone company administrative fees ranged from a low of .9

⁵ There was only one instance when no PEMA report was in evidence.

percent in Erie to 1.92 percent in Union County. This figure was not reported in Bedford County.

- County Administrative Fees: Nine of 21 counties took no administrative fees and seven counties took the full 1 percent for all three years. The other counties took fees ranging from 0.2 percent to 0.9 percent. One county, Clarion, reported 1.1 percent for two years and was the only one to take more funds that statutorily allowed.⁶
- Personnel Expenditures (Wireline): Four counties during the 2006-2008 audit period spent over 70 percent of their wireline funds on personnel costs. Three of these counties initiated a transfer of general funds back to their wireline funds. According to PEMA, the remaining county used fewer funds in the two subsequent years, therefore giving a three year average of 68.47 percent of wireline funds used for personnel costs.
- Personnel Costs (Wireless): There were no cases of a county using more than 70 percent of wireless surcharges for personnel costs. Seven counties used no wireless money for personnel during the three audited years.

Other findings, generally cited in only one or two counties, included:

- funds erroneously deposited,
- not submitting an audit of wireless funds,
- wireless funds not in line with PEMA records,
- issues with time sheets,
- county took too much in administrative fees,
- ineligible expenses,
- lacking general ledger for 911 funds,
- accounts payable accruals not recorded in proper year,
- lack of separate accounts for wireline and wireless funds,
- cash disbursements not supported by approval or documentation, and
- records not reflecting correct financial activity.

We also found that five counties used 911 funds for utility costs, which is an unallowable cost under PEMA's regulations.⁷ As discussed in Chapter III.C, the statute is contradictory on whether utilities are allowable costs, however, regulations prohibit the use of surcharge funds for utilities.

Audits for 2007-2009. Of the 25 audits submitted for years 2007-2009, 13 were in full compliance and had no findings from either the auditors or PEMA. One audit, Armstrong County, was missing and subsequently submitted. Eleven audits had findings, representing 44 percent of this grouping of audits.

⁶ PEMA did recognize this deficiency and sent a letter to the county regarding this issue.

⁷ 4 Pa. Code §120b.106(c)(7).

Our review of Limitations on Recovery of Certain Recurring Costs for audits for 2007-2009 found as follows:

- Telephone company administration: In 11 of 25 counties, telephone companies took the full 2 percent for these three audited years. In all other years, telephone company administrative fees ranged from a low of 0.74 percent in Huntingdon County to 1.97 percent in Bradford County. The City of Allentown and Lancaster County did not report specific figures, but reported that the phone companies took between 1 and 2 percent and that these fees did not exceed 2 percent, respectively.
- County Administrative Fees: Ten of 25 counties took no administrative fees and ten counties took the full 1 percent for all three years. The other counties took fees ranging from 0 percent to 0.99 percent. No county took more funds than statutorily allowed.
- Personnel Expenditures (Wireline): Three counties during the 2007-2009 audit period spent over 70 percent of their wireline funds on personnel costs. In the audits of two of these counties, the auditors make the recommendation that the county monitor its personnel costs more closely and does not recommend a transfer from the counties' general funds. There is no evidence that a transfer occurred. The third county said it intended to make a transfer from its general fund, but we did not find evidence in the file that they did so.
- Personnel Costs (Wireless): One county was found to have used more than 70 percent of wireless surcharges for personnel costs. According to the county, the error was a result of the county recording revenues when they were received, versus when accrued, and caused calculation errors. The county stated that accrued personnel costs compared to accrued revenues will be utilized. However, there is no evidence from PEMA that this has been accomplished. Two counties did not use any funds for personnel costs for these three audited years.

Other findings that occurred in multiple counties were: management did not prepare financial statements, surcharges were spent on unallowable expenses, wireline and wireless funds were in comingled accounts, bank accounts were not reconciled on a regular basis, and coding errors and incorrect recognition of revenues/expenditures. Findings that were unique to one county included:

- funds used to pay for phone bills not related to 911,
- allowable education expense not posted from wireline account,
- understatement of personnel,
- misposting of various costs,
- missing payment from a phone company,

- payment for goods not received,
- Act 56 funds used for Act 78 expenditures,
- fund balance off, and
- over collection of administrative fees and unreimbursed funds from prior years.

The audits also found that three counties used 911 funds for utility costs, which is an unallowable cost under PEMA's regulations.

Audits for 2008-2010. Of the 17 counties we were able to review (23 counties were supposed to have their audits due for this time frame but did not file them in a timely fashion) for audit years 2008-2010, five were found by the auditors to be in compliance and had no findings from either the auditors or PEMA. Eleven counties had findings found by auditors, representing 65 percent of this grouping of audits. One county did not submit a financial statement for its wireline funds.

Our review of Limitations on Recovery of Certain Recurring Costs for audits for 2008-2010 found as follows:

- Telephone company administration: In six of 17 counties, telephone companies took the full 2 percent for these three audited years. In all other years, telephone company administrative fees ranged from a low of 1.2 percent in Clinton County to 1.95 percent in Beaver County. The City of Philadelphia did not report specific figures, but reported that phone companies were within the 2 percent parameter.
- County Administrative Fees: 9 of 17 counties took no administrative fees and 6 counties took the full 1 percent for all three years. The other two counties took fees ranging from 0.19 percent to 0.70 percent. No county took more funds than statutorily allowed.
- Personnel Expenditures (Wireline): One county during the 2008-2010 audit period spent over 70 percent of their wireline funds on personnel costs. The audit included a letter from the county recognizing the issue, and the county reported taking steps to remedy its personnel spending. Five counties expended the full 70 percent during the audit period. Other counties used from 31 percent to 69.9 percent of wireline funds on personnel costs.
- Personnel Costs (Wireless): Four instances were reported of a county using more than 70 percent of wireless surcharges for personnel costs, two of these instances were in the same county during different years. In one county, PEMA sent a letter asking for a remedy, but we found no evidence in the file that the issue was resolved. The second county plans to develop a monitoring system to ensure proper spending limits. PEMA was in the process of sending a letter to the third county as of this writing.

• Three counties did not perform the required number of quality assurance reviews.

Other findings that were unique to one county included:

- wireless and wireline expenditures often recorded as being paid from another source and reported in the wrong period,
- wireless recorded as wireline and vice versa,
- expenditure reports contain multiple errors,
- audit adjustments necessary to revenues/expenditures and to reverse prior year accruals,
- providers did not disclose the amount of administrative costs retained,
- inadequate system of control over 911 financial reporting,
- records maintained on a cash accrual basis, and
- phone companies did not provide list of delinquent customers.

The audits also found that eight counties used 911 funds for utility costs. One county did not delineate its expenditures, except for showing that all wireline and wireless funds were transferred to two of the county's own funds, and paid 911 expenditures out of these funds.

The Statute Does Not Provide PEMA With Enforcement Authority for Noncompliance With the Act

Chapter 53 provided no specific enforcement power to PEMA to compel counties to adhere to the act's requirements. The act addresses enforcement in three contexts: (1) a person who intentionally calls a 911 number for other than emergency reasons can be prosecuted for a third degree misdemeanor; (2) a person who misuses database information can likewise be prosecuted for a third degree misdemeanor; and (3) counties are authorized to bring an action to enforce payment by telephone subscribers of the 911 fees.

The lack of enforcement powers was a concern in our 1997 review of county 911 expenditures in large part because we found only seven counties had submitted the triennial audit of 911 expenditures required by Act 1990-78. As noted above, however, counties are now generally in widespread compliance—albeit with some exceptions with regard to timeliness—with the triennial audit requirement.

III.F. Cost Saving Measures (Other Than Consolidation) That Will Not Jeopardize Public Safety

Act 2010-118 directs us to inquire into any other cost saving measures [i.e., other than consolidation] that may be undertaken by PSAPs or PEMA that would not jeopardize public safety. To address this issue, we surveyed Pennsylvania PSAP directors and inquired of PEMA officials of cost-saving steps they could recommend and contacted other states for information on steps they may have taken. We also reviewed national initiatives being considered or implemented in other states which could provide cost savings in 911 systems.

PSAP Directors

In response to our survey question about cost saving measures, many PSAPs instead focused on the need for additional funding as a priority. But many also cited cost saving measures, including:

- Two PSAPs noted that the increased cost of equipment and maintenance agreements is causing counties to share resources.
- Three PSAPs noted that they repair and maintain their own equipment, which has proven to be more cost-effective than paying their telecom provider to do the same work. However, what is being saved on service and maintenance contracts is being absorbed elsewhere within the organization for daily operational expenses.
- As part of a radio upgrade project, one county PSAP will be implementing a fiber optic network in the county and is anticipating bringing 911 telephony into this network to reduce Local Exchange Carrier costs.
- One PSAP reported it is attempting to reduce costs where they can by using the least expensive vendor and only purchasing items where necessary. Wireless funding encourages them however, to spend on eligible items.
- Two PSAPs reported decreasing the number of dispatchers working the late shift as call volume has decreased and adjusting their call coverage to ensure they are appropriately staffed on all shifts.
- One county PSAP is using part-time staff whenever possible but noted this poses problems with availability.
- A PSAP reported that they are considering the purchase of a new CPE switch that may be shared with neighboring PSAPs. They are awaiting guidance and specifications from consulting teams with expertise in this matter.
- One PSAP reported that it periodically tries different scheduling schemes in an effort to cover vacation/holiday/sick time with minimal overtime.

Unfortunately with the turnover increasing, it is difficult to see any improvement as they are constantly in a training mode.

- Two PSAPs reported they provide 911 call taking and fire/EMS dispatching for another county through contracts. This is a huge cost savings to these counties. At least one of the counties did not have to hire additional staff.
- One PSAP reported it utilizes combined-role call-takers and dispatchers to decrease the overall number of staff on duty at any given time with the ability to utilize a liberal staff recall system to increase staffing as needed.
- One PSAP noted it is consolidating anything possible and sharing costs between departments.
- One PSAP reported it is now doing in-house and online training along with monitoring utility usage and equipment replacement.

We also met with several officials and members of the Pennsylvania chapter of APCO/NENA. APCO/NENA identified a number of diverse cost saving measures used across the state by PSAPs. These include careful management of staffing, routine maintenance being done in-house rather than contracted out, and using equipment beyond its "useful life." However, according to APCO/NENA:

PSAPs really have few options available to reduce costs since they are chronically understaffed and funding sources are limited. There is a certain minimum level of service that must be provided and must be paid for that can't realistically be reduced.

We also asked APCO/NENA about the PSAPs use of COSTARS, the Commonwealth's cooperating purchasing program. COSTARS members include counties, municipalities, fire companies, ambulance companies, police departments, school districts, cyber schools, and municipal authorities, among others. Our review of the COSTARS membership did not find any PSAPs listed, although they may participate indirectly through their counties. According to APCO/NENA, many PSAPs do use COSTARS or State Contract Pricing when available, but often the specialized equipment or software that 911 systems require is not available through those programs.

PEMA

PEMA informed us it has not undertaken or sponsored any studies whose primary goal was to identify cost-saving measures which PSAPs or the agency might implement to promote financial efficiency. As discussed previously (III.C) PEMA has reported it has little authority to control or restrict spending at the PSAP level, provided the expenditures are for eligible items and conform to the county's 911 plan. While PEMA can require the PSAPs to meet the minimum specifications outlined in the Act, the regulations, and the Statewide Wireless E-9-1-1 Plan, if individual PSAPs choose to provide a higher level of service, that is a county decision. PEMA also noted they do not analyze funding requests as they relate to the cost-effectiveness of the specific systems that PSAPs choose to purchase because the law clearly gives the PSAPs control over the systems that they chose to use.

Cost Saving Measures Utilized in Other States

Although most of the officials we spoke to in the 17 states included in our survey could not point to specific measures that had been taken in their states to reduce costs, several did point to measures they had taken, including:

- Indiana noted that some counties have multi-county MOUs to purchase CPE equipment. In one instance, nine counties came together to purchase one CPS for the nine-county region. They bought one centralized router and then individual work stations in each of the nine 911 centers. They then moved 911 calls over to this network.
- Maine pays for all equipment used at the PSAPs through collected surcharge fees. All fees (wireline, wireless, VoIP, and prepaid) go to the state to be divided up and used to pay for state 911 administrative and salary costs and for local 911 services. The state buys the necessary equipment for PSAPs and is responsible for maintaining that equipment. As a result, all PSAPs use similar equipment and the state realizes a cost savings through joint purchasing (the amount of such cost savings could not be provided). Fees are also used to pay for maintenance of telephone and other communication lines and systems going to or used by PSAPs. When PSAPs need something to be paid for they submit a request to the state. There is no set amount that each PSAP is guaranteed. They must show that the equipment is needed.
- Maryland centrally purchases telephone equipment and divides the equipment between each PSAP. Equipment is replaced every five years. All new equipment that is purchased is IP compatible (including equipment purchased by the State Board). The state is also looking at mapping initiatives that it undertakes to collect data that might be done in collaboration with adjoining states. As of the date of our call no such initiatives had been established.
- Minnesota, in its annual report on its 911 program for 2011, noted that legislative and procedural changes over the last three years have given the state agency a greater ability to deal with the competitive telecommunications landscape. The 911 program has been able to eliminate the certification process, reduce the billing period to less than 90 days, and begin consolidating contracts and transactions with some vendors. Service-level

changes now require specific approval before they can be implemented and retroactive approval of service-level changes have been eliminated. Competitive bidding processes are also being utilized when services can be provided by more than one vendor. In 2010, the 911 Program cut \$1,223,337 out of the 911 operating budget.¹

- New Jersey pays centrally for infrastructure, i.e., providing databases that route calls to the door of the PSAP. The state also has a \$10.5 million contract with Verizon to maintain the network (4 selective routers that send the calls to PSAPs).
- Ohio cannot order local PSAPs to do anything and PSAPs have not done anything as a group. However, Ohio has a bill-and-keep system for landline only which began in the 1980s. Incumbent and Local Exchange Carriers (ILECs) file tariffs with PUCO, including charges they pass onto their customers for providing and maintaining the basic network that allows PSAPs to receive 911 calls. This includes trunk lines and ANI/ALI and the associated databases. As a result, PSAPs do not have to expend any funds for their networks. There are 42 ILECs in Ohio and there is one host ILEC per county. Customer charges from each ILEC range from 12 cents to 25 cents per month. There also is no charge to counties for trunk lines, ALI, or the network.
- Washington is trying to centralize equipment purchases and also to consolidate telephone services at the larger PSAPs. The larger PSAPs would then provide 911 lines to the smaller PSAPs. The main focus however has been to try to centralize equipment purchases. However, no Request for Information has been issued to gauge the interest and feasibility of undertaking centralized equipment purchases or transfers for PSAPs.

¹ State of Minnesota, *Annual Report to the Legislature*, December 2010, pp. 7-8. Legislative changes were made through Laws of 2005 Chapter 136, Article 10 and Laws of 2006, Chapter 260, Article 6.

IV. Future Challenges and Opportunities for Pennsylvania's 911 Program

Act 2010-118 directs us to study the feasibility of consolidating Pennsylvania PSAPs and to identify other issues the Commonwealth will need to consider in incorporating Next Generation 911 (NG911) and other nontraditional communications technologies into its emergency response system. Chapter IV.A addresses the issue of consolidation; Chapter IV.B addresses the challenges of NG911.

While Act 1990-78 gave PEMA responsibility for oversight of the 911 program, including the authority to establish standards of performance, it vested in counties the authority to operate and staff their 911 emergency systems. As such, Pennsylvania's 911 system is primarily a county responsibility.

Act 1998-17, which amended Act 1990-78, provides for the possibility of a more regional approach to 911 services when it states, "Nothing in this act shall be construed to prohibit the formation of multijurisdictional or regional 911 systems, and any regional system established under this act shall include the territory of two or more counties."¹

A. Compared to Most States, Pennsylvania Already Has a "Consolidated" 911 System, but Opportunities for Savings Exist Through Further Consolidation

Compared with most other states, Pennsylvania has relatively few primary Public Safety Answering Points (PSAPs).² Sixty-nine PSAPs provide emergency communication services to residents and visitors in the 67 counties that constitute the Commonwealth of Pennsylvania.

Table 28 compares the number of PSAPs in Pennsylvania to all other states and the District of Columbia as of April 1, 2010. The number of PSAPs in other states ranges from 512 in Texas and 413 in California to one each in the District of Columbia, New Hampshire, and Rhode Island. Pennsylvania's population in April 2010 was 12,702,379 million, which averages to one PSAP for every 184,092 citizens. This is fewer PSAPs per population than any of the next five largest states:³

¹ Act 1998-17, section 5(g).

² PSAPs are facilities equipped and staffed to receive 911 calls. A primary PSAP receives the call directly. A secondary PSAP receives calls transferred from a primary PSAP.

³ The number of people served in Pennsylvania and the other states does not factor in persons traveling through the states that may call 911.

Number of Public Safety Answering Points in Each State						
<u>States</u>	Population <u>4/1/2010</u>	Total <u>Sq. Miles</u> ª	Primary <u>PSAPs</u>	Number of People Per PSAP in State	Average Sq. Miles <u>Per PSAP</u>	
Alabama	4,779,736	52,420	108	44,257	485	
Alaska	710,231	664,988	15	47,349	44,333	
Arizona	6,392,017	113,990	75	85,227	1,520	
Arkansas	2,915,918	53,178	98	29,754	543	
California	37,253,956	163,694	413	90,203	396	
Colorado	5,029,196	104,094	88	57,150	1,183	
Connecticut	3,574,097	5,544	107	33,403	52	
Delaware	897,934	2,489	9	99,770	277	
District of Col	601,723	68	1	601,723	68	
Florida	18,801,310	65,758	165	113,947	399	
Georgia	9,687,653	59,425	145	66,811	410	
Hawaii	1,360,301	10,926	7	194,329	1,561	
Idaho	1,567,582	83,568	35	44,788	2,388	
Illinois	12,830,632	57,916	264	48,601	219	
Indiana ^b	6,483,802	36,417	134	48,387	272	
lowa	3,046,355	56,273	123	24,767	458	
Kansas	2,853,118	82,278	120	23,776	686	
Kentucky	4,339,367	40,411	113	38,401	358	
Louisiana	4,533,372	51,988	76	59,650	684	
Maine	1,328,361	35,384	26	51,091	1,361	
Maryland	5,773,552	12,406	24	240,565	517	
Massachusetts	6,547,629	10,554	266	24,615	40	
Michigan	9,883,640	96,713	166	59,540	583	
Minnesota	5,303,925	86,935	110	48,218	790	
Mississippi	2,967,297	48,432	114	26,029	425	
Missouri	5,988,927	69,702	164	36,518	425	
Montana	989,415	147,039	56	17,668	2,626	
Nebraska	1,826,341	77,349	72	25,366	1,074	
Nevada	2,700,551	110,572	17	158,856	6,504	
New Hampshire	1,316,470	9,348	1	1,316,470	9,348	
New Jersey	8,791,894	8,723	218	40,330	40	
New Mexico ^b	2,059,179	121,590	48	42,900	2,533	
New York	19,378,102	54,555	175	110,732	312	
North Carolina	9,535,483	53,819	127	75,083	424	
North Dakota	672,591	70,698	23	29,243	3,074	
Ohio ^b	11,536,504	44,825	210	54,936	213	
Oklahoma	3,751,351	69,899	112	33,494	624	

Table 28

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Table 28 (Continued)

States	Population <u>4/1/2010</u>	Total <u>Sq. Miles</u> ª	Primary <u>PSAPs</u>	Number of People Per PSAP in State	Average Sq. Miles Per PSAP
Oregon	3,831,074	98,379	49	78,185	2,008
Pennsylvania	12,702,379	46,055	69 ^c	184,092	667
Rhode Island	1,052,567	1,545	1	1,052,567	1,545
SouthCarolina	4,625,364	32,021	66	70,081	485
South Dakota ^b	814,180	77,116	34	23,946	2,268
Tennessee ^b	6,346,105	42,144	124	51,178	340
Texas	25,145,561	268,597	512	49,112	525
Utah	2,763,885	84,897	33	83,754	2,573
Vermont	625,741	9,616	8	78,218	1,202
Virginia	8,001,024	42,775	135	59,267	317
Washington ^b	6,724,540	71,298	69	97,457	1,033
West Virginia	1,852,994	24,230	50	37,060	485
Wisconsin	5,686,986	65,496	127	44,779	516
Wyoming	563,626	97,812	23	24,505	4,253

^a Total area for each state was reported by the U.S. Census in 2011 and includes dry land and land temporarily or partially covered by water, such as marshland, swamps, etc.; streams and canals under one-eighth statute mile wide; and lakes, reservoirs, and ponds under 40 acres. ^b The number of primary PSAPs for these states was obtained through telephone calls to individual states in the

summer of 2011.

^c Information provided by the Pennsylvania Emergency Management Agency (PEMA), as of October 15, 2011, shows there are 69 primary PSAPs in Pennsylvania. The National Emergency Number Association (NENA) indicated that there were only 64 primary PSAPs in Pennsylvania. The difference between that number and the total provided by PEMA and reported in the table is because five PSAPs have contracted with adjoining PSAPs to answer 911 calls. We chose to use the figure provided by PEMA because all 69 PSAPs are eligible for and receive funding from PEMA. Please see Table 30 for a list of those counties which have contracted with other counties to handle call taking and dispatching.

Source: Population figures are from the 2010 U.S. Census data reported April 1, 2010. Data on the number of primary PSAPs in each state was provided by the National Emergency Number Association (NENA) on March 7, 2011, from information maintained on their database. The number of PSAPs for Pennsylvania was provided by PEMA.

- California (37.2 million) has 413 PSAPs serving on average 90,203 persons each.
- Texas (25.1 million) has 512 PSAPs serving on average 49,112 persons each.
- New York (19.3 million) has 175 PSAPs serving on average 110,732 persons each.
- Florida (18.8 million) has 165 PSAPs serving on average 113,947 persons each.
- Illinois (12.8 million) has 264 PSAPs serving on average 48,601 persons each.

Although Pennsylvania has relatively few PSAPs per population, Pennsylvania's PSAPs do not cover large geographic areas. Pennsylvania PSAPs cover an average of 667 square miles, ranking 23nd out of the 50 states and Washington D.C.

911 Calls Received and Average Cost Per Call

Table 29 shows the number of 911 calls answered by Pennsylvania's 69 PSAPs in calendar year 2010 and the number of staff (excluding supervisors) certified by PEMA to serve as call takers and/or call dispatchers assigned to each PSAP, as of May 2011.

As Table 29 shows, Cameron County handled, on average, the fewest 911 calls (1,281), while Philadelphia handled the most calls (2,993,985). The cost per call figures also show wide variation, ranging from a high of \$601 per call in Sullivan County to a low of \$13 per call in Philadelphia.

Important caveats need to be considered when viewing the information contained in Table 29:

- 1. The cost figures used in this analysis are as reported by the county, and high costs per call in some counties may be due to factors such as having large non-recurring expenditures in that particular year. For example, Sullivan County reported expenditures of \$1.2 million in 2010, but only \$405,087 in 2008. Similarly, Cumberland County reported expenditures of \$9.1 million in 2010, but only \$4.9 million in 2009. (We did the comparison for two years—2009 and 2010—as a way to compensate for one-year anomalies.)
- 2. The numbers of 911 calls received are also as reported by the counties. Some counties, however, may include non-emergency calls taken by their 911 operators in their 911 call count, which would lower the cost per call

figures in these counties. For CY 2011, PEMA has asked counties to separately report emergency 911 and non-emergency calls, which in the future will allow for a more accurate cost per call comparison.

With these caveats in mind, Exhibits 6 and 7 show a notable trend of small PSAPs (i.e., PSAPs receiving relatively few 911 calls) having significantly higher costs per call than those PSAPs that have a high volume of 911 calls. This relationship holds true for both 2009 and 2010 and for both total expenses and for personnel expenses only.

PEMA also provided us with a list, as of May 2011, of the number of staff with call-taking responsibilities in each PSAP. Using those staffing numbers, we compared the average number of calls answered per hour per staff member (see Table 29). As Table 29 shows, many PSAPs appear to be handling fewer than one 911 call per call taker/dispatcher per hour.

We should note that our analysis assumes that all call takers are full-time because the information we were provided did not break out full-time vs. part-time staff. Moreover, some counties certify staff as call takers even though that may not be their primary job duty (e.g., so they have backup call-taker capabilities in the event of a major emergency). As a consequence, readers should be cautious in interpreting this data and in making county-to-county comparisons.

Tabl	e 29	
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Average Cost Per 911 Call

PSAPCT/D Staff ^a Part CT/D ReceivedbCT/D Shift ^c Per CT/D Per Shift ^d Per CT/D Per CT/D in a Given Shift ^e Per CT/D Per CT/D Fer HourfNitrige Per CT/D 911 Call ^g Adams23 $34,264$ 31840.5\$ 48Allegheny237 $1,024,591$ 93679121.522Armstrong21 $32,964$ 30740.531Beaver1779,573736131.651Bedford1416,72815530.440Berks54195,56817918101.238Blair2774,86168980.919Bradford1619,73718530.442Bucks108248,3612273660.855Butler2471,07265881.031Cambria30100,402921091.126Cameron ^h 01,28110NANA121Carbon930,77928391.251Centre2043,22539760.752Chester83181,0341652860.769City of Allentown2392,694858111.430City of Bethlehem13			Number of	Average		911 Calls	911 Calls	Average
PSAP Staff ^a Received ^b Shift ^c Per Shift ^d Given Shift ^e Per Hour ^f 911 Call ^g Adams 23 34,264 31 8 4 0.5 \$ 48 Allegheny 237 1,024,591 936 79 12 1.5 22 Armstrong 21 32,964 30 7 4 0.5 31 Beaver 17 79,573 73 6 13 1.6 51 Bedford 14 16,728 15 5 3 0.4 40 Berks 54 195,568 179 18 10 1.2 38 Blair 27 74,861 68 9 8 0.9 19 Bradford 16 19,737 18 5 3 0.4 42 Bucks 108 248,361 227 36 6 0.8 55 Butler 24 71,072 65		CT/D	911 Calls	Calls Per	CT/D	Per CT/D in a	Per CT/D	Cost Per
Adams 23 34,264 31 8 4 0.5 \$ 48 Allegheny 237 1,024,591 936 79 12 1.5 22 Armstrong 21 32,964 30 7 4 0.5 31 Beaver 17 79,573 73 6 13 1.6 51 Bedford 14 16,728 15 5 3 0.4 40 Berks 54 195,568 179 18 10 1.2 38 Blair 27 74,861 68 9 8 0.9 19 Bradford 16 19,737 18 5 3 0.4 42 Bucks 108 248,361 227 36 6 0.8 55 Butler 24 71,072 65 8 8 1.0 31 Cambria 30 100,402 92 10 9 1.1	PSAP	Staff ^a	Received ^b	Shift ^c	Per Shift ^d	Given Shift ^e	Per Hour ^f	911 Call ⁹
Allegheny2371,024,59193679121.522Armstrong2132,96430740.531Beaver1779,573736131.651Bedford1416,72815530.440Berks54195,56817918101.238Blair2774,86168980.919Bradford1619,73718530.442Bucks108248,3612273660.855Butler2471,07265881.031Cambria30100,402921091.126Carbon930,77928391.251Centre2043,22539760.752Chester83181,0341652860.769City of Allentown2392,694858111.430City of Bethlehem1345,600424101.260	Adams	23	34,264	31	8	4	0.5	\$48
Armstrong21 $32,964$ 30 74 0.5 31 Beaver17 $79,573$ 73 613 1.6 51 Bedford14 $16,728$ 15 5 3 0.4 40 Berks 54 $195,568$ 179 18 10 1.2 38 Blair 27 $74,861$ 68 9 8 0.9 19 Bradford16 $19,737$ 18 5 3 0.4 42 Bucks 108 $248,361$ 227 36 6 0.8 55 Butler 24 $71,072$ 65 8 8 1.0 31 Cambria 30 $100,402$ 92 10 9 1.1 26 Cameron ^h 0 $1,281$ 1 0 NANA 121 Carbon 9 $30,779$ 28 3 9 1.2 51 Centre 20 $43,225$ 39 7 6 0.7 52 Chester 83 $181,034$ 165 28 6 0.7 69 City of Allentown 23 $92,694$ 85 8 11 1.4 30 City of Bethlehem 13 $45,600$ 42 4 10 1.2 60	Allegheny	237	1,024,591	936	79	12	1.5	22
Beaver1779,573736131.651Bedford1416,72815530.440Berks54195,56817918101.238Blair2774,86168980.919Bradford1619,73718530.442Bucks108248,3612273660.855Butler2471,07265881.031Cambria30100,402921091.126Cameronh01,28110NANA121Carbon930,77928391.251Centre2043,22539760.752Chester83181,0341652860.769City of Allentown2392,694858111.430City of Bethlehem1345,600424101.260	Armstrong	21	32,964	30	7	4	0.5	31
Bedford 14 16,728 15 5 3 0.4 40 Berks 54 195,568 179 18 10 1.2 38 Blair 27 74,861 68 9 8 0.9 19 Bradford 16 19,737 18 5 3 0.4 42 Bucks 108 248,361 227 36 6 0.8 55 Butler 24 71,072 65 8 8 1.0 31 Cambria 30 100,402 92 10 9 1.1 26 Cameron ^h 0 1,281 1 0 NA NA 121 Carbon 9 30,779 28 3 9 1.2 51 Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7	Beaver	17	79.573	73	6	13	1.6	51
Berks 54 195,568 179 18 10 1.2 38 Blair 27 74,861 68 9 8 0.9 19 Bradford 16 19,737 18 5 3 0.4 42 Bucks 108 248,361 227 36 6 0.8 55 Butler 24 71,072 65 8 8 1.0 31 Cambria 30 100,402 92 10 9 1.1 26 Cameron ^h 0 1,281 1 0 NA NA 121 Carbon 9 30,779 28 3 9 1.2 51 Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4	Bedford	14	16.728	15	5	3	0.4	40
Blair 27 74,861 68 9 8 0.9 19 Bradford 16 19,737 18 5 3 0.4 42 Bucks 108 248,361 227 36 6 0.8 55 Butler 24 71,072 65 8 8 1.0 31 Cambria 30 100,402 92 10 9 1.1 26 Cameron ^h 0 1,281 1 0 NA NA 121 Carbon 9 30,779 28 3 9 1.2 51 Chester 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10	Berks	54	195,568	179	18	10	1.2	38
Bradford 16 19,737 18 5 3 0.4 42 Bucks 108 248,361 227 36 6 0.8 55 Butler 24 71,072 65 8 8 1.0 31 Cambria 30 100,402 92 10 9 1.1 26 Cameron ^h 0 1,281 1 0 NA NA 121 Carbon 9 30,779 28 3 9 1.2 51 Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Blair	27	74.861	68	9	8	0.9	19
Bucks 108 248,361 227 36 6 0.8 55 Butler 24 71,072 65 8 8 1.0 31 Cambria 30 100,402 92 10 9 1.1 26 Cameron ^h 0 1,281 1 0 NA NA 121 Carbon 9 30,779 28 3 9 1.2 51 Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Bradford	16	19.737	18	5	3	0.4	42
Butler 24 71,072 65 8 8 1.0 31 Cambria 30 100,402 92 10 9 1.1 26 Cameron ^h 0 1,281 1 0 NA NA 121 Carbon 9 30,779 28 3 9 1.2 51 Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Bucks	108	248.361	227	36	6	0.8	55
Cambria 30 100,402 92 10 9 1.1 26 Cameron ^h 0 1,281 1 0 NA NA 121 Carbon 9 30,779 28 3 9 1.2 51 Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Butler	24	71.072	65	8	8	1.0	31
Cameron ^h 0 1,281 1 0 NA NA 121 Carbon 9 30,779 28 3 9 1.2 51 Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Cambria	30	100.402	92	10	9	1.1	26
Carbon 9 30,779 28 3 9 1.2 51 Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Cameron ^h	0	1.281	1	0	NA	NA	121
Centre 20 43,225 39 7 6 0.7 52 Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Carbon	9	30.779	28	3	9	1.2	51
Chester 83 181,034 165 28 6 0.7 69 City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Centre	20	43.225	39	7	6	0.7	52
City of Allentown 23 92,694 85 8 11 1.4 30 City of Bethlehem 13 45,600 42 4 10 1.2 60	Chester	83	181.034	165	28	6	0.7	69
City of Bethlehem 13 45,600 42 4 10 1.2 60	City of Allentown	23	92,694	85	8	11	1.4	30
	City of Bethlehem	13	45.600	42	4	10	1.2	60
Clarion 13 17 071 16 4 4 0.4 63	Clarion	13	17 071	16	4	4	0.4	63
Clearfield 27 29.078 27 9 3 0.4 91	Clearfield	27	29.078	27	9	3	0.4	91
Clinton 10 11 935 11 3 3 0.4 95	Clinton	10	11 935	11	3	3	0.4	95
Columbia 9 28,495 26 3 9 11 32	Columbia	9	28 495	26	3	9	1 1	32
Crawford 16 31 339 29 5 5 0.7 39	Crawford	16	31 339	20	5	5	0.7	39
Cumberland 27 87 346 80 9 9 1.1 1.04	Cumberland	27	87 346	80	9	9	1 1	104
Daunhin 36 148,230 135 12 11 14 39	Dauphin	36	148 230	135	12	11	1.1	39
Delaware 102 592,135 541 34 16 2.0 23	Delaware	102	592 135	541	34	16	2.0	23
Soldward 102 002,100 011 01 10 2.0 20 Flk 18 11.651 11 6 2 0.2 81	Flk	18	11 651	11	6	2	0.2	81
Eric 10 11,001 11 0 2 0.2 01 Frie 53 127,048 116 18 7 0.8 43	Erie	53	127 048	116	18	7	0.2	43
Eavette 23 76.085 69 8 9 1.1 29	Favette	23	76 085	69	8	9	1 1	29
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Forest 0 1,700 2 0 100	Franklin	23	46 225	42	8	6	0.7	59
Fulloph 4 5512 5 1 4 0.5 112	Fulton ^h	<u>20</u>	5 512	5	1	4	0.7	112
Greene 11 24 451 22 4 6 0.8 29	Greene	11	24 451	22	4	6	0.0	29
Huntingdon 17 10.825 10 6 2 0.0 25	Huntingdon	17	10 825	10	6	2	0.0	87
Indiana 16 27.616 25 5 5 0.6 46	Indiana	16	27 616	25	5	5	0.2	46
lefferson 16 17,520 16 5 3 0.4 81	Jefferson	16	17 520	16	5	3	0.0	81
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	luniata	10	7 541	7	4	2	0.4	153
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Lackawanna	49	109.059	100	16	6	0.2	39
Lancaster 72 223 230 204 24 8 11 40	Lancaster	72	223 230	204	24	8	1 1	40
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Lawrence	8	54 420	50	3	19	23	20
Lehanon 9 50.427 46 3 15 1.0 59	Lebanon	9	50 427	46	3	15	1 9	59
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Lehigh	22	90,427	82	7	10	1.0	36
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		72	210 642	102	24	8	1.4	31
Lucoming 12 $210,042$ 102 24 0 1.0 31 Lycoming 21 $50,723$ 46 7 7 0.8 74		21	50 723	46	7	7	0.8	74
McKean 10 20.833 19 3 6 0.7 60	McKean	10	20,723	10	2	6	0.0	60
Mercer 24 58 549 53 8 7 0.8 30	Mercer	24	58 540	53	2 2	7	0.7	30
Mifflin 15 15.052 14 5 3 0.3 113	Mifflin	15	15.052	14	5	3	0.3	113

Table 29 (Continued)

		Number of	Average		911 Calls	911 Calls	Average
	CT/D	911 Calls	Calls Per	CT/D	Per CT/D in a	Per CT/D	Cost Per
PSAP	Staff ^a	Received ^b	Shift ^c	Per Shift ^a	Given Shift ^e	Per Hour ^t	911 Call ^g
Monroe	36	89,547	82	12	7	0.9	\$ 50
Montgomery	87	361,381	330	29	11	1.4	33
Montour	8	8,386	8	3	3	0.4	67
Northampton	41	95,883	88	14	6	0.8	75
Northumberland	14	29,974	27	5	6	0.7	64
Perry	17	14,206	13	6	2	0.3	51
Philadelphia	356	2,993,985	2,734	119	23	2.9	13
Pike	12	19,246	18	4	4	0.5	55
Potter ^h	9	18,615	17	3	6	0.7	45
Schuylkill	34	62,398	57	11	5	0.6	54
Snyder	17	11,446	10	6	2	0.2	55
Somerset	20	28,522	26	7	4	0.5	40
Sullivan ^h	3	2,048	2	1	2	0.2	601
Susquehanna	8	13,261	12	3	5	0.6	76
Tioga	17	32,671	30	6	5	0.7	36
Union	11	23,135	21	4	6	0.7	42
Venango	14	21,096	19	5	4	0.5	38
Warren	18	14,758	13	6	2	0.3	45
Washington	56	145,853	133	19	7	0.9	22
Wayne	18	20,000	18	6	3	0.4	47
Westmoreland	50	175,363	160	17	10	1.2	47
Wyoming	8	10,894	10	3	4	0.5	90
York	60	294,218	269	20	13	1.7	27

^a Complement data provided by PEMA as of May 2, 2011. Represents the number of PEMA-certified call takers/dispatchers as of May 2011. Does not include supervisory staff. May include part-time staff.

^b Number of 911 calls received by PSAPs in 2010.

^f911 calls per call taker/dispatcher per hour calculated by dividing 911 calls per call taker/dispatcher in a given shift by 8, which represents one shift.

^g Calculated by taking the total expenditures reported by each PSAP to PEMA (as reported in their 2010 Annual Report) and dividing by the 911 calls received by each PSAP in 2010.

^h Cameron County has contracted with Elk County for call taking/dispatch. Fulton County has contracted with Cumberland County for call taking/dispatch. Potter County has contracted with Tioga County for call taking/dispatch. Sullivan County has contracted with Lycoming County for call taking/dispatch. Forest County has contracted with multiple counties, Clarion and Venango Counties, for call taking/dispatch.

Source: Data on the number of calls was taken from the annual report released by PEMA for 2010. PEMA provided the number of staff in each PSAP certified to answer 911 calls.

^c Average calls per shift calculated by dividing the total number of 911 calls received by 8,760, the number of hours within a year of 365 days, and then multiplying by 8 which represents one shift.

^d Call taker/dispatcher per shift calculated by dividing the call takers/dispatchers by the number three, which represents three 8hour shifts. It may be that individual PSAPs assign more staff to selected shifts or employ two shifts of 12-hours each, rather than three shifts of 8-hours each.

^e 911 calls per call taker/dispatcher in a given shift calculated by dividing average calls per shift by call taker/dispatcher complement per shift. In some PSAPs, call takers also handle non-911 calls. Our calculation is only based on the number of 911 calls reported as received.

Average Costs Per Call

(PSAPs Grouped by Number of 911 Calls Received in 2010)





Source: County Annual Reports for 2010.

Average Costs Per Call

(PSAPs Grouped by Number of 911 Calls Received in 2009)





Source: County Annual Reports for 2009.

Finally, Exhibit 8 shows that 22 county PSAPs received 20,000 or fewer 911 calls in 2010, with most of these counties located in three rural areas of Pennsylvania: central Pennsylvania (Huntingdon, Juniata, Mifflin, Perry, and Snyder), northeast Pennsylvania (Bradford, Sullivan, Susquehanna, and Wyoming), and north central Pennsylvania (Cameron, Clarion, Clinton, Elk, Forest, Jefferson, Potter, and Warren).

In discussing the issue of staffing to telephone call ratio, one county PSAP's director identified several factors that could impact the staffing and cost per call figures. These include:

- Some PSAPs are reporting 911 telephone calls exclusively, while others are reporting both 911 and 7-digit telephone traffic.
- Since PSAP staff is broken into shifts, the entire staff is not devoted to telephone calls. For example, there might be 15 people on duty, but 5 are handling telephone calls, while the rest are handling incoming and outgoing radio traffic.
- Many PSAPs employ part-time staff, so their compliment figures would be smaller if measured on a full-time equivalent basis.
- PEMAs list of certified staff per PSAP may not be realistic, as many PSAPs certify staff who may only work the communications center rarely, if at all.
- Radio traffic accounts for the majority of PSAP activity. For example, the county we spoke with not only dispatched emergency personnel, it provides back-up/mutual aid units, monitors well-being, responds to requests to make support telephone calls, perform computer checks, etc.
- Telephone call activity fluctuates with time of day, the type of incidents being reported, storms, etc. While PSAPs have periods of few if any calls, they also have very busy periods. The county we spoke with had storms in 2011 that required them to field one 911 call per second over an hour's time.
- Telephone call durations vary greatly.
- The regulations governing the 911 program in Pennsylvania require Emergency Medical Dispatch (EMD) protocols be performed by the PSAPs.⁴ Although scripted, making a quick dispatch possible, EMD can lengthen telephone processing times because PSAP call staff are providing pre-arrival instructions until EMS arrives on the scene. Some PSAPs may have increased their staffing levels due to EMD.

⁴ Emergency Medical Dispatch is a system or program that enables patients to be assessed and treated via telephone by utilizing current accepted emergency medical dispatch standards.





Number of 911 Calls Received and Complement Answering 911 Calls*

Numbers above the county name are the number of 911 calls answered in calendar year 2010 by each PSAP. Numbers below the county name are the call taker/dispatch complement of the PSAP answering 911 calls as of May 2011.

^{*}The City of Allentown (received 92,694 calls with a complement of 23) and City of Bethlehem (received 45,600 calls with a complement of 13) have separate 911 services.

Source: Developed by LB&FC staff from information received from the Pennsylvania Emergency Management Agency.

Municipal PSAPs in Pennsylvania

Pennsylvania's 911 program regulations state that,

to maximize efficiencies of communications and minimize operations/capital expenditures, PSAPs and dispatch centers shall be limited to one per county plan, unless geographical and technological considerations require otherwise. Counties shall provide supporting justification for additional PSAPs and dispatch centers included in the county plan. PSAPs and dispatch centers may be reduced over a multi-year period to minimize disruptions of existing communications systems.⁵

Act 1998-17, however, allowed certain cities with established 911 systems to maintain those systems as though they had the powers and duties of counties. As a consequence, two Pennsylvania cities, Allentown and Bethlehem, have been "grandfathered" in and continue to maintain 911 centers separate and apart from their county PSAP. In 2010, Lehigh County, in which the City of Allentown is located, answered 90,230 emergency 911 calls, which approximates the number of 911 calls answered by the City of Allentown (92,694). Northampton County, in which the City of Bethlehem is located, answered 95,883 emergency 911 calls, significantly more than the City of Bethlehem (45,600).

According to an official with the PSAP in the City of Allentown, the city and county have looked at combining services over the years. The main reason for maintaining separate services at this point is workload and level of service. He noted that Allentown dispatches about 150,000 calls per year and answers over 215,000 (includes both emergency 911 calls and non-emergency calls),⁶ a workload that about equals what the Lehigh County PSAP does for the rest of the county. The Allentown PSAP director also noted that they provide first responders with services that are agency specific (call taking and dispatch protocols) that would be difficult in a county operation. As an example, the director noted the Lehigh County PSAP will dispatch calls to a police agency even if that agency does not have units available to respond. This allows the county to process the call and puts the responsibility for prioritization and response time on that police agency. In the City, the PSAP prioritizes the calls and follows specific protocols for stack time.⁷ The City 911 center also provides support services to first responders such as direct notification and monitoring to public works personnel. By handling these requests, it alleviates the field personnel from having to make these notifications.

⁵ 4 Pa. Code §120b.104(b)(1) was adopted April 17, 1992, and amended August 11, 2000.

⁶ Data reported by the City of Allentown for 2010 shows that the city PSAP answered 92,694 emergency 911 calls. Dispatch data was not reported to PEMA. The City of Bethlehem reported that it answered 45,600 emergency 911 calls in 2010.

⁷ Stack Time is the number of days required to complete a scheduled job. Jobs can be held or "Stacked" due to workload or parts waiting to be received.

Until last year, the City of Harrisburg also maintained a stand-alone 911 center. As a cost-saving measure for the city, in June 2011 Harrisburg consolidated its 911 center with Dauphin County. The city and county had discussed logistics and cross-training officers and dispatchers for several months to help ensure a smooth transfer of services. Several Dauphin County dispatchers also rode along with Harrisburg Police Department officers during various shifts to better understand their needs. Dauphin County Emergency Management Agency added three new work stations with communication modules that are currently used throughout the 911 dispatch center. At a cost of \$258,000, a total of six new telecommunicators were hired to augment staffing in anticipation of a higher call volume. Funds for equipment and staffing are primarily covered by 911 funds from the state.

Current Efforts Toward Consolidation.

Several PSAPs have taken steps to consolidate at least certain aspects of their operations. These steps include:

Contracting With Another County. PEMA identified five county PSAPs that currently contract for 911 call-taking and dispatch with one or more other county PSAPs. Table 30 identifies those five PSAPs, the PSAPs with whom they contract, and the annual cost for this service.

PSAPs That Contract for 911 Call Taking and Dispatch								
County PSAPs That Contract for 911 Call Taking	County PSAPs That Are Paid to Answer 911 Calls by Another County	Amount Paid Annually for <u>911 Call Taking</u>	Total 911 Calls Answered in 2010 for Other County	Cost Per Call Based on <u>Annual Contract</u>				
Cameron	Elk	\$ 62,000	1,281	\$48.40				
Forest ^a	Clarion	29,000	882	32.92				
	Venango	36,000	881	40.86				
Fulton	Cumberland	200,000	5,512	36.28				
Potter	Tioga	70,000	18,615	3.76				
Sullivan	Lycoming	44,000	2,048	21.48				

Table 30

^aForest County contracts with two other county PSAPs. For purposes of this table, we assigned half of the total number of 911 calls (1,763) answered to each county. If the two contract amounts that Forest County pays Clarion and Venango Counties are combined, the average cost per call based on the annual contract is \$36.89.

Source: Officials in Cameron, Forest, Fulton, Potter and Sullivan Counties.

Two of the five county PSAPs that contract for call-taking of 911 calls reported to PEMA that they do not have any certified call takers. Three of the county PSAPs that contract for 911 services, however, reported to PEMA that they have a total of 16 call taker/dispatch staff either employed full-time in other positions or on-call if needed to answer 911 calls. According to county officials, such staff would only be utilized if there are issues preventing the staff in the county they contract with from answering the 911 calls.

County officials in the counties that contract for 911 services told us they could not afford to staff their own call center. Comments they made include:

- Could not provide call-taking services at the price we contract it for.
- We would have to hire at least two, possibly three or four staff to handle call-taking. We are not budgeted for that.
- There is no way we could maintain our own call center at that price because staffing costs just keep going up.
- We are a two position PSAP and would need to hire two to four other staff if we were to take over call-taking duties. Could not do it with our fund-ing.
- Have always contracted for call-taking services because we do not have funding to run our own call center.

Northern Tier Counties Network. Nine Northern Tier counties (Cameron, Clarion, Clearfield, Elk, Forest, Jefferson, McKean, Venango, and Warren) are joining together in a regional project upgrade to a Next Generation 911 telephone system and network. These counties had all received notice from their current telephone switch manufacturer concerning the end of life for their legacy era 911 telephone switches. They decided to join together to purchase two new Next Generation capable switches that they could all use to receive 911 calls and that would allow 911 calls to be transferred between counties while retaining automatic location and automatic number identification. Each switch will be capable of running the entire network in the event of a failure of the other switch.

Each county will pay a share of the capital and maintenance cost based on the number of 911 positions they have in their center. The consultant that has been working with these counties estimates the average cost for replacement of a single county 911 telephone system is \$409,438, with total combined cost to all counties being \$3,275,500. The average yearly maintenance for each county would be \$46,904. In the new system, the average county shared cost is estimated to be only \$161,713, with total combined costs to all counties being \$1,293,709, or a savings of almost \$2 million. The average yearly maintenance for each county is projected to be \$21,546, or less than half of the yearly cost of each county maintaining its own system.

WestCORE ESInet. PEMA is currently in the midst of undertaking a project in western Pennsylvania as part of a federal grant to explore approaches to upgrading Pennsylvania's 911 system to Next Generation technology. (Please see page 160 of this report for information on this project.) Although the project as currently structured is not a true consolidation of 911 centers, as this project advances and expands, it could become the basis for a regional or consolidated 911 system.

Views of PSAP Officials and Others Regarding the Feasibility of Consolidation

APCO/NENA. As part of this study, we asked a joint committee of the Pennsylvania Association of Public-Safety Communications (APCO) officials and the National Emergency Number Association (NENA) to offer their opinion of the feasibility and effectiveness of consolidating Pennsylvania's PSAPs. They believe that there would be no cost savings in a sudden, mandated consolidation, in part because the telephony infrastructure of Pennsylvania's PSAPs is not designed for consolidation. They also point out that there is great diversity in individual PSAP support technology and the lack of operational standards across the state that would have to be resolved. While they believe the physical consolidation of multiple PSAPs may not be feasible, at least in the near future, they do believe there are opportunities for "technological consolidation" whereby multiple PSAPs can share resources and technology.

APCO/NENA believes that, if the means to consolidate are made available to PSAPs, NG911 (Next Generation 911) will provide an impetus to begin a gradual merging process. Consolidations would have to be evaluated on an individual case by case basis, however, as there are many diverse operations and geographic areas where consolidation may not make sense or result in cost savings.

County Commissioners Association. The County Commissioners Association of Pennsylvania (CCAP) does not believe mandatory consolidation should be pursued. They noted in a written response to us that:

They [PSAPs] oppose forced consolidation of all or part of county public safety answering points (PSAPs), but support incentives and removal of impediments to sharing PSAP services such as equipment, training, communications infrastructure, trunking lines, and system redundancies. Consolidation for its own sake is an unwarranted exercise, and could even result in system inefficiencies based on the breadth of territories covered. Functional consolidation though could yield positive results, including reduction in ongoing telecommunications costs, equipment purchase and maintenance costs. planning costs, and others. This is accomplished by providing incentives and reducing impediments. Obstacles include wide geographic territory, telephone company pricing practices, jurisdictional and political issues, Pennsylvanians' small-community sensibilities, and the like. There are successful examples though of consolidated efforts, particularly where our smallest counties are served by larger neighbors, or where counties have cooperative coverage agreements for one county's territory that more easily falls under another county's practical coverage capability. Some counties are now coming together on interoperability, including shared switches, which reduces system redundancy. And by way of example,

our members note that the State Police have had their own problems with dispatch consolidation.

County PSAP Directors and Staff. We surveyed or spoke to emergency management directors and/or PSAP staff in 22 selected counties about the feasibility of PSAP consolidation. For the most part, they did not express strong opinions either in favor of or opposition to consolidation. However, the counties did have several concerns regarding consolidation, especially if consolidation was mandated by the Commonwealth. These include:

- Local dispatchers know the officers and responders, and are more "in tune" with the officers and firefighters they dispatch by sheer repetition. They also know the communities where they work, the "regular" callers, and the geography of the county.
- A county may encompass many police departments and other emergency responders, each which may have their own particular policies and procedures. Although computer-aided dispatch systems help dispatchers direct calls to the closest available emergency responder, the computer systems do not know all these different policies and procedures. This requires the knowledge of a dispatcher.
- If there are problems between an officer and dispatch staff at the county PSAP, they can be easily addressed before they become a major issue.
- Binding contracts between PSAPs and their unionized staff could delay or complicate any consolidation efforts that might be mandated or encouraged.
- Many counties have made considerable investments in buildings and equipment for their PSAP operations. These investments may become "stranded" and difficult for local elected officials to explain if operations are consolidated in another county.
- A consolidated, regional PSAP would require police and other emergency responders to have compatible radio systems throughout the region. This is not currently the case, and would require a major investment in new equipment to achieve.

One county PSAP in its response noted:

...the idea of regionalization is intriguing; however, it will not be widely embraced by the PSAP community. We have witnessed the epic failure of consolidation efforts at the CDC for state police, and that's not a primary answering point. If we get to that point, very thoughtful and cautious planning and execution will be essential. Further, since every single county was subject to the FCC narrow banding requirements, we have all expended millions of dollars to update our infrastructure to satisfy this unfunded mandate. Will there be any cost recovery mechanisms considered should we need to consolidate our agencies? The taxpayers are already footing this enormous bill and we cannot ask them to pay for this service two, three or four times over.

The reluctance of counties to move toward consolidation is demonstrated by the apparent lack of interest in even exploring the possibility. For example, PEMA in its FY 2011-12 PSAP Funding Eligibility List notes that "Professional services to plan for and implement new regional systems and the consolidation or migration of PSAP services to another existing PSAP are an eligible shared cost." The average cost, according to PEMA, would be \$100,000 for 2-3 position PSAPs.⁸ Both wireless and wireline surcharge funds may be utilized for such consolidation. We reviewed PSAPs funding requests for FY 2011-12 and found no instances where requests for funding for consolidation or regionalization were made. PEMA confirmed that no requests for such funding had been received for FY 2011-12 or in past funding requests.

Telecommunications Companies. We met with a number of private companies that provide telephone service to the citizens of Pennsylvania to obtain their thoughts on PSAP consolidation:

- A large cable, telephone, and Internet provider does not have a formal position, but believes the PSAPs could consolidate without losing the ability to provide 911 services. They questioned why PSAPs should continue to receive surcharge monies if they fail to become more efficient. They believe there is no real need for 69 PSAPs in Pennsylvania. In their business they have 2.4 million customers and only four call centers. Their call volume is 8,000 to 10,000 calls per day. They also noted that, particularly as the Commonwealth moves toward Next Generation technology, their company's costs would be less if fewer connection points were necessary.
- A private consultant that contracts with a number of PSAPs in Pennsylvania noted that there is no mechanism to find out how much is really needed to run the 911 system, so it is difficult to know the extent to which consolidation would or would not improve overall efficiency.
- A large telephone, cell phone, and internet provider noted that consolidation would seem to make sense if it reduces the overall costs of the Commonwealth's 911 system. However, they had no specific proposal for how to do this.
- A company that provides wireless cell phone service but not wireline service believes that consolidation would reduce costs through greater

⁸ Fiscal Year 2011-2012 PSAP Funding Eligibility List Matrix, Effective July 1, 2011, and the PSAP Funding Eligibility List Glossary, p. 23.

efficiencies and improvement safety with better coordination between neighboring jurisdictions.

• A company providing telephone, cell phone, and internet services across different states believes that consolidation of existing PSAPs may produce cost savings and should be studied. However, they are also cognizant of the fact that consolidation would be politically difficult. They also thought it advisable that the person taking the call should be in relatively close geographic proximity to the county from which the call originated. That would still allow for multiple county PSAPs to be combined into a regional PSAP.

APCO Survey of Selected PSAPs Nationwide. In the summer of 2010, the Association of Public-Safety Communications (APCO) Consolidated Center Directors Network (CCDN) released the results of a survey it had undertaken regarding PSAP consolidation.⁹ The survey was completed by 198 individuals nationwide who had been involved in the consolidation of a 911 call center. For the purposes of this survey, consolidation was defined as the combining of two or more communications centers into a single facility and/or organization using one of several existing models. The survey was comprised of questions that focused on areas of demographics, governance, operational issues, staffing, and funding.

Overall, the respondents reported that consolidation had been beneficial. Results of the survey included:

- 47 percent of respondents were motivated to consolidate because of economic benefits, and 45 percent of the respondents were motivated by operational benefits.
- 69 percent of respondents said the largest challenge to consolidation was related to personnel issues such as training, mingling of different staffs, and unions. 68 percent of the respondents noted that securing "agency buy-in" was a challenge.
- 84 percent of respondents believed that single point of contact and control was the biggest benefit.
- 72 percent of the centers were civilian based, with the majority funded through telephone surcharge fees.
- Reasons for consolidation varied and included: statewide or local mandate required it, research suggested operational and/or economic benefits, and as a result of a related initiative (PSAP construction).

⁹ The CCDN is comprised of safety communications center directors representing the nation's consolidated, multi-jurisdiction or multi-agency centers. The CCDN was established to advise APCO and the industry at-large and to make recommendations on public safety communication issues.

- Identified challenges included the requirement for a public vote, securing agency "buy in," drafting intergovernmental agreements, determining governing rules, technical (coordinating disparate systems, installing new technology), and personnel (training, mingling staffs, union rules, etc.).
- Reported benefits included less duplication, fewer points of contact/control, improved information sharing/intelligence, cost management, standardized processes/training, less competition for qualified candidates, encouragement of interagency cooperation, operational efficiencies, better control/use of technology, and simplified planning.
- Drawbacks to consolidation included management by consensus, management of multiple policies, interagency rivalry/politics, fewer cost savings than anticipated, financial concerns, and disparate concerns of users.

Other State Consolidation Efforts

To better understand what consolidation efforts have been undertaken across the nation, we undertook a telephone survey of 17 states. The states were selected based upon their similarity to Pennsylvania, in that they share a border with the state, or because we became aware that some type of PSAP consolidation had occurred in the state.

Exhibit 9 is a brief compilation of the information obtained through these calls. The information obtained through these calls shows that most states have not undertaken consolidation of primary PSAPs, although they do support and encourage individual PSAPs and their local government who decide to consolidate. Where consolidation has taken place, other than in Indiana, Maine, and New Mexico, consolidation efforts have originated at the local level and affected a limited number of counties.

We also asked state officials whether there was a state law or regulation mandating consolidation of PSAPs. Exhibit 10 shows the results of our survey. Most states do not have a legal or regulatory requirement that primary PSAPs consolidate by a defined date. There are however, some notable exceptions such as Indiana, Maine, and New Mexico.

• Indiana passed a law in 2008 that allows no more than two PSAPs in each of Indiana's 92 counties no later than December 31, 2014.¹⁰ The legislation also froze the PSAPs' ability to raise their wireline 911 fee until completion of the consolidation. If a county only has one PSAP, it is prohibited from approving additional PSAPs. The legislature did this, according to an official, to try to save money and promote efficiency. However, the state does not know how much state funding, if any, will be saved. As of

¹⁰ House Bill 1204-2008 and Indiana Code 36-8-16.5-51.

June 2011, there were a total of 134 primary PSAPs operating in 91 County E-911 systems (one PSAP covers two counties). Although most counties currently have two or fewer PSAPs, there are counties with five, six, and even 18 primary PSAPs. Some of the existing PSAPs in these counties will have to close to be in compliance with the law. According to a state official, at first there was a lot of resistance, but counties have accepted the fact they must comply with the law if they want continued funding. The official also reported that the legislation has forced many PSAPs to look at their operating costs in much greater detail than they have in the past. It is up to individual counties to decide how they will consolidate to meet the state mandate. The General Assembly gave no direction in the legislation according to an official; however the establishment of regional PSAPs is starting to be seriously discussed for the first time.

- Maine has consolidated its PSAPs from 48 to 26 beginning in 2004 because the legislature required it.¹¹ The effort required extensive work in the areas of rulemaking, stakeholders meetings, and multiple hearings to determine the designation and role of the centralized PSAPs. Consolidation was completed in 2007. Consolidation was mainly undertaken, according to a state official, to save money. The intent is to further consolidate PSAPs at some time in the future. A consultant's report, released in January 2010, recommended that between 15 to 17 PSAPs is the optimum configuration, and that they should be regionally located. The state legislature found that the recommendations in the report were reasonable and that a plan for implementing such recommendations should be developed.¹² It directed the Emergency Service Communication Bureau, in consultation with PSAPs, to develop a plan for achieving the 15 to 17 public safety answering point configuration proposed by the consultant.¹³ The bureau submitted its report in November 2010 to the legislature which, as of late 2011, had not acted on the recommendation to further consolidate PSAPs.
- New Mexico began consolidating PSAPs in 2002. Since 2002, the state has gone from 72 to 48 PSAPs in 33 counties. In May 2004, municipal and county PSAPs within one county's contiguous boundaries were given one year to develop a consolidation plan and enter into an approved joint powers agreement with other PSAPs in their area of operation.¹⁴ The regulations did exempt one municipal police department and one county PSAP from having to consolidate because of the large populations they served. The Department of Public Safety district PSAPs Native American police were also exempted from having to consolidate. When the decision was

¹¹ 25 M.R.S.A. §2926(2-A).

 $^{^{\}rm 12}$ House Bill 1315, 124th Maine State Legislature.

 $^{^{13}}$ The number of PSAPs was based on the fact that there are 17 counties in Maine so there would be one PSAP for every county.

¹⁴ 10 NMAC §6.2.15.
made to upgrade PSAP equipment to facilitate Phase II wireless, it cost approximately \$32 million for the 48 existing PSAPs. A bond was purchased to help finance this upgrade because annual revenues at the time were only around \$12 million per year. The bond is paid off. If the state had not consolidated, it is estimated that the cost for 72 PSAPs would have been approximately \$50 million, not including operating expenses. A state official told us the state would not have been able to maintain its current fund balance if it had not required consolidation. The current surcharge of \$.51 per line would have had to increase to about \$1.00, which would have been seen as a huge rise in taxes.

A few states encourage consolidation through the award of state grant funds. In North Carolina, there is a state grant program to assist PSAPs wanting to consolidate which went into effect in July 2011. The grant does not have a cap. However, the amount approved does depend on available money. As of October 2011 no grants had been awarded.

In New Jersey, a report released in 2006 recommended the state issue planning grants to local governments and implementation grants to cover the capital costs to establish a center or enlarge or enhance an existing PSAP as a way to encourage regionalization. The report also recommended that enhanced subsidies be made available for municipalities that form a regional communication center.¹⁵ New Jersey initially did begin awarding planning grants; however, in June 2010 the 911 Office of Emergency Communications Services issued a memo noting that, because of the state fiscal crisis, all 911 grant programs had been suspended. No date had been determined as to when such grants would again be available.

Although not a grant program, in Virginia primary PSAPs that support wireless E-911 are eligible to apply for and receive funds, either as a standalone applicant or as part of a regional initiative, for a consolidation project.

¹⁵ New Jersey 9-1-1 Consolidation Study, October 2006.

Consolidation Undertaken in States Surveyed by the LB&FC

<u>States</u>	Has There Been Consolidation of PSAPs Over the Prior Five Years?
Indiana	Yes, but only one consolidation prior to the passage of legislation. The state played no role in the consolidation. It was locally driven and came about because of financial constraints that a municipal PSAP was experiencing.
Florida	There is one tri-county group that shares equipment. Some counties have dropped some PSAPs.
Illinois	No.
Maine	Yes. In 2003 the legislature required that the number of PSAPs be consolidated to 26 from 48. It was a multi-year process, starting in 2004 and ending in 2008. The state is tentatively planning future consolidation of PSAPs which would reduce the total number of PSAPs to 17 or 18.
Maryland	No. The only consolidation that takes place is when a local police department is ad- ministratively relocated under the umbrella of the county. Police departments can re- quest financial support to undertake such consolidation.
Michigan	Michigan's Urban Cooperation Act allows the establishment of intergovernmental units that can operate independently. There are three such county agreements and two municipalities that run 911 operations together.
Minnesota	Only one consolidation, which was locally driven. However, in 2003, the 911 Program was asked to study the issue of PSAP consolidation and PSAP standards. The study completed in early 2004 clearly indicated that any overt efforts to mandate consolidation would be resisted.
Missouri	No.
New Jersey	No, although a study recommending consolidation was completed in October 2006. In 2005, a grant program was started, that among other things, provided funding for PSAPs to undertake consolidation studies and purchase equipment. In FYs 2005 and 2006 a total of \$1.7 million was provided to seven different PSAPs. The grant pro- gram was suspended because of the fiscal crisis the state was facing.
New Mexico	Yes. State law required that municipal and county PSAPs consolidate one year from May 28, 2004. The state went from 72 PSAPs to the current number of 48.
New York	Yes, but only in one county.
North Carolina	Yes. In the last year two PSAPs (one a municipality) combined because of cost con- straints on the part of the municipal PSAP.
Ohio	Yes. The only consolidation that has occurred is that two different municipal PSAPs combined with the county PSAP in which they were located.
South Dakota	No.
Tennessee	Yes. Only one consolidation over the last five years. It was locally driven and came about because of fiscal constraints on the part of the municipal PSAP.
Virginia	Unsure, because state did not respond to our telephone calls. However, any primary PSAP that supports wireless E-911 is eligible to apply for and receive funds, either as a standalone applicant or as part of a regional initiative, for a consolidation project.
Washington	Yes. There has been no official policy or movement to require or encourage consoli- dation. In the last six months however, four PSAPs in one county consolidated down to two PSAPs.

Source: Information was obtained from officials of the 17 states surveyed for information about their emergency services 911 system. Officials were surveyed by telephone in April and May 2011.

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Legal or Regulatory Requirements That There Be no More Than a Specifically Identified Number of PSAPs in the State

<u>States</u>	Legal or Regulatory Requirements
Indiana	House Bill 1204-2008 requires that there be no more than two PSAPs in each of Indi- ana's 92 counties by 2014.
Florida	No.
Illinois	No.
Maine	A follow-up study that was completed after the initial consolidation of PSAPs recom- mended that they be further consolidated to no more than 16 or 17. As of November 2011 the legislature had not acted on this recommendation.
Maryland	No.
Michigan	No.
Minnesota	No requirement, but consolidation is encouraged.
Missouri	No.
New Jersey	No.
New Mexico	Only supposed to be one PSAP per county, however two counties are allowed to have more, and Indian Reservations can have more than one. Other counties can file a request to have more than one PSAP with the state making the final decision.
New York	Did not answer.
North Carolina	No, however no more PSAPs can be created in the future. The legislature has not mandated consolidation or closure of existing PSAPs.
Ohio	No, however wireless funds may only go to five PSAPs per county. Some counties rotate which PSAPs get the funding.
South Dakota	No.
Tennessee	No.
Virginia	Did not answer.
Washington	No legal requirement limiting the number of PSAPs. However, if a PSAP is the result of consolidation in the past, the state will not fund deconsolidation. None have deconsolidated up to this point.

Source: Information was obtained from officials of the 17 states surveyed for information about their emergency services 911 system. Officials were surveyed by telephone in April and May 2011.

Consolidation Can Take Various Forms

Consolidation does not necessarily mean closing one PSAP and merging its responsibilities into another PSAP. As noted below, there are a number of different consolidation scenarios that can be pursued.

APCO's Consolidation Possibilities. APCO lists the following consolidation possibilities:

- Co-Location Only: Multiple agencies share a common facility but maintain separate call taking/dispatch capability.
- Single Discipline Call Taking: Multiple agencies of common discipline (i.e. police only) share common facility and consolidate call taking operations.
- Single Discipline Dispatch: Multiple agencies of common discipline (i.e. police only) share common facility and consolidate dispatch operations.
- Consolidated Call Taking: Multiple agencies share common facility and consolidate call taking operations for more than one discipline.
- Full Consolidation: Multiple agencies share common facility and consolidate call taking and dispatch operations across multiple disciplines.
- Virtual Consolidation: Variation of scenarios 2-5 listed above wherein PSAP maintains separate physical locations but share common call taking and/or dispatch capabilities over a secure managed network.
- Dual Mode Consolidation: Variation of scenarios 1-5 listed above whereby both public safety and non-public safety agencies share a common facility and potentially a degree of shared technology (i.e., 911 and 311 sharing common facility and common CAD system).¹⁶

The Communications Security, Reliability and Interoperability Council Plan. In October 2010, a working group of the Communications Security, Reliability and Interoperability Council (CSRIC) released a report on effective practices for public safety consolidation.¹⁷ The objective of the report "was to identify challenges to public safety consolidation efforts and recommend best practices for overcoming them."¹⁸ The problem of public safety consolidation was divided into three separate areas of study—technology, governance, and operational concerns. The report notes that:

¹⁶ Association of Public-Safety Communications (APCO), Communications Center Consolidation Considerations, A guide for those contemplating the consolidation of one or more Public Safety Answering Point, August 10, 2010.

¹⁷ Key Findings and Effective Practices for Public Safety Consolidation, October 2010, by the Communications Security, Reliability and Interoperability Council. The CSRIC's mission is to provide recommendations to the FCC to ensure, among other things, optimal security and reliability of communications systems, including telecommunications, media, and public safety.

¹⁸ Key Findings and Effective Practices for Public Safety Consolidation, October 2010, p.7.

During consolidations, the successful implementation of technology is highly dependent on effective operational procedures and consistent training of practitioners, but first and foremost is the establishment of a trusted and secure governance structure. Gaining access to technology individual agencies could not afford on their own and better trained personnel are significant benefits.... At the same time, the traditional revenue streams to fund capabilities are not keeping pace with the costs to refresh and maintain technology. Absent new and consistent funding solutions, local government leaders will be truly challenged in acquiring new and more advanced technology to keep pace with citizen demand and expectations."¹⁹

As part of the study, the CSRIC interviewed 12 agencies nationwide (none in Pennsylvania) which had undergone some type of consolidation involving their PSAP or their communications offices. The interviews primarily involved county officials. Based upon these interviews and case studies, CSRIC identified six distinct phases shared by case study participants. These six phases were:

- Identification of an effective leader Successful consolidations usually have a well-respected champion to lead and spearhead the process from beginning to end. Consolidation represents a major culture change and is often threatening to participating agencies long accustomed to having complete control of their services.
- Interest building The process of developing interest in consolidation among decision-makers and stakeholders is often met with skepticism and rejection. The champion must meet with the affected parties and answer their initial questions with enough clarity to address these concerns and doubts in order to build a body of trust leading to interest. If enough interest exists, the process moves to the next phase of conducting a feasibility study.
- Feasibility study A comprehensive study that benchmarks current 911 and dispatch services by examining a wide variety of issues, such as staffing, call processing and dispatching, budget, technology, political environment, and facilities. The study should also determine if consolidation makes sense from a service level, political, technological, and financial perspective. Finally, the study should make recommendations for consolidation models, governance, funding, staffing, technology, and facilities.
- Planning phase Decisions regarding participation, funding formulas, organizational structure, governance model, and human resources issues, facility and technology needs, and planning for procurements occurs in this phase.

¹⁹ Ibid, pp. 4-5.

- Implementation/Transition Phase Technology procurement, installation and training, facility construction or renovations, and procurement of furnishings all occur in this phase.
- Post-consolidation Phase Immediately after consolidation, service and technology issues are common issues that must be addressed.

The issue of cost savings appears throughout the report; however, the report notes that while cost savings are possible, not all consolidations result in cost savings. Where cost savings are found to be achievable, the actual realization of the savings may not occur for several years due to capital and other start-up costs. The report does not speak directly to the potential costs of consolidation, although it does note that it may be necessary to create a sustainable funding mechanism that is separate from the normal appropriation process.

IV.B. Issues the Commonwealth Will Need to Consider in Incorporating "Next Generation 911" Technology Into Its Emergency Response System

All 69 PSAPs in Pennsylvania are technologically capable of receiving 911 calls that identify the call back number and the location of where the call originated for both wireline and wireless telephones, known as E-911 (Enhanced 911). PEMA is now preparing for the next phase of technology enhancements that will allow cell phone users to send 911 texts, as well as other data such as photos, to each PSAP in Pennsylvania. This technology, known at Next Generation 911 (NG911), will require technological and operational changes at individual PSAPs. The coming changes will also require the Legislature to amend Chapter 53 of Title 35 to include language that allows necessary Next Generation 911 features to go forward.

What Next Generation 911 Will Add to Current Call-taking Capabilities

The term NG911 refers "to the modernization of all parts of the 911 system, including hardware, software, data, and operational policies and procedures, all supported by multi-purpose emergency service networks."¹ NG911 systems operate through Emergency Service IP Networks (ESInets). Such IP-enabled networks, also known as Voice over Internet Protocol (VoIP), allow callers to make voice calls using a broadband Internet connection instead of a regular (analog) phone line. VoIP converts the voice signal from your telephone into a digital signal that can travel over the Internet. If you are calling a regular telephone number, the signal is then converted back at the other end.²

NG911 is designed to shorten the time required to identify a caller's exact location when a call is made to a PSAP and can pinpoint calls from a wide variety of technologies, ranging from text messages to computers and photos. An IP-enabled network also allows calls and other data to be easily transferred within networks and among regional networks in a state.

NG911 will:

- Fully replace Enhanced 911, with all the capabilities and functions in place today. All current originating service types must continue to be supported seamlessly, with no service dropout during the transition from E-911 to NG911.
- Add capabilities to support changes for current and new types of originating service providers. E-911 supports voice calling for wireline, wireless, and VoIP services. There are current and future needs for different and

¹ Emergency Communications: Broadband and the Future of 911, Congressional Research Service Report for Congress, December 22, 2010, P.1.

² Federal Communications Commission Consumer Fact Sheet, September 21, 2009.

new calling technologies, including non-voice messaging of various types, devices generating data-only messages (such as sensors), and photo and video transmission services.

- Add flexibility for the PSAPs to transfer calls, messages, and data between any PSAPs on any interconnected NG911 system anywhere in the country and directly activate alternate routing much more quickly.
- Add capabilities to integrate and interoperate with emergency entities beyond the PSAP. Other emergency and public safety related entities will be able to interconnect to the NG911 network, and be able to receive calls and data sent by the NG911 system or PSAPs.³

National Support for NG911 by the Federal Communications Commission

On December 21, 2010, the Federal Communications Commission (FCC) adopted a Notice of Inquiry (NOI) seeking public comment "on how NG9-1-1 can enable the public to obtain emergency assistance by means of advanced communications technologies beyond traditional voice-centric devices."⁴ According to the FCC, NG911 technology incorporates key differences not found in legacy 911 systems, such as:

- NG911 networks can be accessed by a wide variety of end users and devices, many of which will have identifiers other than telephone numbers.
- NG911 networks are capable of supporting multiple voice and non-voice services, whereas legacy 911 supports voice only.
- In NG911, the difference between mobile, nomadic, and fixed services is blurred, because a single device may operate in mobile, nomadic, and fixed configurations at different times and locations.
- In NG911, network access and communications service may be provided by separate entities rather than the same entity.
- NG911 network services can be provided by servers largely independent of location. 5

In its NOI, the FCC identified a number of issues related to implementation that states need to address before transitioning to NG911. These include:

- Disparate PSAP capabilities in an NG911 environment.
- Competition in the 911 marketplace.

³ National Emergency Number Association (NENA) paper titled, *Why NG9-1-1*, 2009.

⁴ Federal Communications Commission News Release, December 21, 2010. The National Broadband Plan released in March 2010 recommended that the FCC file the NOI.

⁵ Federal Communications Commission Notice of Inquiry, December 21, 2010, pp. 10-11.

- Liability concerns.
- Confidentiality and privacy concerns.
- Location capabilities.
- Network and data security concerns.
- Education of the public.
- Unidentified caller access to NG911.
- International issues.⁶

Apart from being able to receive emergency calls and data from multiple sources, the FCC notes that NG911 technology will give states and local governments the ability to create virtual PSAPs if they so desire. Currently when a 911 call is made it is answered by a call taker sitting within a physical building that houses the PSAP. In an NG911 network, that call taker would be able to answer a 911 call from virtually any location. Call takers could be located anywhere that Internet capabilities are functioning, and a single call taker could support multiple PSAPs if the state or local government decided to do so. Such virtual PSAP arrangements would allow for more flexible and efficient staffing.⁷

FCC Five-Point Plan to Move the Nation Toward NG911

In August 2011, the Chairman of the FCC unveiled a five-point plan to move the nation toward Next Generation 911. The Chairman noted that, "it's hard to imagine that airlines can send text messages if your flight is delayed, but you can't send a text message to 911 in an emergency."⁸ The five point plan, which the FCC must take the lead on, includes the following actions:

- 1. Develop location accuracy mechanisms for NG911: The FCC's Location Accuracy proceeding has launched development of a framework for providing automatic location information in the NG911 environment.
- 2. Enable consumers to send text, photos, and videos to Public Safety Answering Points: The FCC will consider a notice of proposed rulemaking to accelerate NG911 adoption. The notice will help answer practical, technical questions about how to enable text, photo, and video transmission to 911, including how to ensure adequate broadband infrastructure to deliver the bandwidth public safety answering points will need to provide NG911. As part of the notice, the FCC will examine interim solutions for ensuring that carriers/service providers support transmission of text-to-911.

⁶ Federal Communications Commission Notice of Inquiry, December 21, 2010, pp. 22-27. Please refer to these pages of the NOI for further information on these issues.

⁷ Federal Communications Commission Notice of Inquiry, December 21, 2010, pp. 13 and 20.

⁸ Government Technology Solutions for State and Local Governments, *FCC Commissioner Unveils 5-Step Plan* for Next Gen, August 10, 2011.

- 3. Facilitate the completion and implementation of NG911 technical standards: For NG911 to be effective there is a need for technical standards for the hardware and software that carriers and public safety answering points use to communicate NG911 information. The FCC will work with stakeholders to resolve standards issues and facilitate consistent and co-ordinated implementation of a standards-based architecture.
- 4. Develop a NG911 governance framework: Because no single governing entity has jurisdiction over NG911, the FCC will work with state 911 authorities, federal agencies, and governing entities to provide technical expertise and develop a coordinated approach to NG911 governance.
- 5. Develop a NG911 funding model: To assist 911 authorities and Congress in considering NG911 funding options, the FCC's Public Safety and Homeland Security Bureau will prepare a cost model focused on the costeffectiveness of the NG911 network infrastructure linking public safety answering points and carriers.⁹

In September 2011, the FCC Commissioners approved a Notice of Proposed Rulemaking (NPR) seeking input on the framework of NG911 systems that would enable multimedia access to emergency call centers and prioritization of 911 calls on commercial networks.

Communications Security, Reliability and Interoperability Council

In March 2011, a working group of the Federal Communications Security, Reliability and Interoperability Council (CSRIC), released a lengthy final report that addressed the transition to Next Generation 911.¹⁰ The report notes that planning for NG911 is ongoing, with a large number of complex technological, operational, funding, and access issues that must be addressed to successfully implement a NG911 system nationwide. The authors of the report anticipate that deployment will be a complicated and evolutionary process requiring stakeholders' cooperation. The 190-page report identifies and discusses several challenges and transition issues and offers recommendations for further action in four key areas. The recommendations include:

- A comprehensive Next Generation 911 plan and strategy must be developed in sufficient detail to provide direction to the states and PSAPs so that the transition is effective.
- Common sets of standards in the areas of product, interface, data, test methodologies, performance and operations must be agreed to and adopted prior to transitioning to Next Generation 911.

 $^{^{9}\,\}mathrm{A}$ discussion of this cost model is discussed later in this finding.

¹⁰ Working Group 4B: Transition to Next Generation 9-1-1 Final Report, Communications Security, Reliability and Interoperability Council, March 2011. The working group divided into four subgroups to focus on major topic area. The four subgroups were technology, system & operations, funding, and access.

- States should analyze existing 911 legislation and rules to ensure that the transition to NG911 can proceed smoothly.
- 911 authorities and PSAPs should inventory and evaluate the IP networks that are already in use as it is likely that multiple, limited-purpose networks already exist.
- Consolidation of legacy networks into single (or as few as possible) networks should be strongly encouraged.
- Identify the technical expertise required to design, implement and administer security in complex network architecture.
- Promote collaboration by PSAP administrators through developing relationships with PSAPs outside their normal service jurisdiction.
- Develop models of consortium arrangements and governance supporting system operations roles and responsibilities.
- Existing surcharges and taxes alone are no longer adequate to fund both legacy 911 systems and a transition to Next Generation services, so new sources of predictable and sustainable funding must be found. Possible funding models include fixed-amount surcharges on all calling services, a surcharge on access infrastructure providers, a general statewide communications surcharge, a common federal communications surcharge, and the more traditional use of bonding for capital expenditures. ¹¹
- To be eligible for funding, PSAPs must be required to adhere to adopted NG911 standards.
- Benchmark studies to determine the length of time required for call staff to process the different types of calls in the NG911 environment should be undertaken. PSAPs will then be able to forecast their workload and determine the number of staff needed to meet their performance goals.

DOT Estimate of the Nationwide Cost to Move to NG911

In March 2009, the U.S. Department of Transportation (DOT) estimated that the total cost of implementing and operating a nationwide NG911 system over the following 20 years would be \$82-\$86 billion. The report also found that the overall cost just to maintain the current 911 system ranged from \$66-\$94 billion. DOT found NG911 would likely cost about the same as the current 911 system, but deliver significantly more value in the areas of accessibility, reliability of service, call taker timeliness, public safety, and safety to the responder.¹² The report noted

¹¹ Diversion of existing surcharges further erodes the ability of 911 authorities to maintain or expand 911 services. The report notes that "no known full NG9-1-1 deployments exist, specific, concrete, and reliable data is lacking. Next generation projects underway or portions of next generation transition projects currently funded in states or localities are so varied that any funding models related to these projects are not valid for comparison purposes." p.45.

¹² Next Generation 9-1-1 (NG9-1-1) System Initiative: Final Analysis of Cost, Value, and Risk. U.S. Department of Transportation, Intelligent Transportation Systems, March 5, 2009, p.76.

that the cost figures reported do not account for several other possible opportunities for cost savings. For example, labor costs that might be saved because of less staff were not considered. Savings from PSAPs that move toward virtual locations or move to consolidate into larger, more centralized call centers was also not considered. The DOT report did not provide an estimate of the cost by individual states.

Funding Possibilities Identified by NENA

In March 2007, NENA identified six possible alternatives that might be considered for funding NG911. None of the proposed funding sources are meant to exclusively fund NG911, as the authors note that

...the best funding model may be a combination of several ideas.... The NG9-1-1 model envisions a system with shared networks, databases and applications in which the communications costs of public safety agencies are shared amongst all participants in the NG9-1-1 system. This will result in less reliance on individual 9-1-1 centers paying for all aspects of the system at the local level, and will potentially reduce costs through sharing with many non-9-1-1 agencies.¹³

Appendix H briefly lists these funding alternatives, as well as the advantages and disadvantages of each.¹⁴

FCC Next Generation 911 Cost Study

In September 2011, the FCC released a NG911 cost study report.¹⁵ The report "presents a cost study on the network connectivity and call routing portion of the nationwide NG911 network.... Providing this connectivity on a nationwide scale will require substantial funding."¹⁶ The cost study examined two cost models (baseline model and cost effective model) for funding the construction and ongoing costs for NG911 network connectivity and call routing between PSAPs and commercial service providers.¹⁷ The study does not address other costs that PSAPs or carriers may incur in migrating to NG911, such as new systems located within the PSAP or upgrades to service provider networks to support NG911. The study also does not present cost data for individual states or communities.

¹³ Funding 9-1-1 Into the Next Generation: An Overview of NG9-1-1 Funding Model Options for Consideration, March 2007, pp 2-3.

¹⁴ The authors do not identify the possible dollars which would be raised to support NG911 through these different options.

¹⁵ White Paper: A Next Generation 911 Cost Study: A Basis for Public Funding Essential to Bringing a Nationwide Next Generation 911 Network to America's Communications Users and First Responders, Federal Communications Commission, Public Safety and Homeland Security Bureau, September 2011. ¹⁶ Ibid, p.2.

¹⁷ The two cost models calculate both capital or non-recurring costs and ongoing or recurring costs - a baseline model and a cost effective model that assumes the realization of certain cost-efficiencies from PSAP consolidation and using hosted as opposed to dedicated networks.

PSAPs were divided into three categories, based on the number of seats for call-takers. Small PSAPs had five or fewer seats. Medium PSAPs had between six and 49 seats. Large PSAPs had 50 or more seats. The study also assumed that each PSAP would provide NG911 service using one of two network architecture solutions—dedicated or hosted.¹⁸ The report calculates non-recurring and recurring costs under each model based on the distribution among PSAPs of the two architectural solutions (dedicated or hosted) and on the total number of PSAPs requiring access to broadband fiber.¹⁹ Based on estimates of current costs for 911 trunking (T1 circuits) nationwide, the total yearly recurring cost could be offset by as much as \$26 million to \$55 million in savings due to not needing these trunk lines once NG911 networks are fully operational.²⁰

For the baseline model, the total ten-year cost, including non-recurring costs and recurring costs for all PSAPs, was estimated to be \$2.68 billion (\$1.23 billion in non-recurring costs and \$1.45 billion in recurring costs).²¹ Recurring costs would be less the first three years and could be expected to jump substantially beginning in year four.

For the cost effective model, the report assumes that PSAPs would consolidate operations as they migrate to NG911 and rely more on hosted solutions.²² The total ten-year project cost is estimated to be \$1.44 billion (\$556 million in nonrecurring costs and \$888 million in recurring costs). As with the baseline model, monthly recurring costs are less in the first three years and rise in year four, although at a rate significantly less than what was shown in the baseline model. The report authors show that as NG911 is implemented nationwide, the transition would be much less expensive (\$1.2 billion) if PSAPs consolidated and used hosted networks.

¹⁸ Under a dedicated system, the PSAP owns and operates all network, call routing, and call processing equipment and leases network connectivity. It requires more capital expenditures and ongoing cost support, but allows for greater PSAP specific customization. Under a hosted solution, a PSAP contracts with third party service providers for all network services and associated equipment, which are hosted offsite and are accessible by multiple PSAPs. Costs are based on administrative and monthly fees, p.4.

¹⁹ The report considered non-recurring costs to include the cost to upgrade to IP-over-fiber, the percentage of PSAPs that must upgrade to IP-over-fiber, the percentage of PSAPs that upgrade from a single fiber connection to a dual fiber connection for improved reliability, and the percentage of PSAPs requiring special construction charges to connect or upgrade broadband fiber to the PSAP. Special construction charges also vary based on the size of the PSAP and its geographic location. The analysis also included non-recurring costs for equipment required to connect the PSAP to a hosted or dedicated network solution. Recurring costs included the costs of access connectivity for all PSAPs, which typically take the form of monthly fees to subscribe to a certain amount of bandwidth. Recurring costs under the hosted solution also include monthly fees for services hosted offsite by a third party service provider. Recurring costs under the dedicated solution also include ongoing maintenance and operations costs, p.6.

²⁰ Based on an estimate of the number of trunks each PSAP has today (5 to 7 on average) at a monthly rate of \$65 to \$100 per trunk, p.6.

 $^{^{21}}$ A theoretical rollout schedule for NG911 and concurrent phase-out of the baseline system spans a 10-year implementation period, p.7.

 $^{^{22}}$ The assumption is that the number of PSAPs would decrease by 35 percent.

Other States' Efforts Related to NG911

Status of NG911 Nationally. The majority of states have taken some action to assess or plan what they need to do to implement NG911. Exhibit 11 shows which states have begun strategic or operational planning for NG911 and/or have undertaken some type of an assessment of what they need to do to prepare as of September 2011. Although functional components are being developed and companies are starting to bring NG911 products to market, there are no fully deployed NG911 systems in any state at this time.

LB&FC Survey of Other States. We surveyed 17 other states to gather information on what efforts were being undertaken in those states to prepare their 911 systems for Next Generation technology. Responses to our questions indicated how different each state is in the approach it is taking to prepare for and implement NG911. Examples of steps being undertaken include:

Indiana reports it has the largest IP-based safety network in the world, • serving 6.4 million residents and the traveling public. The state began upgrading its legacy wireless 911 network in 2005. Working with contractors, the state oversaw the creation of the first wireless-only E-911 network to be built on a statewide basis. Known as IN911, it uses a fiber based IP backbone and highly redundant connections to the PSAPs. It delivers wireless 911 voice calls to all PSAPs via a private, secure, redundant, and monitored, IP network. The network replaced 17 different selective routers that were used in the legacy system with two mated tandems. Wireless calls can now be completed using an all-digital network, improving both call setup time and reducing the time required for dispatchers to update the location of the caller. New applications will be able to be quickly incorporated into the IP backbone, including emerging technologies such as real time text messaging and video and telematics information such as OnStar, once interim standards, being developed nationally, are adopted. When a 911 call is made from a cell phone, the wireless carrier sends that call to the network where it is converted into digital packets. The call is then sent over the statewide network to the PSAP closest to that cell phone handset. Special equipment has been installed at the PSAPs that convert the signaling back into the traditional service the PSAPs' equipment needs. PSAPs do have the option of installing new equipment to ensure that they have complete next generation capability if they are willing to pay for it.





Next Generation 911 Nationwide as of September 29, 2011



Source: National NG9-1-1 Update by L.R. Kimball September 29, 2011. Data was obtained from a variety of sources (NENA, RFP work, actual projects, news reports, telephone conversations) to present their best estimate of NG911 implementation in each state.

- Minnesota is currently working to implement an NG911 Internet protocol • infrastructure to provide the capability for new technologies to interface with the existing 911 network. In 2008, the state contracted with a consultant to conduct a detailed assessment of the state's existing network, to identify any major gaps in the existing network, and make recommendations on how to proceed to implement an NG911 network. As a result of this report, Minnesota, beginning in 2010, embarked on a three-phase project to upgrade the existing 911 network infrastructure to an IP-based backbone designed specifically for the transport of emergency requests for assistance. Phase 1 is to build interoperability between two legacy 911 service providers. Phase 2 is a trial with a limited group of PSAPs that will test the new IP network and IP router functionality, verify the installation process, and ensure a solid migration plan. Phase 3 is the implementation of the high speed network statewide. Future functionality options such as allowing a person to text 911 or send video of a fire, is still dependent on the finalization of national standards and approved statewide PSAP protocols. On October 28, 2011, the state reported that Phase 1 had been completed.
- New Mexico, in June 2011, contracted with a private vendor to conduct a statewide Next Generation cyber security assessment and provide an improvement plan as part of the state's NG911 planning process.
- In Florida, counties are buying NG911 equipment for use as soon as it is available. Counties are working together with telephone carriers to ensure there is adequate capacity to carry the data traffic.
- In Illinois, some PSAPs are replacing their CPE equipment so they will be compatible with an IP network. However, the state cannot build a statewide IP 911 system at this time.
- In Maryland, a private company is trying to take the lead by hosting the equipment for PSAPs so the individual PSAPs would need less equipment. Currently, all equipment that the company buys is IP equipped. They are waiting on industry and NENA standards to be published because standards need to be the same across the country.
- Tennessee, through the Tennessee Emergency Communications Board, in 2010 voted to make \$25 million available to counties for equipment to connect to the IP platform the state is deploying to modernize 911 infrastructures (Next Generation 911 Project). The funding plan provides a base amount of \$120,000, plus an additional amount determined by the district's population. The 911 Project will replace aging analog 911 infrastructures with a digital platform which will improve interoperability and increase the ease of communication between emergency communications districts, and allowing for the immediate transfer of 911 calls, maps, photos, caller location, information, and other data statewide. Their budget projects non-recurring build out costs of approximately \$44 million over

the next five years and recurring operational costs of up to \$16.5 million annually.

- In Washington State, a vendor released a study on the funding required to implement NG911. The study noted that the transition to Next Generation 911 will need to progress in phases. All counties must be transitioned to Phase 2 before PSAP moves to the final phase deemed Phase 3 (full digital to digital voice and data from start to finish). An Installation Guide was developed to provide the PSAPs transitioning to the NG911 network with a list and description of equipment and the installation requirements to successfully deploy to the network.
- In Virginia, the state began planning in FY 2010 for NG911 with a comprehensive inventory of all assets, resources, and services. It also undertook an analysis of the capabilities of primary PSAPs to incorporate NG911 technology. The state has a comprehensive 911 Plan to address 911, and this is the roadmap they will follow for NG911.

Most states we surveyed indicated that they did not have specific programs or grants available to PSAPs to assist them as they move toward NG911. Only two states (Florida and Tennessee) indicated that they currently provide funding to PSAPs to assist them with NG911 costs. Two other states (North Carolina and South Dakota) are planning to provide funding for grants that could be used for NG911-approved expenses. New Jersey suspended its 911 grant program because of the fiscal crisis the state was facing.

The National Emergency Number Association actively tracks state and local initiatives to build and activate IP networks that support NG911 functions in the future.²³ Exhibit 12 shows, as of October 3, 2011, what has been voluntarily reported to NENA by 37 different states as well as the District of Columbia.²⁴ Pennsylvania reported that there has been NG911 activity at the state level.

Some of the projects reported for different states include:

• Arizona reported as of August 2011 that the Arizona Trial Project completed in the northern part of Gila County successfully. Trial components included inter-tandem transfers for both voice and data between legacy selective routers, text messaging, video streaming, and a variety of other components. It has been the state's intent to move the trial into production upon its completion. Funding issues prevent that from happening at

²³ NENA maintains a spreadsheet of counties and states that are either considering or implementing an IP Network or next generation related components in preparation of NG911. The last update to this spreadsheet was October 3, 2011.

²⁴ Since information is volunteered by states, the data included in the spreadsheet may have last been reported to NENA before October 3, 2011.

this time. Funds were withdrawn because the 911 program funds were taken to offset the state's budget deficit.

IP Network <u>Planned</u>	IP Network Available at State Level	IP Network at Sub-State Level	NG911 Preparation Activity at State Level	NG911 Preparation Activity at <u>Sub-State Level</u>
Arizona California Idaho Iowa Kansas Mississippi Missouri New Hampshire New Jersey Oklahoma	Dist. of Columbia New Mexico	Colorado Louisiana Ohio	Alabama Connecticut Delaware Indiana Maryland Massachusetts Michigan Minnesota Montana North Carolina North Carolina North Dakota Oregon Pennsylvania Rhode Island South Dakota Tennessee Vermont Virginia Washington	Alaska Florida Illinois Kentucky Texas

Exhibit 12 National IP Network and NG911 Progress for Individual States*

*States are not required to report data to NENA. Twelve states did not provide data and so are not classified by NENA.

Source: NENA NG911 Project: Status of NG9-1-1 Related State Activity, October 3, 2011.

- Connecticut as of September 14, 2011, successfully installed the Public Safety Data Network. The state was planning to issue an RFP to procure the statewide NG911 system in the 4th quarter of 2011. NG911 will be a state solution. The state currently provides 911 platform (hardware/software) and training for 107 PSAPs which include 169 towns and 8 regional centers.
- Delaware reported as of August 24, 2011, that two contractors partnered to develop and implement a statewide emergency services IP network. The first stage will be to link all 911 centers together. The second stage will be to migrate the technology into the network. No time frame was identified.
- Iowa reported as of August 12, 2011, that an RFP was awarded in October 2010, to provide a Statewide IP Enabled NG911 Network. The contract was signed in July 2011. First phase of the project (network infrastructure and migration of all PSAPs and carriers to the new network) is

scheduled for September 2012. Black Hawk County is the first 911 call center in the country to successfully receive text messages sent directly to 911. This groundbreaking effort allows those with speech and hearing impairments to use text messaging to communicate directly with a 911 operator in an emergency.²⁵

- Kentucky reported in September 1010 that it has drafted and approved a state 911 plan and standards that envision a statewide NG ESInet with NG applications built in compliance with NENA's standards. The plan specifies that the network be a private, secured, managed MPLS network connecting all primary and secondary answering points. Separate RFPs to procure MPLS network transport with data centers (housing NG applications and hosted CPE services) and NG applications were being finalized for the state but no other data was available.
- Michigan reported in September 2011 that a consultant had completed an NG911 Feasibility Study in December 2009 and in April 2010 issued an addendum in response to a number of questions that came from 911 stakeholders about the report. The 911 Office entered into a contract extension with the consultant to develop a project plan for NG911 based on its findings in the Feasibility Study.

Actions Taken by Three States to Begin NG911 Migration That Pennsylvania Might Draw Upon as It Plans for NG911

As part of this study, the LB&FC identified three states that actively took steps in 2010 and 2011 to prepare for NG911. Their 911 systems are not currently NG911 capable, but as a result of these studies, state and local officials in these states know better what they must do to prepare for and migrate to NG911. Each of the studies include different phases that must be successfully completed to make the migration successful and which might be helpful as Pennsylvania moves forward.

California. In July 2010, California released a strategic plan for 911 that included nine goals and 40 objectives to implement NG911 services in the state.²⁶ In December 2010, California released a report, prepared with the assistance of a private consulting firm identifying how the state was going to transition to NG911. According to the report it is a roadmap "that identifies the steps and tasks necessary to assess, plan, design, test, implement and maintain a comprehensive NG9-1-1 System in California."²⁷ The Roadmap report utilizes a comprehensive methodology for NG911 that covers six different phases in the implementation process. The six phases are:

²⁵ In August 2011, the Emergency Communication Center in Durham, North Carolina became the second 911 center in the country to enable text to 911 technology using 911 digits and live call takers.

²⁶ California 9-1-1 Strategic Plan, Office of the State Chief Information Office, July 30, 2010.

²⁷ Proposed California NG9-1-1 Roadmap, California Technology Agency, Public Safety Communications Office December 2010, p.1.

- initiation phase,
- assessment and analysis phase,
- requirements, design and planning phase,
- proof of concept phase,
- implementation phase, and
- maintenance and management phase.

In each phase there are studies, reports, requirements, designs, and plans related to regulatory, legislative, and funding; governance; technology; operations; security; related California projects; and the State 9-1-1 Office. It is not a long report (43 pages) but it covers most, if not all, the issues any state, including Pennsylvania, will need to address before, during, and after moving to NG911.

The report does not identify the amount of funding that will be needed to transition to NG911. It recommends that the state review all current funding provisions to make sure there will be adequate revenues to fund services throughout the transition and beyond. Additionally, eligible uses of funding need to be reviewed to ensure unique NG911 system components are covered. The minimum five steps that the state needs to undertake as part of any funding review were identified as:

- Assessing reasonable and equitable fees on all end user communication technologies or services capable of accessing 911.
- Assess prepaid fees.
- Clearly define the eligible uses of 911 funds and establish penalties to deter misuse of funds.
- Provide the state with the ability to adjust the 911 surcharge rate.
- Ensure statutes, regulations, and tariffs enable system components to be shared among the agencies and entities that use it and that there is a mechanism for these agencies and entities to share the costs.

In July 2011, as part of an effort to engage California stakeholders, a series of public meetings were held throughout California to solicit comments on NG911.²⁸ The meetings included various NG911 presentations designed to educate the public and provide an opportunity for them to offer comments in response to a defined list of questions. Comments fell into five major themes, what NG911 means to the state, training and support, cost and funding, standards, and privacy. Throughout the six public meetings and in the written comments, many issues relevant to the subject of NG911 were raised, discussed, or submitted. A key objective of the public

²⁸ Report on Next Generation 9-1-1 in California Public Meetings, California Technology Agency, Public Safety Communications Office, July 2011.

meetings was to help identify any specific areas that the proposed Roadmap may have inadvertently missed. The report notes that the issues identified in both the public meetings and comments are addressed either directly or indirectly in the Roadmap.

Colorado. In June 2010, the Colorado 9-1-1 Resource Center released a Request for Proposal (RFP) to assist the state of Colorado 911 community in identifying various models for developing, implementing, and maintaining an Internet Protocol (IP) based 911 communications system.²⁹ On August 29, 2011, the consultant hired released a report on what the state had to do to successfully transition to NG911.³⁰ The consultant's report identifies the technical architecture, installation and maintenance, governance, and funding recommendations for a NG911 Internet Protocol (IP)-enabled network. The overall conclusion of the report is that Colorado's E-911 network and infrastructure must transition to a modern IP-based network capable of meeting future public safety needs in the state. The report includes a list of the foundational requirements for the proposed NG911 network and foundational assumptions relevant to the proposed NG911 network.

Based on their findings, the consultant recommended that Colorado deploy a statewide IP network that allows applications to be implemented in three phases. The three phases include statewide implementation of a scalable MPLS network for transport of IP-ALI; the additions of hosted call center applications such as CPE, call logging, and CAD on the network; and migration from legacy 911 to the features and functions of NG911. To initiate the process of this phased approach, the state needs to develop a detailed network plan and a conceptual network design that supports each phase of the project. This plan must include all essential elements intended to sustain the successful migration through each of the three phases.

The consultant recommended that each PSAP be responsible for operating costs that are not part of the distribution structure, including Customer Premise Equipment (CPE), local networks, and interconnecting to the NG911 network. The objective is that the capital and operating costs associated to the construction and operation of a Colorado NG911 network be distributed evenly to all users. Two possible funding mechanisms were identified in the report that the consultants believe could be adopted to pay for the cost of NG911. The first option is the consideration of a user-pay system based on consumption. In this model, the higher call volume PSAPs would be expected to pay more towards the support of the network infrastructure than the lower volume PSAPs. Advantages and disadvantages of this system include:

 ²⁹ The Colorado 911 Resource Center is a nonprofit organization created to act as an information clearinghouse, facilitate collaboration, and provide support for the 911 authorities and PSAPs of the state of Colorado.
 ³⁰ Colorado Next Generation 9-1-1 System Review Report Submitted August 2011 to Colorado 9-1-1 Resource Center, Mission Critical Partners.

Advantages

- Those that use the system more would pay more than those that use the system less.
- Subscriber fees are used to offset operations costs, however each PSAP would be responsible to cover all local costs.

Disadvantages

- There is little experience using this model.
- Subscriber fees are not guaranteed.
- Calculating budgets is more complex as usage data may vary dramatically.
- Funding shortfall risks increase since the actions of constituents is the driving factor in the amount of money required by 911 authorities.

The second option bases system funding on a hybrid averaging model. This model adopts an equalization of surcharge funds intended to relieve the financial burden of smaller PSAPs. The assumption for this model takes into account the need to "level the playing field" for the delivery of PSAP services across the state. Funding based purely on ALI records and a percentage of wireless 911 calls no longer serve the needs of 911 in Colorado. The model establishes a statewide minimum service level for PSAPs. A baseline service level then determines the cost of operations based on a 24/7 operation, minimum staffing requirements, standardized baseline system technologies, and standard of care of practice for the citizens of Colorado. Advantages and disadvantages of this system include:

Advantages

- Levels of service to the public are standardized throughout the state.
- PSAPs could better afford subscriber fees as well as covering local costs.
- The normalizing of financial support mitigates an undue burden on any one 911 entity.

Disadvantages

- There is little experience using this model.
- Subscriber fees are not guaranteed.
- Calculating budgets is more complex as communities shrink or grow over time.
- There is an ongoing risk of local funding shortfalls.
- Fluctuations in local economy due to recession exacerbate financial burdens in low population regions.

The consultant recommended that the hybrid averaging funding distribution model (option 2) be adopted for PSAPs connecting to an NG911 network. On October 30, 2011, the 911 Resource Center asked for feedback on the proposals made by the consultant in order to develop a consensus of how the state should proceed.

Maine. In Maine, the Emergency Services Communication Bureau (ESCB) hired a consultant to write a migration plan for the deployment of NG911 services in a statewide system. The plan, which was released in January 2011, provides an initial, high-level road map that the ESCB will use as it moves forward with NG911. The migration plan developed by the consultant provides an overall framework and identifies and separates the required tasks in a logical arrangement. There are four major stages included in the migration plan, which are to be executed consecutively. The challenge is to minimize the overlap during which the state must pay for the operation of both a legacy network and ESInet. The major stages, and the approximate timeframes, involved in migrating 911 to NG911 identified included:

- Preparation (up to one year) which involves product/service/vendor selection, vendor contract negotiations, standards and policy development by ESCB, and explaining plan to stakeholders.
- NG911 Pilot Demonstration (six months) in which the selected vendor completes network designs, implements base public safety IP infrastructure, NG911 CPE provisioned at selected PSAPs, and undertaking testing to demonstrate that the NG911 platform is serviceable.
- ESInet construction (six months) is the third step and involves the vendor completing ESInet construction to all PSAP sites, all PSAPs equipped and ready to handle NG911 traffic, PSAP operators trained, and origination networks interconnect with ESInet at two or more points of interconnection.³¹
- Migration (up to two years) involves origination networks moving traffic from legacy selective routers to ESInet, legacy PSAP equipment moved as necessary, and finally legacy networks disconnected.³²

The report identifies specific system considerations that the state and individual PSAPs will need to address. To ensure a successful migration the consultant recommended that the state create a master NG911 plan. Such a plan would define goals, objectives, and tasks required to effectively implement an NG911 system. The NG911 master plan would be used to document the current state, the envisioned state, and the steps needed to get to the envisioned state. The effect on PSAPs would chiefly be in new equipment they would need to purchase and the cost of training for existing and new staff.

The E-911 bureau director estimated that the new system will result in a savings of \$100,000 of the \$560,000 a month. The savings however, are expected to be more than offset by the cost of equipment needed to handle the new technology.

Pennsylvania's Transition to NG911

APCO/NENA of Pennsylvania's Thoughts on NG911. APCO/NENA of Pennsylvania did not have a formal opinion on NG911. They believe the requirements for NG911 are still evolving and no one is entirely clear on what the standards will eventually be. They noted that the national NENA office has just recently released its i3 standards which will be the basis for the NG911 ESINET technology that will be a fundamental part of NG911. The industry is still digesting that and trying to plan for it. The organization had no specific information on whether counties are moving ahead with upgrading their PSAPs to handle NG911 as it is currently under-

 $^{^{31}}$ Point of Interconnection (POI) is a site or location where two different networks meet for the purpose of interconnection.

³² *Plan for Next Generation 9-1-1*, by L.R. Kimball, for the State of Maine Emergency Services Communication Bureau, January 2011.

stood. IP-based networks, more internal PSAP networking, and new equipment capable of NG911 upgrades are being implemented by PSAPs. The infrastructure for NG911 is not in place across Pennsylvania and probably will not be until the telephone industry determines where and how it is moving forward. Although they do not know what the cost to migrate to NG911 will be for the Commonwealth or the counties, it will not be insignificant.

PSAPs' Efforts to Prepare for NG911

We received responses from 22 PSAPs regarding their plans to incorporate Next Generation technology into their 911 system and whether they had upgraded their PSAP so it could handle NG911 calls. Several PSAPs reported that they had moved forward with obtaining NG911 capable equipment. Others were waiting for Next Generation planning at the national and state level to move forward and become more focused before they committed funding for equipment. A few PSAPs reported they were waiting for PEMA to issue guidelines before proceeding. A number of PSAPs were concerned about where the funding would come from for NG911 technology and other upgrades that would be needed. Exhibit 13 includes some of the comments made about NG911 by these PSAPs.

Service Providers' Thoughts on NG911 in Pennsylvania

A provider of cable and telephone service noted that the technology exists for NG911, but implementing the necessary changes (technology, funding, staffing, and local buy-in) is where the difficulty lies. They believe NG911 will eliminate the need for telephone lines and require a migration to an IP environment from copper telephone lines. They believe that PEMA should be taking a stronger role in coordinating what individual counties are currently doing or need to do to move into a Next Generation environment. They also noted that a statewide IP network could support other operations besides 911. They do not believe that trying to retrofit NG911 into existing legacy systems will be successful because they are so different. They see no national mandates at this time related to NG911. Providers will have significant costs to become compliant with NG911.

A provider of wireless telephone service noted that NG911 is in the early stages of development, and it is premature to speculate on estimated costs. At this point in time, they are not aware of any federal or state mandates that dictate the incorporation of NG911 technology into the current 911 program. Based on the implementation of prior technologies, they believe it is reasonable to assume that some form of cost recovery for providers would be appropriate.

Comments About NG911 Readiness by Selected PSAPs in Pennsylvania

- We have had discussion; however, there are no definite NG911 standards at this point. Different vendors are pushing their own solution and their own technology.
- We are continually looking at what new technologies can assist us in providing more efficient service to the community and how to offset the costs involved.
- It has been discussed and significant equipment and personnel costs identified. The county will be hard pressed to implement NG911 unless there is a significant and guaranteed increase in outside funding to both implement and sustain such a system.
- We have been instructed to wait for guidance from PEMA. We requested authorization several years ago to fund a NG911 study with wireless funds and were denied.
- Our county procured a NG911 System in June 2008 to be NG911 ready. We are waiting for the industry to "catch up" and provide IP-trunking/service delivery to our PSAP.
- NG911 is coming whether we are ready for it or not. The trend in technology is moving away from voice communications. Every generation is using texting and e-mail more and more to communicate. We are behind the technology curve. The costs associated with this should be covered by wireline and wireless funding, but with the lack of available funding for current operations the county would end up paying the costs associated with this upgrade.
- We have already begun upgrading and updating our 911 CPE equipment and GIS technology to comply with "next generation" standards. We have also applied to the state for funding to complete a PSAP "next generation" needs and assessment study. We are in the process of replacing our computer aided dispatch system. All of these replacements will cost our PSAP \$3 million.
- Our county has tried to keep abreast of NG911, but to date the standards are not completed and we have made no plans/commitments.
- The most significant question is the comparison of increased costs versus added benefit of including next generation capabilities. Decreased costs by changing the infrastructure used to receive 911 calls will probably be the largest benefit, but the added costs to add text, video and other functionality is of very questionable benefit.
- We are currently in talks with eight other counties in the state in regards to sharing equipment and the build out of NG911 using a wide area network. We are constantly trying to improve our ability to answer and process regular 911 calls. We will continue to adapt to changing technology to attempt to allow access to other devices, but our focus remains on improving our current procedures, training and guidelines to deliver services. We are concerned that technology improvements will have a negative impact on our personnel. Certain more experienced personnel are very concerned about the ever changing technology and their ability to adapt to it.

Exhibit 13 (Continued)

- We are getting ready to move into a new PSAP and are purchasing NG911 capable equipment. Once we have relocated we would like to look at installing features of NG911.
- Current legislation does not allow for NG funding so the funding would have to come from the county. Unfortunately there are too many projects and not enough money to cover everything.
- Our county has been building toward Next Generation 911 technology for a number of years. Our current phone system is IP enabled and the upgrade we are in the process of doing will move us closer toward being able to handle Next Generation technology. The current project for upgrading our radio system will move us into digital radio with interoperability capabilities. Our CAD already has some basic NG911 capabilities. We can't progress too much further without significant, and expensive, changes to the public telephone network and the capabilities to provide us with NG911 compatible calls.
- All upgrades must include the ability to seamlessly be enhanced to NG911. We have had a system continuity plan for many years. The plan sets forth long-term capital projects in a coordinated package to best utilize public funds. We are currently enhancing our emergency phone system and replacing the CAD system to provide the ability to incorporate NG911 functionality as is becomes available in a systematic and cost effective way.
- Our vendors have been developing several different solutions to take advantage of this capability once it is standardized, but again cost versus benefit does not appear to support this type of upgrade at this time. The vendors and consultant once again stand to make tremendous amounts of money with no concrete benefit for the caller or call-taker.

Source: Comments taken from surveys returned by PSAPs.

A national provider of telephone, cell phone, and Internet service noted that NG911 is still early in its development. There is a possibility of federal mandates in the future, although they do not consider that a requirement for success. At this point, they said it was too early to tell what the costs will be and whether government assistance will be necessary to pay back providers who have to implement technological or other changes as a result of Next Generation. Although they do not have a timeframe, they believe it will be necessary to operate both legacy and Next Generation networks until full transition to NG911 is realized. In the short run this will be more expensive. Once IP-based systems are in place, it is unknown whether costs will drop, be the same, or even rise. It will depend on the standards of technology that are required and are still being written. The same type of technology, or technology that is compatible, would have to be installed in each county. That should not be a real problem other than the cost. There would be a need to scope each system in each county to determine what would be needed for them to communicate with each other.

Another large telephone, cell phone, and Internet provider believes that the industry and technology changes are so rapid that it is impossible to predict with any certainty what technologies might be providing access to 911 service in the future. The only true way to ensure that funding for 911 costs related to PSAPs is both stable and adequate in the face of rapidly evolving technology is for political subdivisions to fund PSAP operations in the same fashion as they do other emergency services such as police, fire, and ambulance, i.e., by making such critical services part of government budgets funded by taxes. They do not see any mandates related to NG911 at this time. They believe that technology mandates tend to discourage, rather than promote, innovation. The marketplace, rather than regulation, can best determine the most efficient and effective technologies and timing for NG911 implementation. Because NG911 is still in a nascent stage, its implementation costs and the possible recoverability of costs that providers have to spend to allow for the provision of NG911 from governmental sources are presently unknown.

PEMA's Efforts Related to NG911

In September 2010, a Pennsylvania Broadband Summit, sponsored by the Commonwealth, was held just outside Harrisburg, Pennsylvania. The former director of the Bureau of 9-1-1 in PEMA presented information on NG911 in Pennsylvania at a breakout session during the summit. In his PowerPoint presentation he noted that the specific challenges to adoption of NG911 in Pennsylvania included:

- funding of 911 systems,
- outdated legislation and regulations,
- governance of NG911 system,
- coordination between PSAPs, and

• legacy system performance (tandem transfers, redundancy).

These issues still remain.

PEMA informed us that there is no current mandate from the government for NG911; however, several federal agencies are looking at what NG911 can do for the public and public safety. NG911 is being driven by the public's rapid adoption of newer technologies. In late August 2011, PEMA met with the LB&FC to discuss NG911. The objectives for NG911 in Pennsylvania according to the agency include:

- Develop a statewide Next Generation strategy.
- Lead public safety in the application of Next Generation technology.
- Provide broadband to every Emergency Operation Center (EOC) and PSAP through a statewide Emergency Services IP Network (ESInet).
- Operationalize statewide public safety communications network.
- Enable cost savings for county governments and create sustainable solutions.
- Eliminate silos and move toward an enterprise environment for technology and operations.
- Eliminate duplication and enable shared services.
- Implement 'Best Practices' mode upon move to the new Emergency Operations Center.

PEMA identified the current 911 environment in Pennsylvania as an austere fiscal environment. It noted there are 69 PSAPs with 829 call taking positions. Sixteen of the PSAPs are reportedly NG911 individually capable, and 25 other PSAP 911 switches are upgradable. However, the agency also noted that 28 PSAPs switches had reached their 'end of life' and would soon need to be replaced.³³

In the FY 2009-10 Annual Report for 911, PEMA reported that it had "just concluded a readiness assessment of the various components needed for NG9-1-1."³⁴ The report was prepared for PEMA by a contractor and was released in April 2011.³⁵

³³ Each of the 28 switches that are at 'end of life' is capable of 60 call taking position capacity, and can support 250 trunks. Those 28 switches would support a total of 1,680 positions. With only 829 PSAP 911 call taking positions there is a great deal of capacity that is not utilized. Shared resources through a statewide broadband ESInet (Emergency Services IP network) would provide the ability to reduce those switch numbers to perhaps 10 statewide versus 69. The resulting added value is obvious in terms of reductions in purchasing of shared equipment. The same added value could be applied to maintenance contracts and other costs that could be shared as well.

³⁴ 9-1-1 Annual Report, FY 2009-10, PEMA, p.11.

³⁵ NG9-1-1 Assessment Report for PEMA NG9-1-1 Pilot Project, April 2011.

The report was PEMA's "assessment of the state, comprised of describing Pennsylvania's current PSAP technology and configuration, data center requirements, and availability, network resources available and current bandwidth requirements to assist in defining the master plan for deployment of the PEMA NG911 system." ³⁶ This information was used to determine if the services and equipment that is to be part of the NG911 Pilot Project (ENHANCE 911 Grant) is currently available. The results of this readiness assessment were that all services and equipment is available and that Pennsylvania could go forward with the Pilot Project. Among the findings included in the report:

- Pennsylvania's 69 PSAPs are supported by four 911 service providers from eighteen 911 selective routers.
- The current system is effective for handling calls from traditional wireline telephones and has been modified to handle wireless and VoIP calls.
- There are substantial upgrades of local systems required for PEMA to move forward with ESInet at the PSAP level.
- Of 850 PSAP telecommunicator positions statewide, 527 positions would be impacted by the upgrading to ESInet compatible technology.
- Various services and functions of the ESInet are still under development by various vendors.
- NG911 is new technology and is in the early development and deployment stages. PEMA should begin the process of developing recommended guidelines and functional requirements for ESInet that can be used in the near future.

PEMA also reported that it conducted focus group meetings to develop a plan for implementing an NG911 system in Pennsylvania. Focus group meetings were held in February and March 2011 in three different areas of the state. The purpose of the focus groups was to educate stakeholders on the NG911 grant application (ENHANCE 911 Grant), give stakeholders a high-level overview of NG911, and gain stakeholders input on the necessary functional requirements for an NG911 system. PEMA released a draft report on its findings in April 2011 which it shared with us.³⁷

Apart from PEMA staff and consultant staff, there were 75 participants attending the regional focus meetings, the majority of whom were from 911 authorities. Several PSAPs either brought contracted consultants with them or sent them to the meetings in their place. Approximately 35 out of 69 PSAPs were represented at one of the meetings, the majority of which indicated that they had little knowledge of NG911.

³⁶ Ibid, p.1.

³⁷ Draft report on PEMA NG9-1-1 Focus Group Findings Prepared for Pennsylvania Emergency Management Agency, Bureau of 9-1-1. p.4.

The findings from the focus group meetings included:

- PSAP staff from eastern Pennsylvania assumed that the state would manage any NG911 system, while staff from western Pennsylvania PSAPs generally expressed discomfort related to any governmental mandates.
- PSAP staff was more concerned with NG911's impact on their PSAP operations, rather than the technology behind it.

The report did not move past the draft stage, as shortly after it was put together, PEMA halted work on the NG911 project (ENHANCE 911 Pilot Project), rescoped the project, and pursued a new direction.

PEMA's Vision for NG911 in Pennsylvania and the NG911 Plan

We asked PEMA if it had a written plan for how the state and county PSAPs will move to NG911 capability. Although the agency did not have a written plan at the time we asked, PEMA reported it was developing a plan with the assistance of a contractor that was substantially completed by the end of November 2011. The intent is to build out a statewide ESInet and incentive PSAPs to share 911 infrastructure in a manner that eliminates unnecessary duplication of systems and related costs. PEMA does not want each of the 69 PSAPs to develop and deploy NG911 independent of one another. That approach is not cost effective, fails in optimization of public safety, limits interoperability, exacerbates disaster recovery challenges, and provides for uneven service levels between PSAP jurisdictions. At the same time, PEMA recognizes it needs to understand the past conditions that have contributed to the lack of an NG initiative to date.

In mid-December 2011, the LB&FC met with PEMA staff who provided an overview of what would be included in the NG911 Plan. At that point, the plan was essentially finished by the contractor, but PEMA staff had not finished reviewing it, so it was not ready for public release. The information provided to us did not include a detailed description of how PEMA planned to move 911 from a legacy-based to an NG911 system. Rather what we were given presented the overarching themes of where Pennsylvania had been and where it needed to go to fully embrace NG911. Among the foundational requirements that PEMA established is that:

- The network must support all new and evolving applicable technical and operating standards as they are developed.
- The network must be designed with sufficient capacity to support public safety needs.
- Implementation of NG911 must support migration to consolidation of equipment, and sharing of resources.

Assumptions that PEMA identifies for Pennsylvania's program include:

- Regional governing entities will retain control over their specific emergency response functions.
- Local jurisdictions will retain responsibility for managing daily operations.
- PEMA authorizes which entities or organizations shall access the network.
- PEMA will provide final approval for applications and services.
- All data and voice communications from the ESInet to the PSAP will be IP-based.
- The network architecture should be a hybrid mix of public and private network assets that maximizes efficiency and increases sharing of resources.³⁸

From these foundational requirements and assumptions it can be seen that PEMA sees its role as setting the technical specifications that must be met for individual PSAPs or PSAPs that decide to regionalize in one form or another. The approach would appear to allow PSAPs to choose to adapt or modernize their operations as they deem necessary, provided as long as what they do meets the specifications set by PEMA.

As far as a timetable for NG911, the initial rollout of the ESInet is to provide IP connectivity to a minimum of six counties by September 2012. These counties will be followed by deployment of an IP network to a total of thirteen counties and network connectivity to the Broadband Middle Mile (BBMM) project across the northern tier of Pennsylvania upon its deployment. It is the goal of PEMA to ultimately rollout the NG ESInet to every PSAP and Emergency Operations Center in the Commonwealth. No specific timeframe for such a statewide rollout could be provided.

PEMA is in the information gathering stage of defining costs. Where possible, it intends to leverage existing network assets through governance agreements with local government, utilities, the Office of Administration, private sector entities, and others. Exhibit 14 depicts potential ESInet partners for such a network. The intent is to build out an ESInet that limits future recurring costs. Based upon a review of previous year funding applications, they believe the annual recurring costs for 911 call delivery (911 end of trunking, 911 Tandem trunks, ALI fees, selective routing fees, and telephone company administrative fees) exceeds \$11,000,000 per year. A long-term goal of shifting the costs to an ESInet allows multiple applications to be shared by PSAPs and Emergency Operations Centers, and thus over

 $^{^{38}}$ PowerPoint slides provided by PEMA at a meeting on December 13, 2011, at which the NG911 Plan was discussed.

	artners	Image: selection of the	
Exhibit 14	Potential ESInet P	Image: state in the	Source: Pennsylvania Emergency Management Agency.

the long term should save money in procurement, maintenance, and service of the systems.

ENHANCE 911 Grant

To begin the process of upgrading Pennsylvania's 911 systems to an NG911 environment, PEMA applied for federal grant money from the National 9-1-1 Office managed grant program created by the ENHANCE 911 Act.³⁹ This grant was created to disperse funds to deploy wireless and Internet protocol (IP) based E-911 and included a 50 percent local matching requirement. Pennsylvania's minimum eligible allotment was \$1,242,456, before the matching requirement. In September 2009, the Commonwealth was awarded \$2.5 million in grant funds with PEMA providing a match of \$2.7 million from PEMA's 2 percent wireless fund administrative fee. The application submitted to the National 9-1-1 Office was to develop an NG911 prototype for the Commonwealth. The prototype was to connect up to three PSAPs (Chester, Clearfield, and Washington Counties) for the delivery and advanced routing of calls in an NG911 environment.

In the summer of 2011, PEMA concluded that the proposed concept that the grant was supposed to solve had already been proven and that there would be a lack of funding or purpose for the proposal after the grant dollars were spent. It therefore contacted the National 9-1-1 Office and requested a change of focus for the grant. In its proposal, PEMA noted that it now:

Intends to use the ENHANCE 911 grant program for financial assistance in the implementation of an operational broadband Emergency Services IP-enabled Network (ESInet) platform. This initial deployment will serve as a model for counties, regions and the entire state program. The approach is to create an operationally sustainable ESInet to expand the sharing of network resources is essential to the overhaul of the entire program. This revision in scope is necessary to ensure that the hardware, software and network services contribute to a sustainable configuration that supports NG9-1-1 that can be expanded across Pennsylvania. The network...provides connectivity between the Emergency Operations Centers and Public Safety Answering Points utilizing the most current NG9-1-1 capable technical recommendations. The ENHANCE 911 grant will jumpstart an NG9-1-1 framework for all of the 69 PSAP's throughout the State.⁴⁰

³⁹ The ENHANCE 9-1-1 Act of 2004 provided for \$1.25 billion of federal funding to support state E-911 wireless deployment and NG911 solutions. Only \$41 million was appropriated and the ENHANCE 9-1-1 Act was permitted to sunset on September 30, 2009.

⁴⁰ Pennsylvania Emergency Management Agency Revised ENHANCE 911 Application.

After reviewing the proposed changes and determining it complied with the ENHANCE 911 grant intent, permission was granted. Under the new grant proposal, which PEMA calls Western Pennsylvania County Regional ESInet (WestCORE ESInet), PEMA will match the \$2.5 million federal grant with funding from multiple county wireless and wireline funds (Allegheny, Armstrong, Butler, Fayette, Greene, Indiana, Lawrence, Mercer, Somerset, and Westmoreland).⁴¹ Due to limited funding available through the ENHANCE 911 grant, only those county sites that could supply a match amount were chosen to participate in WestCORE ESInet. The remaining three counties are expected to join soon.

The grant will essentially tie together these ten county PSAPs as a network in an operational environment as an ESInet and allow for the deliverance of voice, video, text, and data calls to the PSAPs. A public safety consultant, hired by PEMA, is doing an assessment on the technology and policy needs of each county to create a governance model on how to implement the partnership. The evaluation will identify how costs would be distributed among the counties, including whether the best model is based on population, call volume, or other factors.

The consultant noted in an article that:

Switch redundancy is a paramount factor to make the network viable. The consultancy will be designing a system that has two or three centralized 911 switches so that if one fails, another is ready to pick up the slack for all counties on the system. But exactly how many switches will be used and where they will be located is still up in the air. Today the counties own their own 911 switches and each one of them cost \$250,000. The new switches have capacity to support 150 911 workstations. So if you have a network in place, one switch could potentially support 10 to 15 counties.⁴²

The primary components of the WestCORE ESInet pilot program will be the network services, hardware, and Internet Protocol (IP) based connectivity to implement a shared network infrastructure. It also will reduce the number of CPEs from eight to two according to PEMA.⁴³ This is important because seven of the PSAPs' CPEs have reached their end-of-life. Instead of each county PSAP having to replace their CPE, they will jointly purchase two IP-enabled, Next Generation CPEs which

⁴¹ Although not identified as a participating county by PEMA when we spoke to them about this project, an article published December 14, 2011, by Strategy & Leadership in Critical Times: Emergency Management notes that Allegheny County is also participating in the network.

⁴² Pennsylvania Counties Hatch 911 Tech Sharing Plan, Strategy & Leadership in Critical Times: Emergency Management, December 14, 2011.

⁴³ Customer Premise Equipment (CPE) is telecommunication and associated terminal equipment that is located at the PSAP or dispatch point and has capabilities for handling or dispatching, or both, 911 calls. They are referred to as switches.

all nine counties in the network will be able to share. This not only will allow counties to spend less money, it will allow these ten county PSAPs to be NG911 ready and will promote continuity of operations and ensure regional public safety support.

The requirements of the new network continue to be assessed, and it is expected the design phase will begin in early 2012. During the first phase of implementation, competitive procurement of an IP-enabled network will be completed. The network will be designed using broadband components and bandwidth will be configured to support a variety of potential traffic. After deployment, PEMA intends to investigate sharing opportunities with other state agencies in order to consolidate funds, remove silos, and accelerate progress to NG911. The second phase will focus on building a host/remote CPE solution between the PSAP locations. This effort will allow participating counties to offset the costs of replacing every end of life CPE device by joining together those that can operate in a host/remote configuration. It is expected that this system will have the capability to continue to handle legacy calls until service providers are prepared to deliver IP calls.

After the ESInet network is set up and the grant expires in September 2012, recurring costs will be funded through multiple funding sources (911 Office, Department of Homeland Security, Office of Public Safety Radio within the Pennsylvania Office of Administration, and individual counties). The director of PEMA, in a presentation to the Pennsylvania Chapter of NENA in September 2011, indicated that the estimated capital investment needed to upgrade to NG911 capable CPEs (switches) for the affected counties would be \$1.95 million, with operating expenditures of \$351,450 annually. However, the cost to replace CPEs and upgrade 71 positions in each county so that call-taking operations could be maintained would cost \$3.55 million, with operating expenditures of \$639,000 annually. Going to a regional-based solution therefore saves \$1.59 million in capital costs and \$287,550 in annual operating expenditures.

PEMA also estimated that, on a statewide basis, the cost of CPE replacement or upgrade for legacy systems would be \$30.6 million, with annual operating costs of \$5.5 million. If the investment into NG911 capable CPEs with shared networks was undertaken, the cost statewide would be \$16.8 million, with operating expenditures of \$3.0 million annually. This represents a savings of \$13.7 million in capital expenditures and \$2.4 million in annual operating expenditures.

PEMAS WestCORE ESInet will connect with the Office of Public Radio Services (OPRS) PA-STARNet system, and at some point, with the PA Broadband

Middle Mile Project.⁴⁴ PEMA has held preliminary discussions with OA about possible alignment with OPRS and both believe that cooperation will lead to a more successful outcome for NG911 in Pennsylvania. Neither could it say when WestCORE ESInet could be connected to the PA Broadband Middle Mile Project. According to a December 14, 2011, news article, however, the shared Next Generation 911 system will be operating by early 2013.⁴⁵

Office of Administration Broadband Program

The LB&FC also met with staff of the Office of Administration to discuss broadband in Pennsylvania. They noted that as PEMA plans for NG911, discussions between the two agencies have pointed to possible alignment with OPRS. OPRS oversees the statewide public safety radio network and microwave backbone known as PA-STARNet. It also oversees the ongoing rural broadband project known as PA Broadband Middle Mile, which by 2013 will enable a 150MB microwave network north of Interstates 80.⁴⁶ Both networks provide the Commonwealth significant data transport capability.

The Office of Administration's overall strategy is to look at available broadband systems which can be utilized to provide broadband coverage for areas that currently lack such access. They want to make technology available in a seamless manner for all citizens, regardless of where they live. OA officials noted that they talk regularly with PEMA and support PEMA's vision for NG911. OA is looking for points of interconnection between PEMA's vision for NG911 and its own broadband program. While the two agencies are still in discussion, OA noted that if OPRS managed microwave networks could support NG911, opportunities for cost savings and efficiency gains exist in the following areas:

• Consolidated physical networks and efficiency gains - OA's Office of Information Technology oversees all networks for Commonwealth agencies. State dollars spent on NG911 networks (ESInet) should, in their opinion,

⁴⁴ PA-STARNet is the statewide public safety radio network. PA-STARNet had its beginnings in the early 1990s. At that time, Commonwealth agencies were using separate analog radio systems, which had become antiquated and provided little interoperability. In 1996, the Pennsylvania Legislature appropriated \$179 million to replace these standalone systems with a single statewide digital network supporting both voice and data communications. As of April 2011, PA-STARNet provides 97 percent coverage on roadways across the state and more than 96 percent coverage of the state's overall land mass. Every county 911 center is connected to PA-STARNet with a control station for interoperable communications with state agencies and local fire, police, and emergency medical services.

⁴⁵ Article published December 14, 2011, by Strategy & Leadership in Critical Times: Emergency Management.
⁴⁶ The Commonwealth of Pennsylvania's Office of Administration received a federal grant of \$28.8 under the American Recovery and Reinvestment Act (ARRA) from the U.S. Department of Commerce, National Telecommunications Information Administration (NTIA), Broadband Technology opportunities Program (BTOP) to undertake deployment of middle mile broadband infrastructure in the 32-county region north of Interstate 80. The project aims to promote broadband service in these primarily rural counties. The Commonwealth's ARRA broadband project builds on the state's existing microwave network, used exclusively for radio traffic as part of PA-STARNet.
leverage the same physical networks where possible. PEMA also would be able to direct NG911 funds necessary for network connectivity back to enterprise architecture for statewide networks and telecommunications.

- Network hardening PEMA's plan for NG911 relies on a dedicated IP network concept (ESInet), with high standards for physical security, power and network redundancy, and physical security. PA-STARNet networks are already designed with these security and redundancy features.
- Network governance There will be times when the virtual network crosses over physical broadband networks owned by other government entities. An ESInet may be part of a larger network connecting county and local government facilities statewide and to state assets. Therefore it is important that 911 funds are allowed to support network governance activities and network interoperability.
- PEMA and Office of Information Technology (OI) cooperation PEMA has subject matter expertise for statewide 911 operations, and OIT and the Statewide Public Safety Radio System has expertise as network and networking service providers. To support NG911, each agency's expertise would need to be leveraged for a successful NG911 outcome.

V. Appendices

APPENDIX A

Range of 911 User Fees Exact Amounts May Be Adjusted Locally (July, 2011)

State	Wireline	Wireless	VoIP
Alabama	Up to 5% of Highest Bundled Rate	\$0.70	Up to 5% of Highest
		\$0.70 Prepaid	Bundled Rate
Alaska	\$0.00 - \$2.00	\$0.00 - \$2.00	
Arizona	\$0.20	\$0.20	\$0.20
Arkansas	5% - 12% of Tariff Rates	\$0.65	\$0.65
		\$0.65 Prepaid	
California	.50% of intrastate calls	.50% of intrastate calls	.50% of intrastate calls
Colorado	\$0.43 - \$1.50 (max)	\$0.43 - \$1.50 (max)	\$0.43 - \$1.50 (max)
		1.4% of Sales - Prepaid	
Connecticut	\$0.50	\$0.50	\$0.50
Delaware	\$0.60	\$0.60	\$0.60
District of Columbia	\$0.76 Wireline	\$0.76	\$0.76
	\$0.62 Centrex		
	\$4.96 PBX Trunk		
Florida	\$0.41 - \$0.50	\$0.50	\$0.50
Georgia	\$1.50	\$1.00 - \$1.50	\$1.50
Hawaii	\$0.27	\$0.66	
Idaho	\$1.00 (max)	\$1.00 (max)	\$1.00 (max)
Illinois	\$0.25 - \$5.00	\$0.73	\$0.25-\$5.00
		\$2.50 City of Chicago	
		\$0.73 Prepaid	
Indiana	3% or 10% of Monthly Access	\$0.50	3% or 10% of
		\$0.25 Prepaid	Monthly Access
lowa	\$0.45 - \$2.50	\$0.65	
Kansas	\$0.75 (max)	\$0.50	\$0.50
Kentucky	\$0.36 - \$4.50	\$0.70	
		\$0.70 Prepaid	
Louisiana	\$0.62 - \$1.00 Residential	\$0.85	\$1.00
	\$1.30 - \$2.00 Business	2% of Retail Sales - Prepaid	
Maine	\$0.45	\$0.45	\$0.45
		\$0.45 Prepaid	
Maryland	\$1.00	\$1.00	\$1.00
Massachusetts	\$0.75	\$0.75	\$0.75
		\$0.75 Prepaid	
Michigan	\$0.19 State Fee	\$0.19 State Fee	\$0.19 State Fee
	\$0.00 - \$3.00 by County	\$0.00 - \$3.00 by County	\$0.00 - \$3.00 by
		\$0.90 Prepaid	
Minnesota	\$0.97	\$0.90	\$0.80

Appendix A (Continued)

State	Wireline	Wireless	VoIP
Mississippi	\$1.00 Res \$2.00 Commercial (25 Lines)	\$1.00	\$1.00
		\$1.00 Prepaid	
Missouri	15% of Base Rate (51 Counties)	None	
	.5% of Sales Tax (41 Counties)		
	Unfunded – Remaining Counties		
Montana	\$1.00	\$1.00	\$1.00
Nebraska	\$0.50 - \$1.00	\$0.50 - \$0.70	
Nevada	Varies by Jurisdiction – Property tax	Must be equal to wireline	
	and/or Surcharge (max \$0.25)	Surcharge	
New Hampshire	\$0.57	\$0.57	
New Jersey	\$0.90	\$0.90	\$0.90
New Mexico	\$0.51	\$0.51	
New York	\$0.35 - \$1.00	\$1.20 - \$1.50	\$0.35
North Carolina	\$0.60	\$0.60	\$0.60
North Dakota	\$1.00 - \$1.50 (max)	\$1.00 - \$1.50 (max)	\$1.00 – 1.50 (max)
Ohio	\$0.50 (Max)	\$0.28	
	(Legally limited to a few Counties, no general surcharge.		
Oklahoma	3-15% of Base Rate	\$0.50 (Approx. 42 Counties)	\$0.50
Oregon	\$0.75	\$0.75	\$0.75
Pennsylvania	\$1.00 - \$1.50	\$1.00	\$1.00
Rhode Island	\$1.00	\$1.26	\$1.26
South Carolina	\$0.30 - \$1.00	\$0.61	\$0.30 - \$1.00
		\$0.61 Prepaid	
South Dakota	\$0.75	\$0.75	\$0.75
Tennessee	\$0.65 - \$1.50 Res./ \$2.00 - \$3 Bus	\$1.00	\$1.00
Texas	\$0.50 State Program	\$0.50	\$0.50
	Fees Vary – District	2% of Sales - Prepaid	
Utah	\$0.61 Local Fee plus	\$0.61 Local Fee plus	\$0.61 Local Fee plus
	\$0.08 State Fee	\$0.08 State Fee	\$0.08 State Fee
Vermont	Universal Service Funding	Universal Service Funding	
Virginia	\$0.75	\$0.75	\$0.75
		\$0.50 Prepaid	
Washington	\$0.25 Statewide	\$0.25 Statewide	\$0.25 Statewide
	\$0.70 by Counties	\$0.70 by Counties	\$0.70 by Counties
West Virginia	\$0.98 - \$5.34 by County	\$3.00	\$0.98 - \$5.34 by
		6% of Sales - Prepaid	County
Wisconsin	\$0.36 - \$1.00	None	
Wyoming	\$0.25 - \$0.99	\$0.25 - \$0.99	

Source: National Emergency Number Association (NENA) - http://www.nena.org/?page=911ratebystate&terms.

APPENDIX B

Docketing Statement

Docketing Statement DSCB:15-134A (Rev 2001) Departments of State and Revenue

One (1) required

BUREAU USE ONLY: Dept. of State Entity #

Dept. of Rev. Box # ____

Filing Period _____

SIC/NAICS _____ Report Code _

Check proper box:

Foreign Entitie	s
State/Country	

tate/Country	Date
business	
nonprofit	
limited liab	ility company
restricted p	rofessional
limited liab	ility company
business tru	ist

Date 3 4 5

Other

domestication division

____ consolidation

1. Entity Name:

Name	Number and street	City	State Zip
. Description of busine	ss activity:		
4. Specified effective da month/day/year	te, if any: hour, if any	(Employer Identit	ication Number), if any
6. Fiscal Year End:			

Source: Department of State website.

APPENDIX C

PEMA Wireless E-911 Surcharge Remittance Report

Wireless E-911 Surcharge Remittance Report Commonwealth of Pennsylvania Pennsylvania Emergency Management Agency 2605 Interstate Drive

pennsylvania EMERGENCY MANAGEMENT AGENCY



Harrisburg, PA 17110-9364

Provider Federal Tax	c .		
ID:		Contact Name:	
Provider Name			
		Phone:	
PA Customer # :		Fax:	
Address Line 1:		E-mail:	
Address Line 2:		Period Ending:	\$ 0.00
City, State, ZIP:		Remittance Amount:	\$0.00
		Date of Funds Transfer:	
	REPORT FILIN	GINSTRUCTIONS	(
who Must File: All wire	less service providers, including resellers,	offering wireless post-paid service	(as defined in 35 Pa.C.S. § 5301)
When to Remit: Mont end of the quarter. Wh	nly, by the 15th of each month for the p en remitting by <u>ACH, wire transfer or</u>	rior month; or quarterly, by the 19 <u>check</u> , the "Wireless E-911 Sur	5th of the month following the charge Remittance Report"
received by the due dat	e and the remittance report must be rec	will be deposited). When remittle reived two (2) days prior to the d	ig by check, the check must be
the date of funds trai	nsfer in the box titled "Date of Fund:	s Transfer" and ensure that th	e "PA Customer Number" box
is correctly filled in.			
Where to File: Wireless PEMA as follows:	, service providers shall email the "Wireles	ss E-911 Surcharge Remittance	e Report" (in Excel format) to
EMAIL TO:	PABureau911Remittance@pa.gov		
If remitting by check, mak	e check payable to the "Commonwea	alth of Pennsylvania " and mail c	heck to:
	Comptroller Operations		
	PO Box 2833		
	Harrisburg, PA 17101		
		Post-Paid Devices	Line
Service Month	Reporting Unit		
	Number of Wireless Devices:		1
	Number of Wireless Devices:		2
	Number of Wireless Devices:		3
	Total Number of Wireless Devices	0	4
	Surcharge per Wireless Device:	1.00	5
Total Wireless E-9	11 Surcharge Due (Line 4 X Line 5):	0.00	6
De	ductions (show as positive amounts) -		7
	Uncollected surcharges:		8
	Total Surcharges Received	0.00	9
	e Cost (maximum amount .02 x Line 9);	0.00	10
Administrativ	(
Administrativ	Total Deductions:	0.00	11
Administrativ	Total Deductions: Total Accrued Interest:	0.00	11 12
Administrativ	Total Deductions: Total Accrued Interest: al of Line 6 minus Line 11 plus line 12):	0.00	11 12 13
Administrativ	Total Deductions: Total Accrued Interest: al of Line 6 minus Line 11 plus line 12):	0.00 0.00	11 12 13
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Source: Pennsylvania Emergency Management Agency website.

APPENDIX D

Total Surcharge Revenue and Total Expenditures by Individual PSAP (2009)

<u>County</u>	Surcharge Revenue	Expenditures	<u>Difference</u>
Adams	\$ 1,175,371	\$ 2,163,152	\$ (987,781)
Allegheny	18,893,373	21,726,016	(2,832,643)
Armstrong	776,951	1,459,727	(682,776)
Beaver	2,311,604	3,767,537	(1,455,933)
Bedford	676,372	1,110,192	(433,820)
Berks	5,519,406	6,585,935	(1,066,529)
Blair	1,327,662	1,646,934	(319,272)
Bradford	901,534	898,306	3,228
Bucks	4,040,668	12,404,155	(8,363,487)
Butler	1,540,045	2,168,578	(628,533)
Cambria	2,655,730	2,480,697	175,033
Cameron	127,432	345,829	(218,397)
Carbon	1,953,008	1,432,204	520,804
Centre	2,011,185	2,171,662	(160,477)
Chester	11,335,986	14,001,738	(2,665,752)
City of Allentown	2,334,992	2,565,249	(230,257)
City of Bethlehem	3,766,999	3,271,999	495,000
Clarion	682,755	1,136,071	(453,316)
Clearfield	1,017,194	1,371,746	(354,552)
Clinton	486,959	1,027,728	(540,769)
Columbia	1,176,093	851,941	324,152
Crawford	1,082,550	1,118,118	(35,568)
Cumberland	4,184,847	4,917,616	(732,769)
Dauphin	5,667,676	5,213,975	453,701
Delaware	8,512,251	13,064,621	(4,552,370)
Elk	774,393	903,578	(129,185)
Erie	5,559,352	5,056,383	502,969
Fayette	1,626,355	1,968,354	(341,999)
Forest	75,087	334,929	(259,842)
Franklin	1,905,542	3,114,156	(1,208,614)
Fulton	174,927	408,690	(233,763)
Greene	526,101	684,209	(158,108)
Huntingdon	483,416	582,007	(98,591)
Indiana	925,162	1,785,681	(860,519)
Jefferson	516,823	787,972	(271,149)
Juniata	501,580	1,131,980	(630,400)
Lackawanna	3,880,474	4,824,020	(943,546)
Lancaster	4,034,127	9,233,523	(5,199,396)

Appendix D (Continued)

<u>County</u>	Surcharge Revenue	Expenditures	<u>Difference</u>
Lawrence	\$ 791,189	\$ 1,036,229	\$ (245,040)
Lebanon	2,052,932	3,119,928	(1,066,996)
Lehigh	3,429,123	5,652,477	(2,223,354)
Luzerne	4,264,069	5,966,664	(1,702,595)
Lycoming	1,492,091	2,067,324	(575,233)
McKean	422,897	877,116	(454,219)
Mercer	1,327,157	2,440,671	(1,113,514)
Mifflin	490,823	1,223,612	(732,789)
Monroe	5,720,185	3,505,536	2,214,649
Montgomery	12,729,478	11,444,537	1,284,941
Montour	343,271	725,603	(382,332)
Northampton	3,228,334	5,593,319	(2,364,985)
Northumberland	1,134,097	1,214,590	(80,493)
Perry	547,394	838,685	(291,291)
Philadelphia	22,851,364	32,754,674	(9,903,310)
Pike	1,270,397	1,308,345	(37,948)
Potter	329,923	1,298,057	(968,134)
Schuylkill	3,203,858	2,856,732	347,126
Snyder	722,995	833,977	(110,982)
Somerset	1,120,507	1,130,007	(9,500)
Sullivan	379,986	1,074,631	(694,645)
Susquehanna	734,691	991,269	(256,578)
Tioga	1,106,650	1,304,284	(197,634)
Union	673,316	963,728	(290,412)
Venango	501,834	1,030,831	(528,997)
Warren	458,111	620,211	(162,100)
Washington	1,573,901	3,299,464	(1,725,563)
Wayne	650,184	1,095,882	(445,698)
Westmoreland	4,707,755	8,458,371	(3,750,616)
Wyoming	890,357	1,097,802	(207,445)
York	4,374,595	6,930,219	(2,555,624)
Totals	\$188,665,447	\$252,471,983	\$(63,806,536)

Appendix D (Continued)

Total Surcharge Revenue and Total Expenditures by Individual PSAP (2010)

<u>County</u>	Surcharge Revenue	Expenditures	<u>Difference</u>
Adams	\$ 1,175,371	\$ 1,631,455	\$ (318,487)
Allegheny	17,962,863	22,748,874	(4,786,011)
Armstrong	1,019,774	1,035,032	(15,258)
Beaver	3,669,630	4,082,730	(413,100)
Bedford	879,512	666,634	212,878
Berks	6,252,278	7,416,370	(1,164,092)
Blair	2,190,818	1,433,277	757,541
Bradford	1,344,126	819,265	524,861
Bucks	3,924,625	13,702,231	(9,777,605)
Butler	2,189,257	2,194,235	(4,978)
Cambria	2,276,479	2,566,530	(290,051)
Cameron	141,879	155,483	(13,604)
Carbon	1,171,738	1,566,289	(394,551)
Centre	1,754,093	2,233,475	(479,382)
Chester	10,260,672	12,437,835	(2,177,163)
City of Allentown	2,357,060	2,803,847	(446,787)
City of Bethlehem	1,799,683	2,754,935	(955,252)
Clarion	867,999	1,069,690	(201,691)
Clearfield	1,787,472	2,658,707	(871,235)
Clinton	811,601	1,128,239	(316,637)
Columbia	887,346	911,955	(24,609)
Crawford	1,210,242	1,223,875	(13,634)
Cumberland	4,938,453	9,109,744	(4,171,291)
Dauphin	5,158,281	5,850,845	(692,563)
Delaware	9,292,156	13,849,314	(4,557,158)
Elk	712,491	946,381	(233,890)
Erie	2,760,964	5,435,156	(2,674,192)
Fayette	1,814,093	2,211,512	(397,420)
Forest	71,683	251,996	(180,314)
Franklin	2,078,754	2,746,408	(667,654)
Fulton	253,325	618,884	(365,558)
Greene	553,629	712,456	(158,827)
Huntingdon	665,391	941,207	(275,817)
Indiana	981,805	1,283,822	(302,017)
Jefferson	986,958	1,415,110	(428,152)
Juniata	559,617	1,150,442	(590,825)
Lackawanna	4,742,738	4,303,279	439,459
Lancaster	6,285,317	8,932,063	(2,646,746)

Appendix D (Continued)

<u>County</u>	Surcharge Revenue	<u>Expenditures</u>	<u>Difference</u>
Lawrence	\$ 1,289,160	\$ 1,075,744	\$ 213,416
Lebanon	2,030,845	2,981,673	(950,828)
Lehigh	3,506,863	3,206,576	300,287
Luzerne	6,180,631	6,531,594	(350,963)
Lycoming	1,634,884	3,736,240	(2,101,356)
McKean	692,393	1,255,669	(563,276)
Mercer	1,544,506	1,742,580	(198,074)
Mifflin	686,552	1,706,325	(1,019,773)
Monroe	3,230,267	4,498,450	1,268,183
Montgomery	11,481,006	11,757,739	(276,733)
Montour	272,475	559,287	(286,812)
Northampton	3,090,576	7,212,272	(4,121,697)
Northumberland	1,550,293	1,911,630	(361,337)
Perry	\$607,958	720,826	(112,868)
Philadelphia	23,032,863	37,524,477	(14,491,614)
Pike	987,126	1,064,910	(77,784)
Potter	952,997	836,739	116,258
Schuylkill	2,793,080	3,389,895	(596,815)
Snyder	736,497	625,032	111,465
Somerset	869,958	1,131,099	(261,141)
Sullivan	564,876	1,229,842	(664,967)
Susquehanna	864,321	1,006,578	(142,258)
Tioga	1,281,406	1,188,289	93,117
Union	1,105,396	982,895	122,502
Venango	727,837	811,132	(83,295)
Warren	627,902	669,170	(41,268)
Washington	2,622,740	3,202,098	(579,358)
Wayne	808,855	930,483	(121,628)
Westmoreland	5,400,333	8,294,442	(2,894,109)
Wyoming	769,621	985,535	(215,914)
York	5,332,661	7,996,379	(2,663,718)
Totals	\$195,204,650	\$267,765,220	\$(72,560,531)

Source: Revenue and expenditure data obtained from PEMA 911 Annual Reports.

APPENDIX E

PSAPs' Cost Per Staff Member Based on Personnel Costs Presented by Class of County in 2010

<u>County</u> ^a	Personnel Expenditures	Number of Call <u>Taking/Dispatching Staff</u>	Cost/Staff <u>Member</u>	County Class
Philadelphia	\$24,252,149	395	\$61,398	First
Allegheny	16,298,620	262	62,208	Second
Bucks	11,288,363	135	83,618	Second A
Delaware	10,075,847	124	81,257	Second A
Montgomery	8,192,612	102	80,320	Second A
Berks	4,845,047	89	54,439	Third
Chester	7,229,972	112	64,553	Third
Cumberland	3,101,988	39	79,538	Third
Dauphin	4,452,739	50	89,055	Third
Erie	2,855,599	69	41,385	Third
Lackawanna	2,735,187	76	35,989	Third
Lancaster	6,622,419	89	74,409	Third
Lehigh	2,241,776	38	58,994	Third
Luzerne	4,426,657	89	49,738	Third
Northampton	3,455,711	51	67,759	Third
Westmoreland	4,055,929	66	61,453	Third
York	6,143,761	81	75,849	Third
Beaver	2,532,041	40	63,301	Fourth
Butler	1,280,700	30	42,690	Fourth
Cambria	1,455,294	38	38,297	Fourth
Centre	1,379,619	30	45,987	Fourth
Fayette	1,495,220	42	35,600	Fourth
Franklin	1,552,190	43	36,097	Fourth
Monroe	2,681,923	45	59,598	Fourth
Schuylkill	1,608,385	40	40,210	Fourth
Washington	2,208,010	68	32,471	Fourth
Adams	1,076,896	32	33,653	Fifth
Blair	1,029,752	34	30,287	Fifth
Lawrence	802,064	13	61,697	Fifth
Lebanon	1,369,438	18	76,080	Fifth
Lycoming	1,582,840	26	60,878	Fifth
Mercer	1,381,672	31	44,570	Fifth
Northumberland	794,084	17	46,711	Fifth
Armstrong	645,198	23	28,052	Sixth
Bedford	408,219	15	27,215	Sixth
Bradford	412,212	19	21,695	Sixth
Carbon	747,130	15	49,809	Sixth

Appendix E (Continued)

<u>County</u> ^a	Personnel Expenditures	Number of Call <u>Taking/Dispatching Staff</u>	Cost/Staff <u>Member</u>	County Class
Clarion	\$ 629,093	20	\$31,455	Sixth
Clearfield	1,179,058	30	39,302	Sixth
Clinton	564,658	16	35,291	Sixth
Columbia	632,588	16	39,537	Sixth
Crawford	871,733	23	37,901	Sixth
Elk	643,520	20	32,176	Sixth
Greene	419,795	14	29,985	Sixth
Huntingdon	196,829	19	10,359	Sixth
Indiana	1,018,104	31	32,842	Sixth
Jefferson	535,388	19	28,178	Sixth
McKean	683,521	14	48,823	Sixth
Mifflin	726,366	19	38,230	Sixth
Perry	474,233	19	24,960	Sixth
Pike	755,424	16	47,214	Sixth
Somerset	816,339	22	37,106	Sixth
Susquehanna	636,112	11	57,828	Sixth
Tioga	759,303	21	36,157	Sixth
Venango	546,646	20	27,332	Sixth
Warren	546,344	24	22,764	Sixth
Wayne	652,717	21	31,082	Sixth
Juniata	529,526	12	44,127	Seventh
Snyder	359,647	23	15,637	Seventh
Union	630,497	13	48500	Seventh
Wyoming	450,366	18	25020	Seventh
Fulton	43,428	6	7,238	Eighth
Montour	350,761	11	31887	Eighth
Potter	218,044	11	19,822	Eighth
Sullivan	37,515	6	6,253	Eighth
City of Allentown	2,242,683	35	64,077	NA
City of Bethlehem	1,646,047	28	58,787	NA
Total and Avg. Cost/Staff	\$168,513,548	3,044	\$55,359	

^{*} Please see Chapter III.A for this same information presented by cost/staff member. a Forest and Cameron Counties are not included in this Appendix because they did not report any staff numbers to PEMA.

Source: Created by the LB&FC from data provided by PEMA.

APPENDIX F

Number of County PSAP Certified Staff

UPDATED 5/2/11

COUNTYDIS	PATCHERSU	PERVISORC/	T & RADIO
ADAMS COUNTY	23	0	VES
ALLEGHENY COUNTY	237	25	NO
ALLENTOWN CITY	23	12	VES
ARMSTRONG COUNTY	21	2	NO
BEAVER COUNTY	17	2	NO
BEDFORD COUNTY	11	1	VES
BERKS COUNTY	54	25	NO
BETHI FHEM CITY	13	15	NO
BLAIR COUNTY	27	7	IES NO
BRADFORD COUNTY	16	2	NO
BUCKS COUNTY	108	27	ILS NO
BUTIER COUNTY	24	6	NO
CAMBRIA COLNITY	30	8	NO
CAMERON COUNTY*	0	0	IES
*DISPATCH PERFORM			N/A
CARBON COUNTY		GINACI WIIHC	VTC
CENTRE COUNTY	20	10	ILS
CHESTER COUNTY	83	10	IES
CLARION COUNTY	12	29	NO
CLEAREIELD COINTY	13	7	YES NO
CLEAR THEE COUNTY	27	5	NO
COLUMBIA COUNTY	10	0	YES
CPAWEOPD COUNTY	9	7	YES
CIMPERIAND COINTY	10	12	NO
DALIBUINI COLNITY	26	12	NO
DELAWARE COUNTY	30 102	14	NO
ELK COUNTY	102	22	NO
ELK COUNTY	18	2	YES
EXIE COUNTY	22	16	NO
FAILITE COUNTY	23	19	NO
*DISDATCH DEDEODM			N/A
EP ANKI IN COUNTY	22	TRACT WITH C	ONTIGUOUS COUNTIES
FRANKLIN COUNTY	23	20	YES
*DISDATCH DEDEODM	4		YES
CREENE COUNTY	ED UNDER CON	IRACI WITH C	UMBERLAND COUNTY
UNERNE COUNTY	11	3	YES
NDIANA COLNTY	17	2	YES
INDIANA COUNTY	10	15	NO
UNIATA COINTY	10	3	YES
I ACKAWANNIA COINTY	11	1	YES
LACKAWANNA COUNTY	49	27	NO
LANCASTER COUNTY	12	1/	NO
LAWRENCE COUNTY	8	2	YES
LEDANON COUNTY	9	9	YES
LEHIGH COUNTY	22	16	NO
LUZERNE COUNTY	72	17	NO
LICOMING COUNTY	21	5	YES
MERCER COLDUNTY	10	4	YES
MERCER COUNTY	24	1	NO
MONDOE COLDITY	15	4	YES
MONTCOMENT COLDUTY	30	9	NO
MONTOUR COUNTY	8/	15	NO
MONTOUR COUNTY	δ	5	YES

COUNTYDISI	PATCHERSUP	ERVISORC/7	C & RADIO
NORTHAMPTON CO	41	10	NO
NORTHUMBERLAND CO.	14	3	NO
PERRY COUNTY	17	2	YES
PHILADELPHIA COUNTY	356	39	NO
PIKE COUNTY	12	4	YES
POTTER COUNTY*	9	2	YES
*DISPATCH PERFORM	ED UNDER CON	TRACT WITH T	IOGA COUNTY
SCHUYLKILL COUNTY	34	6	NO
SNYDER COUNTY	17	6	YES
SOMERSET COUNTY	2	20	YES
SULLIVAN COUNTY*	3	3	YES
*DISPATCH PERFORM	ED UNDER CON	TRACT WITH L	YCOMING COUNTY
SUSQUEHANNA CO.	8	3	YES
TIOGA COUNTY	17	4	YES
UNION COUNTY	11	2	YES
VENANGO COUNTY	14	6	YES
WARREN COUNTY	18	6	YES
WASHINGTON COUNTY	56	12	NO
WAYNE COUNTY	18	3	YES
WESTMORELAND CO.	50	16	NO
WYOMING COUNTY	8	10	YES
YORK COUNTY	60	21	NO

DEDICATED CALL-TAKER OR COMBINED CALL-TAKER/RADIO POSITIONS:

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PSAP WITH DEDICATED CT POSITIONS	_30
PSAP WITH COMBINED CT'/RADIO POSITIONS:	_34
PSAP UNDER CONTRACT WITH CONTIGUOUS COUNTIES:	2 (NOT APPLICABLE)
PSAP UNDER CONTRACT WITH ANOTHER COUNTY:	3 (COMBINED CT/RADIO)

Source: Pennsylvania Emergency Management Agency.

APPENDIX G Fiscal Year 2011-12 PSAP Funding Eligibility List Matrix Effective July 1, 2011

					Wireless Tier	Shared Cost	Budgetary Costs	
Description	Wirelin	e/VoIP	Wire	ess	Levels	Levels	Estimates	Life Cycle
Equipment, Systems & Services/Shared Costs	Eligible	Not Eligible	Eligible	Not Eligible				
A. Computer Aided Dispatch (CAD)								
1. CAD HARDWARE/SOFTWARE FOR CAD SYSTEMS	×		X		Т1	S1	\$80,000.00 Per Position	5 to 8 Years
2. CAD MAINTENANCE	X		×		Т1	S1	15% of purchased hardware and software	1 year is authorized
3. VPN FIREWALL - HARDWARE AND SOFTWARE	Х		X		Т2	S2	\$1,200.00	3 to 5 Years
4. VPN FIREWALL - MANAGEMENT AND MONITORING	Х		Х		Т2	S2	\$75.00 per month	N/A
5. RECORDS MANAGEMENT	X			Х				N/A
6. DISPATCH FUNCTIONS	х			×				N/A
7. EMD/EFD/EPD/QA INTEGRATION	×		X		Т2	S2	Included with CAD pricing	N/A
8. REMOTE CAD WORKSTATIONS (ONLY AS PART OF A CAD SYSTEM, NOT ELIGIBLE FOR PUBLIC ACCESS, CONNECTIVITY EXPENSES OR FIELD EQUIPMENT)	×			×			AVA	A/A
9. REMOTE PRINTERS/HARDWARE	X			×			N/A	N/A
10. IP/XML INTERFACES	х		Х		Т2	S2	N/A	N/A
11. MOBILE DATA SYSTEM INTERFACE	х			х			N/A	N/A
B. CONNECTIVITY								
1. MICROWAVE (PRIMARY TELEPHONY CONNECTIVITY)	X		×		Т1	S1	\$200,000.00 per hop Plus network management	7 to 10 Years
2. COMMERCIAL AIR CARDS	×			×			N/A	N/A
C. CPE								
1. DATA VOICE RECORDER (FOR 9-1-1 CENTER)	×		×		Т2	S2	\$5,000.00 plus \$1,000.00 per eligible input line	5-7 years
2. VOICE/DATA RECORDER LEASE/MAINTENANCE	×		×		Т2	S2	\$800.00 -\$1500.00 per channel	1 year is authorized

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					Wireless	Shared		
Description	Wirelin	e/VoIP	Wire	less	Tier Levels	Cost Levels	Budgetary Costs Estimates	Life Cvcle
	Eligible	Not Eligible	Eligible	Not Eligible			NA	N/A
3. COMPUTER LEASE/MAINTENANCE	×		×		T2	S2	\$61,974 per vear	1 year is authorized
4. PRINTERS LEASE/MAINTENANCE	×		×		Т3	S3	\$4,438 per year	1 year is authorized
5. WIRELESS PHONE(S) FOR TESTING ALEDICIC ATION LISE ONLY		>	>		т3		\$50.00 each plus monthly service	2 years for phone, 1 year for
6. HARDWARE/SOFTWARE FOR CPE	×	<	×		2 5	S	\$55,000 Per Position	5 to 7 years must keep current with updates
7. ANTI-VIRUS SOFTWARE FOR CPE SYSTEMS	×		×		Т2	S2	Included in position cost as an option	5 to 7 years must keep current with updates
8. WORKSTATION UPS UNITS		×		×			N/A	N/A
9. FIREWALL MONITORING AND MANAGEMENT (ONLY IN DIRECT SUPPORT							\$6,000.00 Plus \$1,200.00 per	5 to 7 years must keep current with
OF 9-1-1 OPERATIONS)	×		X		Т2	S2	position	updates
10. CPE MAINTENANCE	×		X		T1	S1	15% of purchased hardware and software	1 year is authorized
11. TIU CARDS FOR DEDICATED 9-1-1 TRUNKS	×		Х		Т1	S1	\$7,000.00 (ESC1000 4x4)	5 to 7 years
12. CALL ACCOUNTING/TELEPHONY MIS SOFTWARE	×		X		Т3	S3	\$6,000.00 Plus \$1,200.00 per access position	5 to 7 years
D. OTHER EQUIPMENT								
1. UPS POWER (PRIMARY PSAP ONLY)	Х		Х		Т2	S2	\$20,000.00	7 to 10 Years
2. EMERGENCY POWER GENERATOR (PRIMARY PSAP ONLY)	x		х		Т2	S2	\$46,000.00	10 to 15 Years
3. WORKSTATION FURNITURE RELATED TO PROVISION OF E9-1-1	х		х		Т3	S3	\$15,000.00 per position	10 years
4. WORKSTATION CHAIRS RELATED TO PROVISION OF E9-1-1	×		×		Т3	S3	\$1,200.00	5 years

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Appendix G (Continued)								
Description	Wirelin	e/VoIP	Wire	less	Wireless Tier Levels	Shared Cost Levels	Budgetary Costs Estimates	Life Cycle
	Eligible	Not Eligible	Eligible	Not Eligible			NA	N/A
5. MASTER CLOCK/TIME SYNC EQUIPMENT	Х		Х		Т2	S2	\$12,000	5 to 8 Years
6. NON-LEC ALI - DATA BASE LEASE/PURCHASE	Х		Х		Т1	S1	\$30,262.00 per year	1 year is authorized
7. NON-LEC ALI - DATA BASE MAINTENANCE	х		Х		T1	S1	\$24,903.00 per year	1 year is authorized
E. RADIO SYSTEMS								
 RADIO CONSOLES (ONLY IF INTEGRATED WITH 9-1-1 CPE) 	×		×		4	S1	\$60,000 per position with \$75,000 for electronics depending on vendor	10 Years
2. HEADSETS (TELEPHONE/RADIO OPERATOR)	Х		x		Т2	S2	\$190.00	1 to 3 years
3. OTHER RADIO								
Radio Systems for PSAP/Dispatch Center	х			×			NA	N/A
 Radio Maintenance 	×			×			NA	N/A
 Frequency Licensing/Coordination 	×			×			NA	N/A
 Radio System Upgrades 	X			×			NA	N/A
 Mobile Communications Equipment 	×			×			NA	N/A
 Combiners/Splitters/Antenna Systems 	×			×			NA	N/A
 IP-based digital interoperability systems 	×			×			NA	N/A
 Microwave for Radio Systems 	×			×			NA	N/A
4. TOWER SITES								
Provisioning and maintenance of tower sites that are used to provide microwave transport as	;		×		i	i		
part of the 9-1-1 system	×		Limited		11	S	\$200,000	20 years
 Site Development (including surveying, permitting, clearing and earth moving) 	×			×			N/A	N/A
 Tower Construction (Steel, antennas, cabling, etc. and all associated work) 	х			x			N/A	N/A
Generator	×			×			N/A	N/A

					Wireless	Shared	Budacton Corto	
Description	Wireline	NoIP	Wire	ess	Levels	Levels	Estimates	Life Cycle
	Eligible	Not Eligible	Eligible	Not Eligible			NA	N/A
 Generator Enclosures (manufacturer provided, sound-attenuated and weather- protective) 	×			×			N/A	A/N
Cut Over/Transfer Switches	×			×			N/A	N/A
 Load Testing/Upgrades 	х			×			N/A	N/A
 UPS/ Battery Systems 	×			×			N/A	N/A
 Tower Site Operating Supplies (Light bulbs, etc.) 	×			×			N/A	N/A
Grounding	Х			Х			N/A	N/A
Conduit	×			Х			N/A	N/A
 Status Monitoring Alarms 	×			Х			N/A	N/A
 Tower Rent (non-county owned land/facilities) 	×			Х			N/A	N/A
Tower HVAC Systems Tower Maintenance/Enhancements (Does not include access)	Х			×			D/A	D/N
F. GIS/MAPPING	*			:				
1. HARDWARE FOR GIS SYSTEMS	×		×		T2	S2	Server \$10,000.00 to \$12,000.00 Workstation - \$3,000.00 - \$4,500.00	3- 5 years
2. GIS HARDWARE MAINTENANCE	×		×		72	S2	Costs bundled with hardware/software include 3 year warranty plans	1 year is authorized
3. SOFTWARE FOR GIS SYSTEMS	×		×		Т2	S2	GIS Client Software - \$1,200.00 to \$3,200.00 per workstation; GIS Server Software - \$20,000.00	2 to 5 years if not under maintenance
4. GIS SOFTWARE MAINTENANCE	×		X		Τ2	S2	25% of purchase price per vear	1 year is authorized
5. GIS DATA REQUIRED	x		×		T2	S2	\$98,640	
6. PORTABLE GPS UNIT	×		×		Т2	S2	\$5,000.00 - \$7,000.00	5 to 7 years

Appendix G (Continued)

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					Wireless Tier	Shared Cost	Budgetary Costs	
Description	Wirelin	e/VoIP	Wire	eless	Levels	Levels	Estimates	Life Cycle
		Not		Not				
	Eligiple	Eligiple	Eligiple	Eligiple			NA	N/A
7. PLOTTERS	×		×		T2	S2	\$3,000.00 - 4,000.00	5 to 7 years
8. OTHER GIS DATA SETS								
Oblique Digital Geo-Referenced Aerial Photography		×		×			N/A	N/A
Digital Ortho-photography	×			×			N/A	N/A
Digitized Parceling	×			×			N/A	N/A
 LIDAR - Elevation data development 	×			×			N/A	N/A
G. OTHER ELIGIBLE EQUIPMENT								
1. PSAP HVAC	×		×		Т2	S2	\$28.00 to \$36.00 Per Square Foot	15 to 20 Years
2. MOBILE WORKSTATION (PORTABLE, SELF-CONTAINED, SUITCASE TYPE UNIT)	×			x			N/A	N/A
3. LAPTOPS COMPUTERS	×		X		Т3	S3	\$700.00 - \$1200.00	3-5 years
4. VIDEO PROJECTOR FOR PUBLIC EDUCATION	×		×		Т3	S3	\$500.00 - \$1,000.00	5-7 years
H. PROFESSIONAL SERVICES								
 PSAP SYSTEM ASSESSMENT (CAD, RECORDER, AND OTHER SYSTEMS IP ENABLED) 	×		×		Т3	ß	Will not be funded until the Commonwealth completes its NG needs survey and risk assessment.	5 to 7 years
2. PSAP CYBER SECURITY ASSESSMENT	×		×		13	ß	Will not be funded until the Commonwealth completes its NG needs survey and risk assessment.	3 years depending on facilities and systems.
3. PROCUREMENT/INSTALLATION SERVICES	x		×		Т3	S3	\$50,910	N/A
4. PLANNING (TRIENNIAL 9-1-1 PLAN ONLY)	×		×		Т3	S	\$15,138.00 per year	3 years (funding can only be for 1 year at a time)
5. IT SERVICES	×		×		Т3	S3	\$32,685.00 per year	N/A

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					Wireless	Shared		
					Tier	Cost	Budgetary Costs	
Description	Wirelin	e/VoIP	Wire	less	Levels	Levels	Estimates	Life Cycle
	Eligible	Not Eligible	Eligible	Not Eligible			NA	N/A
6. FUNDS MANAGEMENT	×		Х		Т3	S3	\$35,263.00 per year	N/A
7. PSAP POLICY AND PROCEDURES ASSESSMENT AND DEVELOPMENT PROFESSIONAL SERVICES	×			×			Y/N	N/A
8. WIRELESS POST-DEPLOYMENT SERVICES: ROUTING SHEET VALIDATION/TESTING		×	×		1		\$105,900	N/A
9. WIRELESS POST-DEPLOYMENT SERVICES: TOWER/INFRASTRUCTURE VALIDATION		×	×		Ц		\$138,844	N/A
10. WIRELESS POST-DEPLOYMENT SERVICES: WIRELESS ACCURACY TESTING		×		×			N/A	N/A
11. NEXT GENERATION 9-1-1 SERVICES	×		X		Т3	ß	Will not be funded until the Commonwealth completes its NG needs survey and risk assessment.	N/A
12. GIS DATA COLLECTION SERVICES	×		×		T2	S2	\$95,778	Initial Data collection, with Updates every 3-5 years
13. GIS DATA ASSESSMENT AND DEVELOPMENT PROFESSIONAL SERVICES	×		×		T3	S	\$10,000.00 - \$20,000.00 depending on size of agency and details of report	Initial assessment, with review every 3 years
14. Consolidation Services	×		х		Т1	S1	\$100,000 for 2-3 position PSAPs	
I. MISC/OTHER EXCEPTION								
1. PUBLIC EDUCATION MATERIALS	×		Х		Т3	S3	\$2,083	N/A
2. POSTAGE - EDUCATIONAL/ADDRESSING MAILINGS	×		x		Т3	S3	\$2,132	N/A
3. COPYING - DIRECTLY RELATED TO PROVISION OF E9-1-1	×		×		Т3	S3	\$2,521	N/A

					Wireless	Shared		
					Tier	Cost	Budgetary Costs	
Description	Wirelin	e/VoIP	Wire	ess	Levels	Levels	Estimates	Life Cycle
	Eliqible	Not Eliqible	Eligible	Not Eliqible			NA	N/A
4. OFFICE SUPPLIES	×		×		Т3	S3	\$5,637	N/A
5. TELEPHONE DIRECTORIES	×			×			N/A	N/A
6. REPAIRS/OTHER MAINTENANCE DIRECTLY RELATED TO PROVISION OF E9-								
1-1	×		×		Т3	S3	\$50,330	1 year
7. ELECTRICAL WORK AT PSAPS	×			х			N/A	N/A
8. INTERNET ACCESS FEES	×		×		Т3	S3	\$6,123.00 per year	1 year
9. INTERPRETATION SERVICE	×		×		Т3	S3	\$3,699.00 per year	1 year
10. AUDIT COST	×		×		Т3	S3	\$7,427.00 per year	1 year
11. BANKING FEES		X		×			N/A	N/A
12. COUNTY (1% ADMINISTRATIVE FEE)	×			×			N/A	N/A
Local Exchange Carrier Services								
A. SERVICES								
1. ANI/ALI DATABASE MANAGEMENT	×		х		T1	S1	Per Tariff	N/A
2. SELECTIVE ROUTING COSTS	×		Х		T1	S1	Per Tariff	N/A
3. LEC/CLEC ANI/ALI DATABASE MANAGEMENT	×		X		T1	S1	Per Tariff	N/A
B. TRUNKING/FACILITIES								
1. DEDICATED WIRELESS TRUNKS		Х	х		Т1		Per Tariff	N/A
2. WIRE LINE 9-1-1 TRUNKS/CIRCUITS	×			×			Per Tariff	N/A
 LEASED TELEPHONE EQUIPMENT DIRECTLY RELATED TO PROVISION OF E9- 1-1 	×		×		T1	S1	\$75,007.00 per year	1 year is authorized
4. RING DOWN CIRCUITS	×			х			N/A	N/A
5. RADIO CIRCUITS TO TOWERS	×			×			N/A	N/A
6. ADMINISTRATIVE LINES (MINIMUM OF 2 AVAILABLE IN PSAP)	×			×			N/A	N/A
7. INTERACTIVE RETRIEVAL SYSTEMS (ANI/ALI)	×			×			N/A	N/A
8. CONNECTIVITY FOR PAGING	×			×			N/A	N/A
9. TANDEM TRUNKS/FIBER FOR SONET RING	×			×			N/A	N/A

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Description	Wirelin	e/VoIP	Wire	less	l ler Levels	Levels	Budgetary Costs Estimates	Life Cycle
	Eligible	Not Eligible	Eligible	Not Eligible			NA	N/A
10. CONFERENCE CALL SERVICES	×			Х			N/A	N/A
11. VOICE MAIL SERVICES	×			Х			N/A	N/A
Personnel Costs								
A. DIRECT COSTS								
1. PERSONNEL DIRECTLY RELATED TO	~		~		т.	13	Per County Salary	NIZ
2. PRE AND POST EMPLOYMENT COSTS	<	×	<	×	=	0	Guides N/A	A/N
B. INDIRECT COSTS								
1. TRAVEL - DIRECTLY RELATED TO							GSA or state domestic per-diem	
PROVISION OF E9-1-1/E9-1-1	×		×		Т3	S3	rates	N/A
2. 9-1-1 CALL TAKING AND DISPATCHING FEES (SHARED AFTER WIRELESS								
DEPLÓYMENT)	×		×		T1	S1	\$49,597.00 per year	N/A
3. SUBSCRIPTIONS AND DUES		×		Х			N/A	N/A

Tier Definitions are based on 9-1-1 call taking necessity. Tier I: network, database, equipment, &/or services that provide "<u>essential elements</u>" of 9-1-1 service, including replacement & maintenance. **Tier II:** activities, equipment, &/or services that directly "<u>support & enhance the delivery</u>" of 911 calls & level of service provided within the County/City jurisdiction, i.e. EMD/EFD/EPD/QA Integration, Voice/Data Recorder, UPS, Headsets. **Tier II:** activities, equipment, &/or services that provide "<u>auxiliary enhancements</u>", i.e. MIS, Public Education, Interpretation Services.

Source: PEMA website.

^{*}Any items not on this list will be considered individually by PEMA Bureau of 9-1-1 staft.

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Disadvantages	In- This funding model is primarily reactive. It takes time to incorporate the new service into the 911 system. A concern and possible limitation with this system is that telephone numbers appear unlike ly to maintain their central role because of increasingly inherent limitations. In the long run it is very likely that telephone numbers will be supplemented by some other manner, such as an e-mail style address (or URI – Uniform Resource Identifier). Also, telephone service business models in the future will move away from fixed monthly bill whereby service is offered for free and revenue will be generated through applications and advertisements (Skype and instant messaging (IM) services are free today and used by millions). In that case, a surcharge on a free service will result in the collection of \$0.	The most significant challenge with this model is that it is funda- mentally new. Broadband providers are not used to paying into the 9-1-1 system, and will likely resist doing so initially, while commun cations service providers have a long history of paying 9-1-1 fees. Consumers would also experience a change, although the mone- tary impact should essentially be neutral.	 3), The main challenge with this model is that it is a new approach. Local governments and 9-1-1 governing authorities along with individual PSAPs will be skeptical of a model that is structurally different from what they are used to and in which all funds are collected at the state level. These entities will need significant guarantees that they will not receive lower funding than their current levels. Demonstrating a positive difference in the amount collected in this model as compared to the increasing declines in revenue they are currently receiving as wireline telephone subscribership declines should go a long way to ameliorate such concerns.
Advantages	This represents the current model for funding call services in Pen sylvania and most states. Every time a new technology emerges that provides access to 911 (such as wireless or VoIP) new legislation is needed to incorporate the new service into the system. If a calling service surcharge model is to be employed it must accoun for all services and devices that can be reasonably expected to pathe surcharge. Legislation needs to be written that does not require amendment when new technologies emerge in subsequent years. ^a	An alternative to the communications service provider surcharge model is one applied to the access infrastructure provider (AIP) ^b The NG9-1-1 system assumes that the AIP will become an entity responsible for determining location of 9-1-1 calls. The AIP could also collect and remit surcharges since it is local, known, and ofte regulated. Thus the AIP model would move the surcharge from th calling network to the access network, whereby every access network that could potentially be used to dial 9-1-1 would be assesses a surcharge. Since wireline and wireless networks include access networks, they are included. The fundamental change would be that individual communications service providers would not be sulfied to a surcharge, but every broadband network provider would be.	Assess one statewide universal communications surcharge (UCS which would be a single flat fee, likely ranging from 3-5%, on all communications services. The resulting funds would be used to pay for 9-1-1 and other communications needs for the state and would not be a 9-1-1 only fee. The UCS would be collected on all communications services, including all wireline and wireless service providers, cable and satellite communications and entertainment services. ^c
Funding Model Options	Fixed amount surcharge on all calling service	Surcharge on access infrastructure provider (AIP)	Universal statewide communications surcharge

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Appendix

Disadvantages	Similar challenges described with a state universal communications surcharge will exist with a federal model as well. Sensitivities of local government and individual 9-1-1 centers will be even greater when the federal government is the entity collecting funds. Safe- guards to ensure current funding levels, at a minimum, are main- tained would likely need to be guaranteed. Additionally, many Members of Congress will be very reluctant to enact a new federal communications tax as the general direction in Congress has been to eliminate new taxes on communications services and the Inter- net. Also, Congress may be reluctant to pass legislation giving the federal government authority over a function.	Implementation and customer billing would be difficult and it would be unlikely to raise enough funding on its own. In addition, The main limitations with this model is that implementation and collec- tion of funds would be a very difficult process and unlikely to raise sufficient funds. Another concern would be that people might be discouraged from dialing 9-1-1 if a significant charge would come with making such a call. Finally, it would not be possible to bill non- initialized phones (those that can dial 9-1-1 but are not tied to an active service plan) under such a model.	A general concern with this approach in the past has been the fact that 9-1-1 is traditionally an underfunded emergency profession for a variety of reasons, often political, and there are concerns that 9- 1-1 services will not receive its fair share of funding if there are not specific funding sources for 9-1-1.	ntage of subscriber bills should be considered rather than a fixed er. Two examples of an AIP would be a cable TV company or a digital
Advantages	A national funding model with uniform fees assessed to all commu- nications services nationally which the federal government would collect and distribute to states, who in turn would then distribute such funds to the appropriate 9-1-1/Public Safety Authorities. The model is a variation of the Uni- versal Statewide 9-1-1 Communications Surcharge model, but it is applied at the federal level. Justification for a federal model is based on efficiency and concerns that a state level UCS would re- quire all 50 states to enact legislation that would likely result in in- consistencies amongst the various states. With a federal sur- charge, legislation would only need to be adopted once and would ensure national consistency.	Assess a user fee for each 9-1-1 call, similar to a 900 number call in which users of the service are charged for use of the service. This approach would directly attribute the charge to individual users, potentially bypassing the provider.	Today's 9-1-1 is partially funded by revenue from general tax funds. In a few instances the 9-1-1 system is entirely funded by general tax revenues. Other emergency service functions, includ- ing police, fire and emergency medical services (EMS), do not rely on any profession specific taxes. They are paid for by general tax dollars. 9-1-1 could adopt this model as well.	under this option that utilizing a surcharge based on a monthly percer ity that provides the physical interconnection capability to the end use
Funding Model Options	Universal federal communications surcharge	User (incident) fee	General fund tax revenue (federal, state and local)	^a The authors note amount. ^b The AIP is the en

e Revenue fine (DSL) company that provides produced internet access. ^c Revenue would be collected by the state and allocated for several purposes, including the development and maintenance of a managed IP network for emer-gency services, PSAP operational costs and other 9-1-1 system components.

Source: Funding 9-1-1 Into the Next Generation: An Overview of NG9-1-1 Funding Model Options for Consideration, March 2007.

APPENDIX I

PEMA's Response to This Report



COMMONWEALTH OF PENNSYLVANIA PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY

May 18, 2012

Mr. Philip R. Durgin Executive Director Legislative Budget and Finance Committee Room 400, Finance Building Harrisburg, Pennsylvania 17105-8737

Dear Mr. Durgin:

Thank you for giving the Pennsylvania Emergency Management Agency (PEMA) the opportunity to review and comment on the report entitled Pennsylvania's 911 Emergency Telephone System: Funding, Expenditures, and Future Challenges and Opportunities prepared by the Legislative Budget and Finance Committee (LBFC). The report offers constructive recommendations for improving the Commonwealth's 9-1-1 systems. This letter addresses the LBFC's Findings and Recommendations and provides PEMA's comments regarding the report.

1. Pennsylvania has relatively high 911 surcharge rates and collected \$197 million in surcharges in 2011 (pages 4-14).

While it would be beneficial to compare how much 9-1-1 costs and how it is paid for in each state, the data available is not sufficient or consistent enough to make a valid comparison. Each state allows 9-1-1 fees to be used for a different mix of expenses and as noted in Section II.A, "in most of the states that we reviewed, additional county funds are used to supplement PSAPs" (page 13). Several states allow additional taxes specifically for 9-1-1. As a result, some jurisdictions have wireline surcharges as high as \$3.50 per month. Contrary to most other states, Pennsylvania funds the 9-1-1 system from call initiation through call dispatch and close out. The original wireline surcharge has not been increased for inflationary impact since first enacted in legislation in 1990; 22 years ago. The statement that "Pennsylvania also ranks among the top states in total surcharge revenues collected (\$197 million in 2011)..." (page S-1) is not necessarily supported by the data shown in Table 3 (page 14). The amount listed for Pennsylvania is state and local revenue, while the amounts listed for many of the other states is state revenue only. A complete analysis of all states and their respective 9-1-1 funding sources, as well as what expenditures are funded through those revenues, needs to be conducted to develop a complete funding perspective.

2. We were unable to determine whether all the entities that should be submitting 911 fees are doing so (pages 15-21).

Recommendation: Providers of wireline, wireless, and VoIP telephony services whose customers to connect to 911 services should be required to register with PEMA.

PEMA agrees with this finding and recommendation.

3. It was also not possible to determine whether those providers that are remitting 911 surcharge fees are remitting the proper amount, in part because providers consider customer and access line information to be proprietary (pages 22-33).

Recommendation: (1) As part of the registration process (see recommendation above), telephony providers should be required to attest to their compliance with Pennsylvania's 911 surcharge laws.

(2) The General Assembly may also wish to require providers to furnish subscriber count information.

PEMA agrees with this finding and recommendations.

4. Changes made in July 2011 to the surcharges applied to retail point-of-sale transactions were expected to generate an estimated \$13 million annually in additional funds, but collections to date have been far below expectations (pages 31-32).

Recommendation: PEMA and the Department of Revenue should monitor prepaid 911 surcharge collections and determine why there has been a shortfall in the projected revenues.

PEMA agrees with this finding and recommendation.

5. VoIP companies continue to submit surcharges to PEMA despite new provisions in Act 2010-118 (pages 30-31).

Recommendation: The General Assembly should amend Chapter 53 to allow VoIP companies to submit their surcharges directly to PEMA.

PEMA agrees with this finding and recommendation.

6. The maximum allowable surcharge counties can charge for wireline phones has not increased since 1990 (pages 34-39).

Any change in legislation should incentivize counties to participate in regional cost and infrastructure sharing.

7. The 2 percent holdback for telephony providers may be higher than necessary (pages 39-43).

Recommendation: PEMA should determine the appropriateness of the 2 percent administrative holdback fee for providers.

PEMA agrees with this finding and recommendation.

Mr. Philip R. Durgin May 18, 2012 Page 3

8. Telephony companies are not required to collect surcharges if their customers do not pay them (pages 43-44).

Recommendation: PEMA should obtain information on "uncollectable" surcharges.

PEMA agrees with this finding and recommendation.

9. Although not specifically exempted, some telephony companies apparently do not bill state and local government agencies, including school districts, for 911 surcharges (page 44).

Recommendation: The General Assembly should clarify whether governmental entities are required to submit 911 surcharges.

PEMA has no position on this recommendation.

10. Some states allow local governments to impose additional fees/taxes specifically to support 911 services (pages 44-50).

PEMA agrees with this finding.

11. 911 surcharges are sufficient to fund about 70 percent of county 911 expenditures, and counties increasingly rely on county general fund monies to support PSAP operations (pages 51-58).

PEMA agrees with this finding.

12. PSAP expenditures have been increasing rapidly in recent years (pages 51-58).

PEMA agrees with the recommendation made under finding number 15 for PEMA to select one or two staffing models to standardize PSAP staffing patterns.

13. Trunk lines (the major telecommunication lines between telephony providers and the PSAPs) and selective routing are major expense for PSAPs (pages 60-65).

Recommendation: PEMA should work with the Pennsylvania Public Utility Commission to establish reasonable telephony charges for PSAPs. We also recommend PEMA update its trunk line regulations, which have not been updated since 1992.

PEMA agrees with this finding and recommendation.

14. PSAP costs have been increasing, in part, because many PSAPs now do much more than answer emergency 911 calls (pages 68-73).

Cost control measures will need to be implemented at the state level to ensure they provide maximum effectiveness and are fairly and uniformly applied. With oversight authority for PEMA, basic 9-1-1 service funding can be defined in a manner similar to wireless program eligibility. Legislation should avoid defining individual eligibility of items but rather provide authority to PEMA to remain flexible to support technology and operational best practice advances based upon statewide standards. **15. PEMA** has little ability or authority to control county expenditures of either wireline or wireless funds, provided the funds are spent for eligible items (pages 74-91).

Recommendation: The General Assembly should amend Chapter 53 to allow PEMA to develop a formula for distributing wireless grants funds to counties, rather than approving expenditures on a case-by-case basis.

PEMA agrees with this finding and recommendation.

16. PEMA's process for awarding wireless funds to counties is time-consuming, administratively awkward, and does not appear to promote efficient spending (pages 74-91).

Recommendation: (See the preceding recommendation regarding a wireless funding formula.)

PEMA agrees with this finding and recommendation.

17. The E-911 Emergency Services Advisory Committee had not met since 2006 (pages 85-87).

Recommendation: PEMA should re-establish the E-911 Emergency Services Advisory Committee.

PEMA agrees that an advisory group like the E-911 Emergency Services Advisory Committee be re-established as a governance advisory board. This should be consistent with the governance model established for Next Generation 9-1-1 (NG9-1-1) through an approved Pennsylvania NG9-1-1 Plan that provides for stakeholder representation at all levels to support standard development for technology, applications, operations, and fiscal elements.

18. Chapter 53 is unclear as to whether utility and dispatching expenses are allowable costs (page 83).

Recommendation: The General Assembly should remove the reference to utilities being an eligible expense and of "hiring of dispatchers" as being an ineligible expense.

PEMA agrees with this finding and recommendation.

19. PEMA does not appear to have sufficient administrative funds to properly administer the statewide 911 system (page 91).

Recommendation: The General Assembly should amend Chapter 53 to increase the percentage of surcharge funds PEMA may retain for administrative purposes.

PEMA agrees with this finding and recommendation.

20. PEMA and the counties are in general compliance with Chapter 53's reporting requirements (pages 92-97).

Recommendations: (1) The General Assembly should amend the statutory requirement that PEMA submit annual and triennial reports regarding the implementation of wireless E-911 services and re-direct the focus of those reports to the implementation of Next Generation technologies.

(2) PEMA should review and better define certain data elements contained in the Annual Report WebTool.

(3) PEMA should consider reorganizing its administrative staff in the Bureau of 9-1-1.

(4) PEMA should revise its regulations to change the reporting date for county Annual Reports from December 1 to January 31 of the following year.

PEMA agrees with the finding and the recommendations.

21. Wireline and wireless funds are audited as a way to provide reasonable assurance that they are only being used for authorized purposes (pages 98-105).

Recommendation: PEMA should take the lead in contracting for county wireline and wireless audits to improve consistency.

PEMA agrees with the finding and recommendation for setting of statewide standards that achieves program efficiencies and effectiveness within reasonable costs.

22. Opportunities exist for cost-savings, but PEMA has little ability to require such efforts (pages 106-107).

PEMA agrees with this finding and considers this issue addressed by the recommendation under finding number 15.

23. Compared to most states, Pennsylvania already has a "consolidated" 911 system, but opportunities for savings exist through further consolidation (pages 108-133).

Recommendation: In any re-write of Chapter 53, the General Assembly should consider deleting the provision allowing certain cities to maintain their own 911 systems.

PEMA agrees that changes should incentivize regionalization and statewide solutions using a formula allocation at PEMA's discretion and that PEMA be given the authority through legislation to develop fiscal, technological, interoperability, and operational performance standards for a statewide NG9-1-1 system derived from interrelated regional initiatives.

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24. Next Generation 911, although likely to be expensive to implement, offers opportunities for streamlining 911 services (pages 134-164).

Recommendation: The General Assembly should amend Chapter 53 to be compatible with Next Generation technologies and allow PEMA greater authority to direct the statewide 911 system's transition to Next Generation (broadband) technologies.

PEMA agrees with this finding and recommendation.

The following measures set out in the report would have an immediate positive impact on the Commonwealth's Enhanced 9-1-1 program and should be authorized as matter of priority:

- Enable PEMA to develop a formula for distributing wireless funds that will encourage cost-saving measures.
- Enhance and clarify PEMA's role in managing statewide funding for 9-1-1.
- Streamline and strengthen the administrative capabilities of the Bureau of 9-1-1.

Perhaps even more important is the recommendation to align the statutory authority of PEMA with Next Generation technologies and allow PEMA greater authority to direct the statewide 9-1-1 system's transition to NG9-1-1 (broadband) technologies. NG9-1-1 represents a change so fundamental that can be compared to the change from black and white television to today's modern high definition television. Technically, it is an Internet Protocol-based system comprised of managed networks, applications, and databases that efficiently replicates traditional E9-1-1 features and functions and can provide additional capabilities. Practically, it will improve access to emergency services for callers who currently have limited or no access. It will promote effectiveness and efficiency by enabling the sharing of limited resources in ways not possible today. Along with new technology, the advent of NG9-1-1 will require a new approach with new roles and responsibilities.

Transitioning the Commonwealth's legacy 9-1-1 system to a modern NG9-1-1 system is a major goal for PEMA. Significant standards and technology developments are either completed or underway and the work on constructing the underlying infrastructure has begun. However, without an effective program management framework working in conjunction with technical and operational system development, the best system designs, architectures, and plans will be just that—designs, architectures, and plans. To actually implement a NG9-1-1 system requires an effective program management system that will facilitate and enable implementation that can then gracefully evolve to one that achieves the maximum potential from the operation of a highly capable standardized statewide system. In addition, the organization must encourage and facilitate the collaboration of stakeholders to make sure that policies and procedures are in alignment with objectives at all levels.

Program management changes sometimes lag behind technology advances. However, the critical nature of 9-1-1 emergency communications necessitates addressing the matter in a forward-looking manner. This report establishes a vision for change that will continue effective 9-1-1 service delivery while emphasizing efficiency. Mr. Philip R. Durgin May 18, 2012 Page 7

Once again, I would like to thank you for the opportunity to offer PEMA's input on this report. Should you have any further questions, please feel free to contact me by phone at 717-651-2007.

Sincerely,

Gern M. Corron

Glenn M. Cannon, Esq. Director, PA Emergency Management Agency