

**State of Illinois  
9-1-1 Future Technology  
And Financial Needs Study**

August 1, 2011

Book 1 of 3

**Performed By:**

**STONE  CARLIE**

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## BOOK 2

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## BOOK 3

Attachment P – Numerical Data Survey Responses (100 Systems)

Attachment Q – Written Survey Responses (19 Systems)

Attachment R – Numerical Data Survey Responses (19 Systems)

## 1. INTRODUCTION

The State of Illinois (the State) contracted with Stone Carlie & Company, L.L.C. (Stone Carlie) on April 12, 2011 to conduct a specialized assessment regarding the future technological needs of 9-1-1 as well as a financial analysis of past, current and future costs and revenues for 9-1-1 systems in the State.

The Wireless Emergency Telephone Safety Act (50 ILCS Act 751) currently requires wireless telephone providers to collect a \$0.73 monthly surcharge from their subscribers and remit it to the Illinois Commerce Commission (ICC). The ICC then disburses a portion of each surcharge to county or municipal Emergency Telephone System Boards (ETSBs) which use such funds to defray costs associated with the implementation and ongoing cost of providing 9-1-1 service within their jurisdictions. A further portion is allocated to the Wireless Carrier Reimbursement Fund (WCRF), which reimburses wireless carriers for costs associated with compliance with the Wireless Emergency Telephone Safety Act (WETSA) and federal wireless mandates. (50 ILCS 751/30) In the absence of further action by the General Assembly, the statutory provision imposing this surcharge is due to be automatically repealed on April 1, 2013. (50 ILCS 751/70)

This study is being performed because of a requirement in Public Act 96-1443 which required a report to be presented to the Illinois General Assembly by August 20, 2011. The General Assembly appears to have intended that the study provide it with information regarding whether the surcharge remains necessary (and if necessary, at what level) to fund existing ETSB operations and, in addition, the purchase of such new equipment and implementation of such new technology as might be found to be warranted from a public safety or cost standpoint. The study shall exclude the City of Chicago based on Section 50 ILCS 751/60, Home Rule.

Stone Carlie teamed up for this project with other consultants that possess industry specific experience, which included the following firms:

- Bauknight, Pietras & Stormer PA
- E.C. Ortiz & Co., LLP
- Weikle & Co.

The use of “Stone Carlie” throughout this report collectively refers to the work of this team, unless specifically stated otherwise.

Illinois is joined by virtually every other state looking for solutions to an ever growing issue: how to upgrade the existing technology of today’s 9-1-1 systems and fund these efforts in a manner that is fair and equitable to its citizens. Stone Carlie is pleased to provide the State of Illinois this 9-1-1 Future Technology and Financial Needs Study.

## 1.1 EXECUTIVE SUMMARY

This study of the State of Illinois' 9-1-1 system was performed to address the following areas:

- evaluate whether the existing wireless surcharge funding mechanisms adequately covers the operational costs of the 9-1-1 system
- determine whether the current methodology is fair and equitable to the system's various stakeholders
- evaluate the State's ability to plan for and implement Next Generation 9-1-1 (NG9-1-1) capabilities
- identify opportunities to improve the system's organizational structure and utilize its network infrastructure more efficiently to achieve cost savings
- identify areas for improvement and recommend alternate funding mechanisms, if appropriate

A key part of this study was the surveying of all systems in the State. While the scope of this study did not include the auditing/verification of survey responses, it was helpful to identify trends and to obtain a unique perspective on the current state of 9-1-1 operations. For instance, approximately one-half of the system responses we received indicated the current surcharges are not sufficient to cover expenditures. Also, it appears the current monthly wireless surcharge of \$0.73 is not sufficient to cover the cost of transitioning to NG9-1-1.

Unaudited/unverified information gathered from our survey responses reflects an approximate shortfall of 20% experienced over the recent years on an annual basis. On the surface, one could argue that since the State needs more money to cover this shortfall from 9-1-1 operations, the surcharge should be extended beyond its sunset date in 2013 and the rate should be increased logically from \$0.73 by the same percentage of the experienced shortfall. However, the wireless surcharge cannot be looked at in a vacuum as it is not the only funding mechanism systems are using. Systems also have wireline surcharges and other revenue sources such as local taxes. Each of these impacts systems individually and you cannot look at a statewide wireless surcharge without considering this structure. To further complicate this issue, it is noteworthy that the total cost to wireless carriers is not known. Large carriers are self-funding while other carriers do not submit invoices for all of their costs because the reimbursement is limited to \$0.1475.

The State is facing two key issues: how to generate an appropriate level of funding to cover the annual operating expenses of the 9-1-1 system as well as begin funding for expected additional costs related to the transition to NG9-1-1. Just like virtually every other state, Illinois is experiencing increasing difficulties operating a 9-1-1 system based on old/outdated technology. The technology of today and in the years to come would certainly enhance the safety of every citizen, and that comes at a price. Finding a fair and equitable manner to pay for the enhanced features of NG9-1-1 is the ultimate challenge.

It is obvious that the current needs of the 9-1-1 system have greatly expanded due to breakthroughs in technology. The volume of emergency calls from wireless subscribers continues to increase at levels that have strained the revenue flow for many of the 9-1-1 systems, particularly those in rural areas. The concept of funding 9-1-1 services through wireline phone charges made sense at the time the legislation was enacted as it was a relatively straight forward means to ensure the system was funded by the same individuals who used it. Now, wireless service has changed this paradigm causing an unintended effect of reallocating revenues in a manner that is no longer fair as more 9-1-1 calls are made from mobile phones. Not only does it appear the surcharge is not high enough overall, but the inability to isolate services to those in the local area to help pay for it has caused winners and losers in the current funding mechanism. Rural areas, for instance, are feeling the effects of the shift to mobile technology as their landline base diminishes as does their primary funding mechanism to afford the ability to provide 9-1-1 service.

Overall, the current system is outdated in many aspects and needs to be improved. Our study identified challenges and found issues in the following areas:

- Enormous changes/shifts have occurred since legislation was passed in 1975 to create the State's initial 9-1-1 system, including a consumer shift from wireline to wireless phones, a buildup of 9-1-1 systems and Public Safety Answering Points (PSAPs) in the State, services offered to the public, technology used by systems and PSAPs, and public expectations. Because there has not been comprehensive reform at the State level, there are areas where efficiencies can be improved.
- Most 9-1-1 related reporting to the ICC is manual and delivered through the U.S. mail, resulting in inefficiencies.
- There is no uniform system of accounting for 9-1-1 surcharge receipts and disbursements, nor are there clear definitions of what constitutes an allowable expenditure of 9-1-1 surcharges.
- The current governance structure does not include an agency or organization with responsibility to oversee and coordinate all 9-1-1 related issues across the entire state. While the ICC collects wireless surcharges and distributes them from State pools, wireline surcharges are typically established by municipal or county referenda and funds are remitted directly to the ETSB's. State statutes include restrictions on the use of 9-1-1 surcharges, but each ETSB bears the sole responsibility for authorizing 9-1-1 expenditures within its jurisdiction. Even though the ICC has the power to establish certain technical standards that ETSB's and telecommunications carriers must adopt and adhere to, there is limited oversight authority after operations are commenced. Each system is responsible for managing and making all critical decisions for its system design, maintenance, daily operations, and equipment upgrades.
- The Illinois general public is not well informed regarding the current capability of their local 9-1-1 systems. Many residents may assume that the enhanced level of 9-1-1 is already available throughout the State and that 9-1-1 systems and PSAPs will know exactly where a caller is located at all times. Additionally, there may be misconceptions, particularly within the younger generation, that 9-1-1 assistance can be reached through texting and sending pictures or videos.

- Currently, information on statewide 9-1-1 activities, such as surcharges, expenditures, and fund transfers are not published and made readily available to the public. As a result, 9-1-1 systems, wireless carriers and citizens are not able to evaluate them.
- Currently, amounts collected from 9-1-1 wireless surcharges are permitted to be borrowed for use in the State's General Revenue Fund. There are no legislative barriers to prevent these funds from being diverted away from the intended purpose.
- The sufficiency of the current reimbursement structure varies by system for 9-1-1 and from wireless carrier to carrier. While these findings are based largely upon survey responses that are not necessarily comparable, it is apparent that the current reimbursement system does have some inherent biases. It is also apparent that the reason statewide Phase 2 coverage is not in place now is because of the reported inability for smaller jurisdictions to recover costs.
- A centralized collection and distribution system does not currently exist that could potentially be more efficient and provide a more equitable way to fund the 9-1-1 systems. This could prevent 9-1-1 systems in larger, more densely populated areas from collecting more money than may be needed to fund their system. It could also allow 9-1-1 systems in smaller, less populated rural areas to fund their system adequately.
- There is currently no incentive to require only one PSAP per county or other designated coverage area to be funded through a statewide 9-1-1 surcharge, nor is there encouragement to create some other grant system to encourage units of local government (specifically those smaller, neighboring municipal 9-1-1 systems) to consolidate their operations. In addition, there are currently no financial incentives for systems to share equipment and infrastructure where possible so as to reduce redundancy. There are concerns that the public would be harmed if another PSAP or system were allowed to answer 9-1-1 calls because of existing biases, self serving interests, and the possibility that others do not know the particulars of a territory.
- The State currently reimburses wireless carriers based on what the individual carriers have collected from customers and paid into the pool; however, certain amounts paid in by wireless carriers that are reimbursed under the \$0.1475/subscriber were swept into the General Revenue Fund in early fund sweeps. As a result, carriers may not yet have been reimbursed for invoices submitted to the State because the original contributions were swept and the current system does not allow those carriers to be paid from other carrier contributions. The invoices in question are held up indefinitely until either the fund sweeps are repaid from the General Revenue Fund or these carriers are allowed to be reimbursed from funds submitted by other carriers.
- To better manage the State's upcoming equipment purchases, a comprehensive inventory of systems and equipment would be beneficial. Unless a comprehensive inventory is taken, it would be difficult to determine current equipment and interconnectivity issues. Similarly, standards for equipment and operations have not yet been adopted. A statewide (vendor neutral) delivery network for all types of calls does not exist. In addition, such an inventory could assist in more effectively evaluating the costs and equipment requirements of upgrading to NG9-1-1 when standards are available.

In its purest state, 9-1-1 is merely a mechanism to connect people with the appropriate emergency resources. Arguably, a 9-1-1 system is part and parcel to police, fire, ambulance and other services which are typically funded through the real estate tax base by business and residential property owners. While the wireless surcharge offers a viable revenue stream that could be used to not only pay for current operating costs but also to fund the future technological needs, it does not fairly assess fees from those that use the services based on the inherent mobility of wireless use.

It is clear that the current methodology for funding 9-1-1 services has much need for improvement evidenced by the inefficiency of operations and inequality of the funding mechanisms. Merely extending the wireless surcharge expiration would further exacerbate the issues seen today, and certainly magnify them once NG9-1-1 is contemplated in the State. In this report, we offer two alternative recommendations with regard to the continuation of the wireless surcharge:

1. Let the surcharge expire and replace the funding with a more universal tax collection.
2. Keep the wireless surcharge, but incorporate recommendations from Section 9 in this report.

The upcoming sunset of the wireless provision on April 1, 2013 pursuant to 50 ILCS 751/70 should be used to transition away from a funding source based on phone usage (wireless and wireline) to a methodology that collects fees in the real estate tax base from those that typically use these services.

Transitioning to an established and more universal tax funding mechanism would also simplify the administrative requirements for the State, municipalities, wireless carriers, Voice over Internet Protocol (VoIP) companies, traditional wireline companies and others who currently have to collect, remit or process surcharge or other 9-1-1 funding revenues. Ultimately, such a structure would allow the State to better measure and manage the 9-1-1 funding, and it should also assist in preparing for the funding of the possible transition to NG9-1-1 services.

## 1.2 OVERVIEW OF ILLINOIS 9-1-1 SYSTEM

There are currently 194 independent 9-1-1 systems in the State that are authorized by the ICC and overseen by local governmental authorities and ETSBs. A list of the systems is located in Attachment B. Each system operates one or more Public Safety Answering Points (PSAPs).

Separate statutes govern wireless and wireline 9-1-1 operations. While the ICC collects wireless surcharges and distributes the surcharges from state pools, wireline surcharges are typically established by municipal or county referenda and funds are remitted directly to the ETSBs by the wireless carriers. State statutes include restrictions on the use of 9-1-1 surcharges, but each ETSB bears the sole responsibility for authorizing 9-1-1 expenditures within its jurisdiction. Each system is also responsible for managing and making all critical decisions for its system design, maintenance and daily operations; however, the ICC has the power to establish certain technical standards that ETSBs and telecommunications carriers must adopt and to which they must adhere.

In addition to the general public, there are a number of key stakeholders with an interest in the State's 9-1-1 system. These include local governments, county administrators, system employees, other public safety agencies, telecommunications carriers, and equipment manufacturers. We sought input from each of these groups through a combination of surveys, conference calls and emails. Stakeholders often expressed differing and conflicting views on how the system should be designed, operated and funded. The responses indicated that while the ICC and certain trade associations provide a valuable role in coordinating these groups, stakeholders generally operate autonomously in their own best interests and there is no organization with overall authority. During this study, we attempted to weigh responses and information received from all sources without bias.

## 2. 9-1-1 STUDY SCOPE, OBJECTIVES AND METHODOLOGY

### 2.1 SCOPE AND OBJECTIVES

Our procedures began in April 2011 following the ICC's acceptance of our proposal. The ICC determined our assessment's scope and objectives. The following deliverables were specified in the ICC's request for proposal (RFP).

1. Complete a comprehensive review of Illinois 9-1-1 statutes (50 ILCS 750 and 751) and ICC regulations (83 Illinois Administrative Code Parts 725, 726, 727, 728 and 729) found at <http://www.icc.illinois.gov/9-1-1/> in order to have a clear understanding of the 9-1-1 structure in Illinois.
2. Prepare and submit a final work plan to ICC staff for approval within 15 business days of the contract execution date.

3. Complete an analysis for the year 2009 of the total statewide surcharge collected (i.e., wireline, wireless, etc.) and the total state operating costs for 9-1-1 in Illinois and the five most populous states.
4. Complete a five year statewide trend analysis of wireless and wireline surcharge collected and a same period trend analysis for total statewide costs of all 9-1-1 systems in Illinois and summarize the findings.
5. Conduct a sampling of urban, suburban and rural 9-1-1 systems to determine the cost of operations per capita in order to make a comparable cost analysis. Perform an analysis of the Wireless Carrier's ability to recover its 9-1-1 related costs from the wireless surcharge. The Wireless Emergency Telephone Safety Act (WETSA) allows wireless carriers to either seek reimbursement from the Wireless Carrier Reimbursement Fund up to 100% of the \$0.1475 per surcharge, per month, which they remit into the fund or self recover as a separate item on customers' bills. Determine if this process allows all carriers the ability to recover their costs and whether it has an impact on the deployment of 9-1-1 network enhancements in Illinois. Determine if the Wireless Carrier cost recovery portion of the Act needs to be amended in order to ensure 9-1-1 network enhancements are completed in a timely manner without putting any companies at a competitive disadvantage. If it is determined that change is necessary, provide recommendations and reasons for amending the language.
6. Complete an analysis of the phases of wireless service being provided by Illinois 9-1-1 systems today. Determine why not all 9-1-1 systems have deployed Phase 2 wireless service. Determine if the funding from the wireless surcharge is adequate to cover the cost of wireless deployment, and if the surcharge money is fairly distributed among 9-1-1 systems.
7. Provide a summary of technological challenges 9-1-1 systems will be facing in the future. Provide estimated capital and operational expenditures that these types of upgrades might cost per system and whether the current wireless surcharge will be sufficient to fund those future costs.
8. Prepare recommendations for efficiencies, accountability of funds, and other public policy or legislative considerations including, but not limited to: restructuring of 9-1-1 in the state, consolidation of 9-1-1 answering points, and alternative revenue sources or funding mechanisms.
9. Provide a recommendation as to whether the wireless surcharge is a necessary revenue source to pay for future technological upgrades or should it be repealed on April 1, 2013 pursuant to 50 ILCS 751/70.
10. Provide recommendations for additional studies and analyses.
11. Prepare a preliminary draft report summarizing the data gathering, investigation phase, conclusions and recommendation as to the future technological and financial needs of the wireless 9-1-1 systems by June 1, 2011.

12. Prepare a draft report summarizing the data gathering, investigation phase, conclusions and recommendations as to the future technological and financial needs of the wireless 9-1-1 systems by July 1, 2011.
13. Prepare a final report summarizing the data gathering, investigation phase, conclusions and recommendations as to the future technological and financial needs of the wireless 9-1-1 systems by August 1, 2011.
14. Testify before the General Assembly as a follow-up regarding the report if needed within 12 months after the final report date.

## 2.2 METHODOLOGY AND LIMITATIONS

*Deliverable #2- Prepare and submit a final work plan to Staff for approval within 15 business days of the contract execution date.*

We reviewed the applicable legal statutes and other publicly available information which were used to prepare the work plan submitted to and approved by the ICC in May, 2011. The key statutes are discussed in Section 3.

Our procedures included making inquiries of ICC staff, certain wireless carriers, and various equipment vendors to gain an understanding of the overall 9-1-1 system. Site visits were performed at three systems in May 2011 to confirm and enhance our understanding of the day-to-day operations. We also researched 9-1-1 studies prepared by other states, Federal agencies, and private organizations to identify national trends and best practices.

For the purposes of this study, one of the predominate techniques used to obtain information was surveying various systems. Surveys were sent to the ICC, all 194 independent 9-1-1 systems, various wireless carriers operating in the State, and agencies overseeing the 9-1-1 systems of the five most populous states other than Illinois. The surveys requested operational, technical, and financial data. The observations and recommendations enumerated in this report are primarily based on the responses received from these surveys combined with our other research. We were not engaged to, and have not, performed procedures to verify the accuracy of their responses.

At times, inconsistencies were noted from survey data when compared with data residing with the Illinois Commerce Commission due in part to timing of receipts and disbursements, calendar year reporting versus State fiscal year, and inconsistencies in reporting expenses. The survey data was used as planned as it represented the most consistent approach as we compared revenues with related expenditures. Had ICC data been used, the results would vary and be less meaningful for the purposes of this study. Furthermore, many of those surveyed were unable to provide complete responses within the timeframe established in the RFP. Sections of our analysis had to be performed on incomplete data sets as a result. Our observations and recommendations may have been different had more complete information been available.

### 3. ILLINOIS 9-1-1 STATUTES

*Deliverable #1- Complete a comprehensive review of Illinois 9-1-1 statutes (50 ILCS 750 and 751) and ICC regulations (83 Illinois Administrative Code Parts 725, 726, 727,728 and 729) found at <http://www.icc.illinois.gov/9-1-1/> in order to have a clear understanding of the 9-1-1 structure in Illinois.*

#### **Observations**

##### 3.1 OVERVIEW

According to the ICC website ([www.icc.illinois.gov/9-1-1/](http://www.icc.illinois.gov/9-1-1/)), “On September 25, 1975 the State of Illinois passed legislation giving oversight authority of 9-1-1 systems in the State to the Illinois Commerce Commission. From this point on the 9-1-1 program’s purpose has been to administer the implementation and upgrading of 9-1-1 systems by municipalities and counties across the state”.

The State’s emergency 9-1-1 system is a collection of 194 independent systems which in turn are each responsible for one or more PSAPs. Certain systems do not answer wireless calls, as discussed in Section 8. Attachment C is a map of all the State’s 194 9-1-1 systems and Attachment D is a map of the 183 “wireless” 9-1-1 systems.

There are two different statutes in Illinois that govern 9-1-1, (50 ILCS 750) ETSA and (50 ILCS 751/) the WETSA. Both of these statutes have been modified numerous times over the years. In addition to these statutes, there are numerous Parts of Administrative Code that set out rules as called for by the statutes in addition to other administrative issues.

The ETSA set the ground rules for 9-1-1 services to be offered in the state. These ground rules include conditions for jurisdictions to form a 9-1-1 system or a PSAP, conditions for telecommunications companies to become a 9-1-1 system provider, and other operating and reporting issues.

WETSA set the ground rules for wireless carriers to implement 9-1-1 and enhanced 9-1-1 services and for PSAPs to receive location identification information.

Currently, the wireless surcharge and all other parts of (50 ILCS 751) are scheduled to be repealed effective April 1, 2013.

### 3.2 EMERGENCY TELEPHONE SYSTEM ACT

As stated above, this statute was first enacted to establish the number 9-1-1 to be used across the state for citizens to be able to reach “police, fire, medical, rescue, and other emergency services” more quickly.<sup>1</sup> This statute includes definitions for various aspects of emergency services such as “system,” “Board,” “network connections,” “9-1-1 system,” and even “next generation 9-1-1.”

Goals were established such as requiring technical standards to be put in place by December 31, 1979 and counties with a population over 100,000 to submit plans and then work to start 9-1-1 systems by December 31, 1985. The statutes also required all agencies covered under a 9-1-1 system to enter into agreements with each other “to eliminate instances in which a responding emergency service refuses to render aid to the requester because the requester is outside of the jurisdictional boundaries of the emergency service.”<sup>2</sup> The statutes established the requirement for 9-1-1 systems to file annual reports with the ICC and the Attorney General. The statutes limited civil liability in certain cases for 9-1-1 systems, other agencies, and personnel.

The statutes granted authority to counties and municipalities to implement a monthly surcharge if approved by local voters in a referendum. Telephone companies that bill the surcharge on behalf of the jurisdiction are allowed to retain 3% of the amount collected to cover their costs. The monthly surcharge is capped at \$2.50 for areas with a population greater than 500,000.

The statutes set forth the ground rules for counties and municipalities to establish ETSBs and what authorities they would have and what expenses were allowable.

Some larger businesses may use a private branch exchange (PBX) telephone system which is essentially a mini telephone switch located on their premises that will allow interoffice dialing and access to place and receive calls outside of the business. Because much of the calling may be internal to the business, there are a limited number of PBX trunks supplied from the telephone company for external dialing. In many areas of the country when an individual is placing a call from a business over a PBX trunk then only the main telephone number and address associated with the PBX location is delivered to the PSAP. In Illinois, Section 726.205.a).1) requires more location exact information to be delivered to a PSAP for more accurate dispatching. For example, it is required that a different telephone number be delivered on 9-1-1 calls for very large buildings based on blocks of 40,000 feet or less of workspace and for each different entity that may use the PBX.

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<sup>1</sup> 50 ILCS 750/1

<sup>2</sup> 50 ILCS 750/14

### 3.3 WIRELESS EMERGENCY TELEPHONE SYSTEM ACT

This statute first became effective in 1999 “to promote the use of wireless 9-1-1 and wireless enhanced 9-1-1 (E9-1-1) service in order to save lives and protect the property of the citizens of the State of Illinois.”<sup>3</sup> This statute includes definitions for various aspects of emergency services such as “mobile telephone number,” “statewide wireless emergency 9-1-1 system,” “wireless carrier,” “prepaid wireless telephone number,” and “wireless telephone service.”

The statutes required the ICC to establish “uniform technical and operational standards consistent with the rules of the Federal Communications Commission (FCC) for directing calls to authorized public safety answering points.”<sup>4</sup> A statewide Wireless Enhanced 9-1-1 Board was established and tasked with establishing the wireless surcharge rate, as long as it did not exceed \$0.75. The current surcharge of \$0.73 per month has been effective since January 1, 2008 and \$0.1475 is to be set aside for reimbursement to wireless carriers, while \$0.5825 is to be set aside to be disbursed to 9-1-1 systems. \$0.01 of the wireless carrier set aside may be given back to wireless carriers to cover billing costs and \$0.01 of the 9-1-1 system set aside is to be used by the ICC to cover administrative costs.<sup>5</sup>

The Auditor General is required to perform annual audits of the Wireless Service Emergency Fund and the Wireless Carrier Reimbursement Fund to ensure compliance with statutory requirements.

#### 3.3.1 CHICAGO HOME RULE

The Act contains a Home Rule provision which addresses the City of Chicago on three fronts. 1) Instead of having to use the wireless surcharge rate of \$0.73 used in the rest of the State, Chicago is allowed to impose its own rate as long as it does not exceed \$2.50. 2) Instead of the wireless carriers being able to receive \$0.01 from each monthly surcharge collected as a billing and collection fee as occurs in the rest of the state, the carriers are not allowed to receive compensation for the billing and collection of the Chicago surcharge. 3) Instead of the wireless carriers remitting the surcharge collections to the ICC as they do with the remaining surcharge collections, they remit them directly to Chicago.

All sections of this statute are currently slated to be repealed effective April 1, 2013.

### 3.4 ATTORNEY GENERAL OPINIONS

There are ambiguities within the current legislation and operating environment that probably have resulted in certain inefficiencies to multiple parties, including the State. At the very least, there has been confusion among many parties involved in providing 9-1-1 services in the State and there has been no single central authority to resolve issues or implement rules.

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<sup>3</sup> 50 ILCS 751/5

<sup>4</sup> 50 ILCS 751/15

<sup>5</sup> 50 ILCS 751/17.(b)

The legislation first passed in 1975 and subsequently amended has provided a framework for the implementation of wireline and wireless 9-1-1 in Illinois. By its nature, legislation should be broad and provide boundaries for a regulatory or oversight agency to put into practice with more specific rules.

Since 1990 there have been 33 separate opinions released by the Attorney General to provide clarifications to ambiguous legislative language or to provide authoritative guidance in their interpretation. The opinions are grouped under the following five classifications: Authority, Expenditure of Funds, Compatibility of Offices/Conflict of Interest, Personnel, and Creation/Operation.

See Attachment F for a list of all Attorney General Opinions and Attachment G for a summary of other proposed legislation.

#### 4. MULTISTATE 9-1-1 REVENUE AND EXPENSE COMPARISON

*Deliverable #3 - Complete an analysis for the year 2009 of the total statewide surcharge collected (i.e.: wireline, wireless, etc.) and the total state operating costs for 9-1-1 in Illinois and the five most populous states.*

##### **Procedures and Observations**

###### 4.1 GENERAL

A survey was developed and sent to the five most populous states in the country to gather information used to benchmark against data collected for Illinois. The survey was prepared in an Excel format and was emailed on May 10, 2011 to state 9-1-1 coordinators in the following states: California, Pennsylvania, Texas, New York, and Florida. The coordinators were asked to respond by May 23, 2011. Before the surveys were sent, each state representative was contacted via telephone and the project was discussed at a high level and contact information was verified or obtained. A sample state survey can be found at Attachment M.

Survey responses were received on the following dates:

- Texas – Original survey response was provided on May 19, 2011 with revisions on May 23, 2011.
- California – Survey response was received May 31, 2011.
- Pennsylvania – Original survey response was provided on May 23, 2011 with revisions on June 7, 2011.
- Florida – Provided notification on June 13, 2011 that no response would be submitted. We were advised to check the state website for information: <http://florida9-1-1.myflorida.com/>.
- New York – No data was provided.

We attempted to locate information online for New York and Florida, but their lack of response limited certain areas of our analysis. Nevertheless, some interesting metrics were obtained from the states that responded, combined with additional research.

As allowed under statute, Chicago is treated separately from the rest of the state and was not an original focus of this study. We nonetheless submitted multiple information requests to the 9-1-1 system covering the City of Chicago in an attempt to gather more complete and useful information for this study. The survey was not returned to Stone Carlie and, therefore, information about the City of Chicago is not included in many of the areas of this report.

The information for Illinois (without the City of Chicago) used in this Section was obtained from our 9-1-1 system survey responses. Since we were not able to obtain responses from each system in the state, we extrapolated the results received from 58 9-1-1 system survey responses that provided complete and comparable annual data, to the remainder of the Illinois population excluding Chicago.

## 4.2 STATE OVERSIGHT

Illinois' 9-1-1 oversight structure is discussed in Section 3. Information on the structures of other state's oversight agencies was provided by the respective state coordinator as follows:

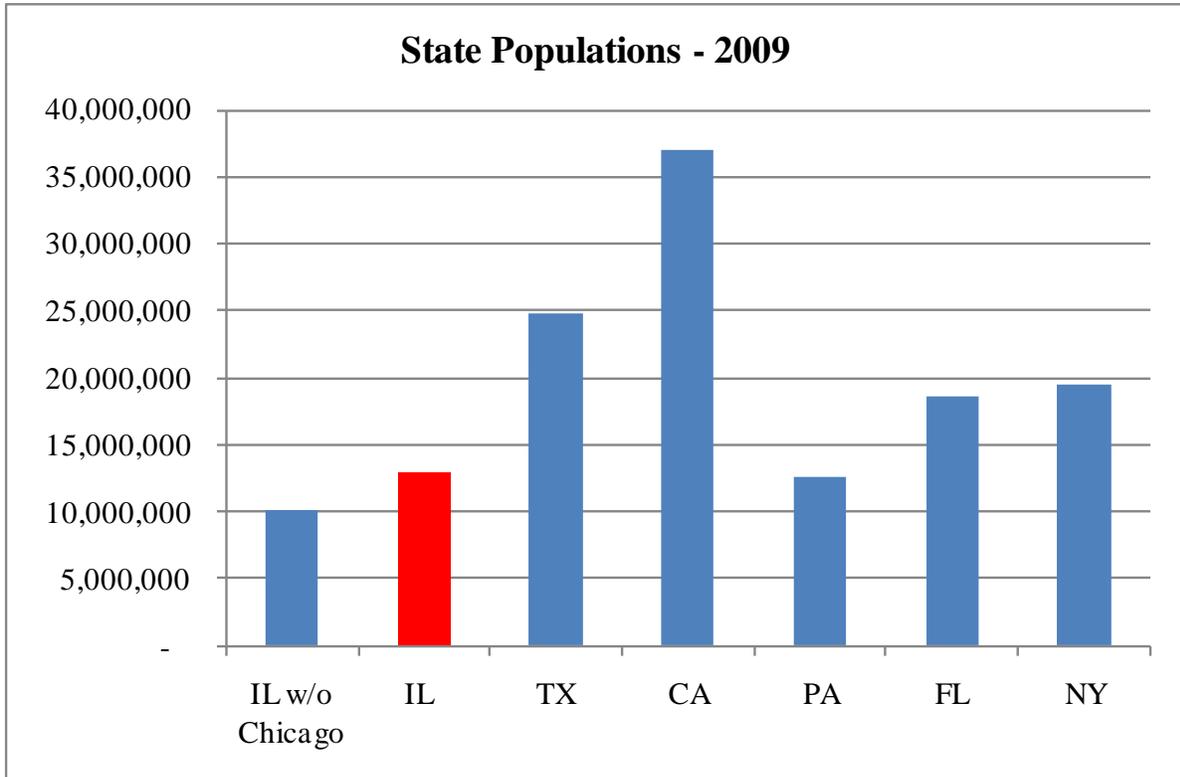
- The Texas Commission on State Emergency Communications (CSEC) responded to the survey. The CSEC provides oversight to 24 Regional Planning Commissions that provide 9-1-1 services to one third of the state population in two thirds of the geographic area of the state. The remainder of the state is covered by 51 Emergency Communications Districts (ECDs). There are 27 ECDs that were providing services before September 1, 1987 and were created by municipalities. There are 24 other ECDs that were created by counties and serve about 53% of the state's population.
- In California, the Technology Agency's Public Safety Communications Office 9-1-1 Emergency Communications Office oversees funding for the state's 465 PSAPs. The 9-1-1 Emergency Communications Office has a staff of 16 employees.
- The Pennsylvania Emergency Management Agency's Bureau of 9-1-1 has limited oversight over the state's 69 PSAPs. The oversight is limited to areas of funding, training, certification and quality assurance.
- The State of Florida referred us to its website, which included the Florida 2010 E9-1-1 Board's Annual Report. According to the report, the E9-1-1 Board, with oversight from the Department of Management Services, provides coordination, support and technical assistance to counties to promote the deployment of E9-1-1 systems in the state.
- Although New York State did not respond to our survey request, the website of the Department of State indicates that "the New York State 9-1-1 Board, established pursuant to County Law §326, is charged with assisting local governments, service suppliers, wireless telephone service suppliers and appropriate state agencies by facilitating the most efficient and effective routing of wireless 9-1-1 emergency calls; developing minimum standards for public safety answering points; promoting the exchange of information, including emerging technologies; and encouraging the use of best practice standards among the public safety answering point community". (<http://www.dos.state.ny.us/e9-1-1/notice32608.html>)

We observed that each state surveyed had differences in the way 9-1-1 services are managed and overseen. The 9-1-1 system structures vary by state, but each is fluid and develops and evolves over time based on statutes, past experiences, politics, and structure of government. Some states have some control or authority over all PSAPs in the state and some may only have control or authority over a limited number of PSAPs in the state.

### 4.3 POPULATIONS

Exhibit 4-1 is a comparison of population counts for the year 2009 based on information reported by the U.S. Census Bureau. Since our data does not include results from the City of Chicago, population counts are included for the entire state of Illinois and Illinois without the City of Chicago.

Exhibit 4-1



*Source: U.S. Census Bureau*

#### 4.4 FUNDING

Except in the City of Chicago, Illinois has a statewide wireless surcharge rate of \$0.73 per phone per month. The City of Chicago has a separate wireless surcharge rate of \$2.50. Illinois statutes allow local jurisdictions to impose a wireline surcharge if ratified by voters. The wireline surcharges in Illinois range from \$0.50-\$3.90 per line per month according to ICC staff. Wireless carriers are currently required to collect a \$0.73 per month surcharge from prepaid and postpaid customers. The Legislature recently passed legislation which would replace the flat rate prepaid surcharge with a point of sale tax whereby a 1.5% surcharge would be assessed on all prepaid customers at the original point of sale and at each subsequent purchase of additional minutes.

Information on the funding of other state's 9-1-1 funding mechanisms was provided by the respective state coordinator as follows:

- Texas imposes an equal \$0.50 surcharge for each postpaid wireless phone and a flat 2% surcharge for prepaid wireless phones to be collected at the time of purchase in areas under the oversight of the CSEC. The PSAPs controlled by the CSEC charge a uniform \$0.50 9-1-1 surcharge per phone or handset for both wireline and wireless whereas the ECD PSAPs charge a wireless 9-1-1 surcharge of \$0.50 and wireline 9-1-1 surcharges of between \$0.20 and \$2.93 per line per month with a 100 line maximum. The third funding component in Texas is an equalization surcharge which is billed as a percent of intrastate toll charges.
- California imposes a wireless surcharge of one half of one percent (0.50%) of the monthly charges rather than a flat rate per line or per phone surcharge.
- Pennsylvania imposes a wireless surcharge of \$1.00 per phone and has three different wireline surcharges of \$1.00, \$1.25, and \$1.50 depending on the population of the county.
- Florida referred us to its state website for information. The state's E9-1-1 funding mechanism is specified by Florida Statute §365.172. The statute places a statewide E9-1-1 fee of \$0.50 per month on wireless and wireline subscribers except in three counties which are permitted to assess county option fees. The E9-1-1 Board adjusts the allocation percentages or reduces the amount of the fee, or both, if necessary to assure full cost recovery or prevent over-recovery of costs incurred in the provision of E9-1-1 service.
- New York did not respond to our survey request. The New York Department State website indicates state law permits municipalities to assess a monthly wireline surcharge of up to \$0.35 and several counties have received exemptions allowing them to assess surcharges up to \$1.00. (<http://www.dps.state.ny.us/TelecomTaxesSurcharges.html>). The state imposes a Public Safety Communications Surcharge of \$1.20 per month per device used to access the service during any part of each month.

Exhibit 4-2 is a chart comparing the statewide surcharge revenues received from wireline and wireless customers and the combined totals.

Exhibit 4-2

2009 ANNUAL SURCHARGE REVENUE AND POPULATION BY STATE						
	IL w/o Chicago	TX	CA	PA	FL	NY
Wireline Surcharge	\$48,412,862	\$98,780,651	N/A	\$79,416,199	\$49,599,186	N/A
Wireless Surcharge	59,123,687	104,766,708	N/A	103,929,368	75,932,488	190,679,820
Total Surcharge	\$112,513,475	\$203,547,359	N/A	\$183,345,567	\$125,531,674	N/A
2009 Population	10,148,969	24,782,302	36,961,664	12,604,767	18,537,969	19,541,453
Surcharge per Capita	\$11.09	\$8.21	N/A	\$14.55	\$6.77	N/A

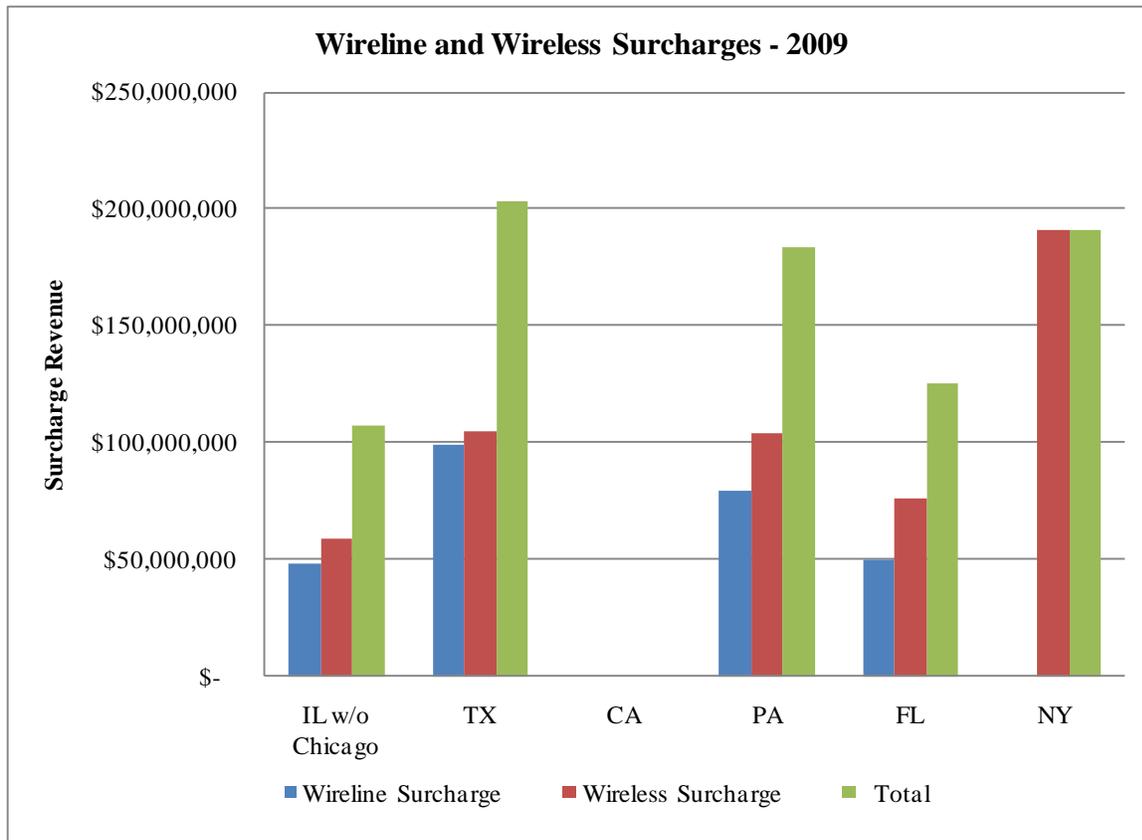
**Source:** See discussion below.

Surcharges were determined as follows:

- Illinois surcharges were estimated by extrapolating the survey responses from 51 9-1-1 systems that provided complete and comparable annual data to the remainder of the State's population excluding Chicago.
- Texas and Pennsylvania provided surcharge data in their survey responses.
- California did not provide an estimate of their surcharge collections and we were unable to locate the information online.
- Florida surcharges are from the state's 2010 E9-1-1 Board's Annual Report.
- New York did not respond to our request but we were able to obtain the total wireless surcharges from the State Department of Taxation and Finance's 2009-2010 New York State Tax Collections November 2010. We were unable to determine the state's total wireline surcharges collected by municipalities.

The 2009 population estimates were obtained from the U.S. Census Bureau at <http://www.census.gov>. The Bureau estimated a 2009 population of 12,910,409 for the State of Illinois and 2,761,440 for the City of Chicago.

Exhibit 4-3

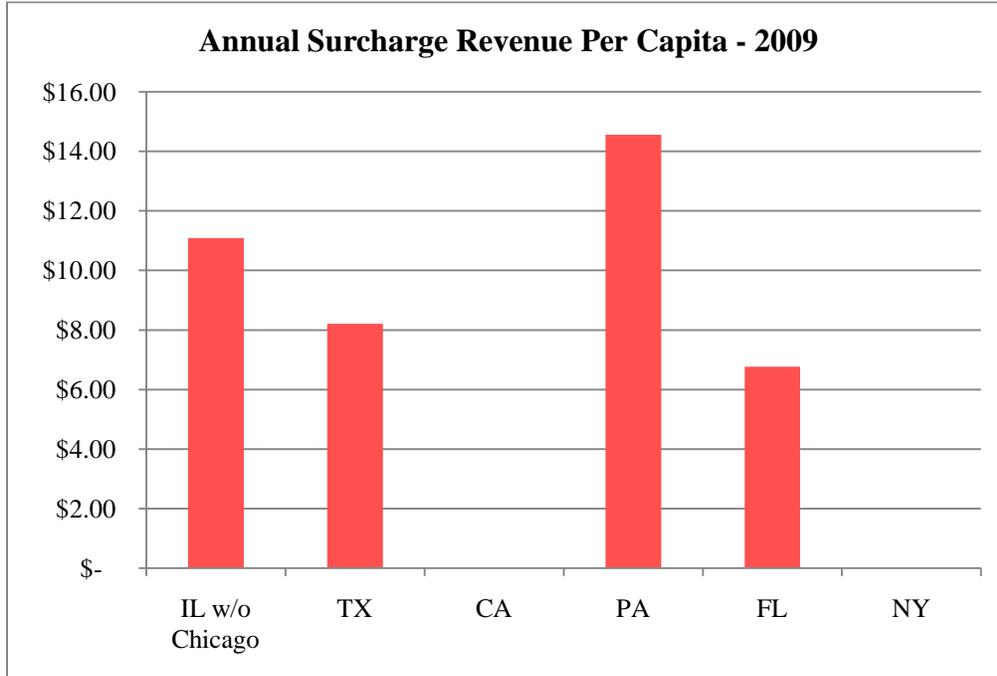


Source: Exhibit 4-2.

Illinois (excluding Chicago) receives less annual total surcharge revenues than the other states. Had the city of Chicago been included, it is possible that total surcharge revenues would be more comparable to the other states in the study.

Exhibit 4-4 compares the amount of surcharge revenues collected in each of the states surveyed annually on a per capita basis (data in Exhibit 4-2). Once again, California’s response did not provide the requested surcharge information and the surcharge reported for New York is not comparable because it does not include the state’s wireline surcharges which could not be determined. Compared to the other three states, Illinois (excluding Chicago) receives more surcharge revenue per capita than Texas and Florida but less than Pennsylvania.

Exhibit 4-4



*Source: Exhibit 4-2*

In addition to the five state surveys, we obtained a compilation of 9-1-1 subscriber surcharges imposed by other states as reported by the National Emergency Number Association (NENA) to benchmark the Illinois' surcharges against other states. See Attachment H.

Several states have surcharge rates that vary by location and these ranges prevent us from calculating a national median surcharge. Nonetheless, the \$0.73 wireless surcharge in Illinois appears to be near the middle of the surcharges assessed by other states as reflected in Attachment H. The wide range of the Illinois' wireline surcharges makes it impractical to compare to other states at a per subscriber level. We also noted that as of early 2011, twenty-three states had parity in the wireline and wireless surcharges with several more near parity. Illinois is among the states with the highest rate discrepancy between wireline and wireless subscribers. Section 5 discusses the potential revenue impact of this discrepancy combined with consumer technology trends.

## 4.5 EXPENSES

There is ambiguity in the State statutes as to what expenses can be recouped through the various surcharges. “Section 15.4(c) of ETSA, 50 ILCS 750/15.4(c), which, in general summary, limits uses of surcharge funds to: (1) the design of an emergency telephone system; (2) preparation of a Master Street Address Guide; (3) repayment of properly incurred advances; (4) charges for necessary equipment; nonrecurring charges to establish network connections; (5) payment for street signs necessary to system implementation; and (7) other necessary equipment and personnel specifically related to 9-1-1. The City of Chicago is authorized to use funds for anti-terrorism purposes or emergency preparedness. 50 ILCS 750/15.4(c)(8).”<sup>6</sup>

As part of our five state surveys, we requested information on what other states include in their definition of "expenses" that may be reimbursed by 9-1-1 revenues. Responses were as follows:

- Texas - Defined by TX CSEC Rules, Chapter 251, RPC Strategic Plans. In general, this includes regional 9-1-1 entity administration, network, database and equipment.
- California - 9-1-1 phone system, network and other incremental costs.
- Pennsylvania - networks, customer premise equipment (CPE), database, salaries/benefits, addressing/mapping, software, public education, and training.
- Florida referred us to its state website for information. Florida Statute §365.172(9) includes a list of allowable 9-1-1 service and equipment expenditures for funds derived from the 9-1-1 fee. 9-1-1 service functions include database management, call taking, location verification, and call transfer. All costs directly attributable to establishment (contracting) or provision of these 9-1-1 services are eligible expenditures of moneys derived from imposition of the legislatively authorized 9-1-1 fee.
- New York did not respond to our survey request and we were unable to locate any specific information online pertaining to allowable expenditures. The State 9-1-1 Board's authority to regulate 9-1-1 expenditures is unclear based on our online research.

The 9-1-1 statutes in the other states surveyed generally have more specific guidance on allowable expenditures. As previously noted, several Illinois PSAPs have encountered situations where ETSA is not clear which has led them to request interpretation from the State's Attorney General.

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<sup>6</sup> ICC's response to the FCC's Initial Information Collection Mandated By the New and Emerging Technologies Improvement Act of 2008, May 19, 2011. See page 3.

The states in our survey with clear and specific 9-1-1 expenditure guidelines were less prone to appropriate funds to other purposes. In their 2<sup>nd</sup> *Annual Report to Congress on State Collection and Distribution of 9-1-1 and Enhanced 9-1-1 Fees*, the FCC identified thirteen states that diverted funds to programs other than 9-1-1 services. Illinois, Texas, and California were among the states that diverted funds. In California's case, the diverted funds consisted of \$2.9 million appropriated from the 9-1-1 fund in fiscal year 2008-2009 to purchase Computer Aided Dispatch (CAD) software used at the fire training academy. Illinois and New York diverted 9-1-1 surcharges to the states' general funds and used them for undetermined purposes.

#### 4.6 EXPENSE REIMBURSEMENTS

Under WETSA, wireless carriers can seek reimbursement from the Wireless Carrier Reimbursement Fund, "for all of their costs incurred in complying with the applicable provisions of Federal Communications Commission wireless enhanced 9-1-1 service mandates" (50 ILCS 751/35). The statute provides few limits on the allowable expenditures other than requiring carriers to submit detailed and sworn invoices to the ICC. Similarly, funds are distributed from the Wireless Services Emergency Fund typically to ETSBs that provide wireless 9-1-1 services each month. The funds are to be used for "the design, implementation, operation, maintenance, or upgrade of wireless 9-1-1 or E9-1-1 emergency services and public safety answering points" (50 ILCS 751/20).

When asked about the process to reimburse either PSAPs or wireless carriers for 9-1-1 expenses, the states provided the following responses. Please note that Texas responded that wireless carriers are eligible to receive reimbursement for Phase I but not Phase II expenses.

- Texas - Based upon strategic planning budgets.
- California - Price Quote, Statement of Work and proof of payment.
- Pennsylvania – the Pennsylvania Emergency Management Agency (PEMA) interprets eligible costs to include recurring and nonrecurring costs associated with the development, implementation, operation and maintenance of wireless E-9-1-1 service in the geographic area served by the requesting PSAP. A more detailed funding eligibility list is distributed at an annual funding workshop.
- Florida – Per Florida Statute §365.173, twenty-five percent (25%) of the wireless E9-1-1 fee remittance is held in escrow in an insured, interest-bearing account to be distributed in response to sworn certified invoices submitted to the E9-1-1Board by wireless service providers (WSPs). These funds are to be used to reimburse WSPs for the actual costs incurred to provide 9-1-1 or E9-1-1 service.
- New York- Under Tax Law section 186-f *Public Safety Communications Surcharge*, wireless communication service suppliers are allowed to retain an administrative allowance of 1.166% of total collections if certain requirements are met.

Exhibit 4-5 is a chart comparing the statewide surcharge revenues received from wireline and wireless customers, the combined totals compared to the total reported expenses.

Exhibit 4-5

	Revenue less Expense (2009)					
	IL w/o Chicago	TX	CA	PA	FL	NY
Wireline Surcharge	\$ 54,050,630	\$ 98,780,651	N/A	\$79,416,199	N/A	N/A
Wireless Surcharge	58,462,845	104,766,708	N/A	103,929,368	N/A	N/A
Total Revenue	112,513,475	203,547,359	N/A	183,345,567	N/A	N/A
Total Expense	148,051,209	74,359,000	N/A	119,755,684	N/A	N/A
Revenue less Expense	\$ (35,537,734)	\$ 129,188,359	N/A	\$63,589,883	N/A	N/A
Population	10,148,969	24,782,302	36,961,644	12,604,767	18,537,969	19,541,453
Excess (Shortfall per Capita)	\$ (3.50)	\$ 5.21	\$ -	\$ 5.04	\$ -	\$ -

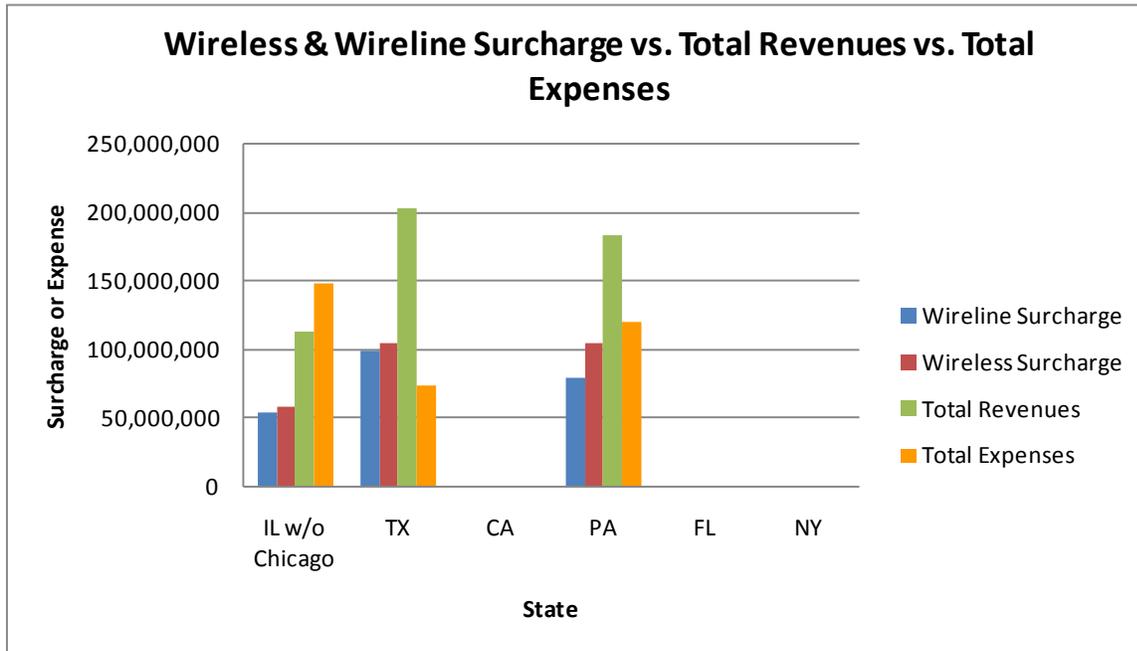
**Source:** See discussion below.

Expenses were determined as follows:

- Illinois expenses were estimated by extrapolating the survey responses from 51 9-1-1 systems that provided complete and comparable annual data to the remainder of the State's population excluding Chicago.
- Expenses for Texas and Pennsylvania were provided by the states in their survey responses. It is important to note that expenses represent the amounts reimbursed and not necessarily all 9-1-1 expenses.
- California did not provide an estimate of their surcharge collections and we were unable to locate the information online.
- Florida and New York did not respond to our survey request.

The 2009 population estimates were obtained from the U.S. Census Bureau at <http://www.census.gov>. The Bureau estimated a 2009 population of 12,910,409 for the State of Illinois and 2,761,440 for the City of Chicago.

Exhibit 4-6



Source: Exhibit 4-5.

#### 4.7 CALL VOLUMES

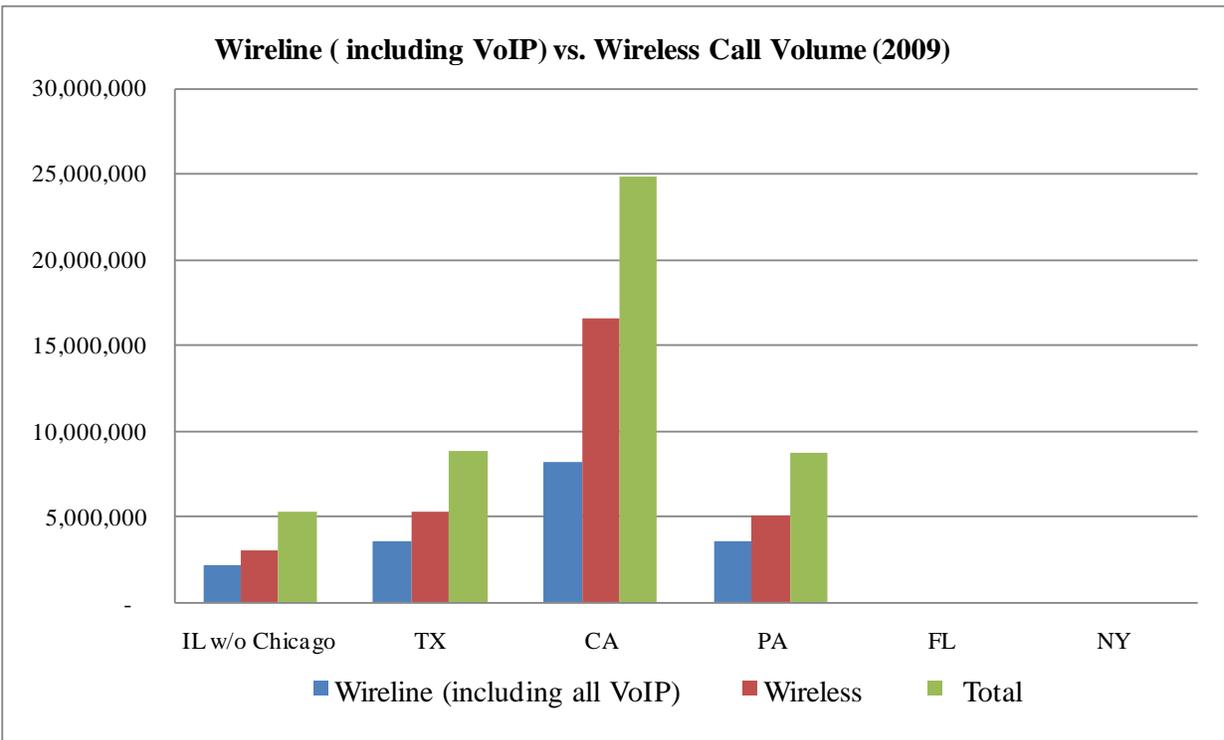
Exhibits 4-7 and 4-8 provide 2009 call volumes for Illinois (excluding the City of Chicago) and the five states in our survey sample. We were unable to determine the actual statewide call volumes for Illinois; the volumes presented were extrapolated based on 59 system survey responses that were complete and comparable. Call volumes for Texas, California, and Pennsylvania were provided in their state survey responses. Florida and New York did not provide the requested call volume data and were unable to locate the information online.

Exhibit 4-7

Annual Call Volume - 2009						
	IL w/o Chicago	TX	CA	PA	FL	NY
Wireline	2,209,474	3,637,607	8,237,575	3,613,745	N/A	N/A
Wireless	3,106,234	5,265,745	16,618,271	5,099,336	N/A	N/A
Total	5,315,708	8,903,352	24,855,846	8,713,081	N/A	N/A

Source: See discussion above.

Exhibit 4-8



Source: Exhibit 4-7

Exhibit 4-9 reflects the ratio of call volumes between wireline and wireless calls to 9-1-1 during 2009.

Exhibit 4-9

Ratio of Wireline and Wireless to Call Volume - 2009							
	IL w/o Chicago	TX	CA	PA	FL	NY	
Wireline	42%	41%	33%	41%	N/A	N/A	
Wireless	58%	59%	67%	59%	N/A	N/A	
Total	100%	100%	100%	100%	N/A	N/A	

*Source: Exhibit 4-7*

Illinois' wireline to wireless call ratio is consistent with the other states surveyed.

As seen in Exhibit 4-10, which excludes the City of Chicago, the percentage of wireless 9-1-1 calls continues to increase in the state of Illinois.

Exhibit 4-10

Ratio of Wireline and Wireless Call Volume for Illinois, excluding Chicago					
	2006	2007	2008	2009	2010
Wireline	50%	48%	44%	42%	37%
Wireless	50%	52%	56%	58%	63%
Total	100%	100%	100%	100%	100%

*Source: Extrapolated from 59 system survey responses that were complete and comparable.*

#### 4.8 DISPATCHES

None of the states that returned survey data collect information about the number or type of dispatches made as a result of 9-1-1 calls. It should be noted that the Illinois 9-1-1 system survey results often had dispatch volumes higher than 9-1-1 call volumes. It was reported that dispatches could result as a result of calls made to non-emergency telephone numbers in addition to calls made to 9-1-1.

#### 4.9 NUMBER OF PSAPS PER STATE

The ICC reports that well over 300 PSAPs are currently in operation in the State of Illinois. Based on survey responses, California has 465 PSAPs, Pennsylvania has 69 primary PSAPS, and Texas has 582 in total, 352 under state oversight. Florida and New York did not respond to our request, and we were unable to determine the number of PSAPs in each state based on online information. Texas and California are among the largest states by both population and land mass however we are unable to draw any meaningful comparison to Illinois based on the differing operational structures and geographical differences.

#### 4.10 REPORTING STRUCTURE

As part of the survey process, each state was asked to “describe the reporting structure for PSAPs within your state” and the responses are as follows.

- Texas – PSAP funding is reported through Regional Planning Commission. Call volume is managed by state data base provider.
- California – Each PSAP reports to their respective local government authority, i.e. Police Departments report to their City, Sheriffs report to the County Government, etc.
- Pennsylvania - PSAPs are required to submit annual reports to PEMA with call volumes and other data.
- New York- We were unable to locate information on the state’s 9-1-1 reporting structure.
- Florida – Each of Florida’s 67 counties is represented by a county coordinator that generally reports directly to the county manager. County coordinators are responsible for implementing standards that meet or exceed the state’s E9-1-1 plan. The state Department of Management Services designates a statewide 9-1-1 coordinator that interfaces with the county 9-1-1 coordinators, provides oversight to PSAPs, and makes recommendations to the state 9-1-1 board on funding needs and other legislative issues.

## 5. ILLINOIS 9-1-1 SYSTEM FIVE YEAR WIRELINE AND WIRELESS SURCHARGE REVENUE AND WIRELESS EXPENSE TREND ANALYSIS

*Deliverable #4 -Complete a five year statewide trend analysis of wireless and wireline surcharge collected and a same period trend analysis for total statewide costs of all 9-1-1 systems in Illinois and summarize the findings.*

### **Procedures and Observations**

#### 5.1 FIVE YEAR SYSTEM ANALYSIS

In order to prepare a five year statewide trend analysis of the wireless and wireline surcharges collected and a same period trend analysis of total statewide costs of all 9-1-1 systems in Illinois, we used a number of resources, including information obtained from the ICC, Illinois Chapter of the National Emergency Number Association's (INENA) Financial and Statistical Data, 9-1-1 system site visits, 9-1-1 system surveys, discussions with state 9-1-1 system personnel, and other relevant data sources. As documented in Section 3, the City of Chicago did not respond to our survey and therefore, certain analyses discussed in this section exclude Chicago data as noted.

##### 5.1.1 9-1-1 SYSTEM SITE VISITS

Three separate 9-1-1 systems were visited to gain a better understanding of the system operations and challenges faced. These visits helped provide insight useful in developing the system survey that was used and in interpreting the results of the survey. The DeKalb County 9-1-1 System was visited on May 12, 2011. DeKalb is a system in a rural area. The Jackson County 9-1-1 System was visited on May 10, 2011. Jackson is also a system in a rural area. The Peoria 9-1-1 System was visited on April 27, 2011. Peoria is a system in an urban area.

Each of these systems has full time employees dedicated to management, administrative, operations, and technical tasks. Each of these systems is under the direction of an ETSB. The ETSBs are generally made up of mostly public safety personnel and at least one civilian. The ETSB members receive no compensation for their work and they are tasked with approving expenses for equipment, infrastructure, and training for the 9-1-1 system and employees.

#### 5.2 SYSTEM SURVEYS

A survey was developed and sent to all 194 9-1-1 Systems in the state. A sample system survey can be found at Attachment L. The survey sought information from each 9-1-1 System about the organization, demographics, services offered, call volume, funding, expenses, reporting, next generation, and recommendations. The survey was mailed on April 29, 2011. Due to requests from some systems for an electronic version, the survey was emailed out in an Excel version between May 2 and May 5. The 9-1-1 systems were asked to complete the survey by May 13, 2011. Compiled responses can be found in the side-by-side comparisons in Attachments O through R.

Out of 194 system surveys sent out, 119 were returned and 75 were not returned. The returned surveys were reviewed for completeness and reasonableness of the data. In most cases, follow up questions were sent to the survey respondents seeking clarification, missing data, or verification of a response. Many survey responses stated that data was lost or not tracked to the level of detail requested. Many respondents took issue with the lack of time allotted to respond to such a lengthy survey.

Because of the decentralized nature of the State’s 9-1-1 systems and the availability of certain requested information, there are inherent limitations with the comparability of the survey responses.

As of June 22, 2011 responses were received from 119 systems out of the 194 surveys that were distributed. This equates to a 61% response rate. See Attachment B for a list of systems receiving and returning surveys. Out of the 194 systems, 81 are considered urban, 43 are considered suburban, and 70 are considered rural. Of the urban systems, 44% or 36 returned a survey. Of the suburban systems, 62.7% or 27 returned a survey. Of the rural systems, 80% or 56 returned a survey. Exhibit 5-1 is a graphical representation of the systems by classification.

Exhibit 5-1

<b>9-1-1 System Classification</b>	<b>Total Systems Surveyed</b>		<b>Survey Responses</b>		<b>Included in the Analysis</b>	
Urban	81	42%	36	30%	26	26%
Suburban	43	22%	27	23%	23	23%
Rural	70	36%	56	47%	51	51%
	194	100%	119	100%	100	100%

For purposes of this study, systems were classified as urban, suburban, or rural according to the following criteria:

- All of Cook County is considered urban due to proximity of Chicago.
- All of Dupage County is considered urban due to Aurora and a portion of Chicago
- Elgin is considered urban due to its population and proximity to Chicago.
- Kane County is considered suburban due to its proximity to Chicago.
- Unless otherwise noted, systems with populations greater than 100,000 are considered suburban.
- All of Lake and LaSalle Counties are considered suburban because of their proximity to Chicago.
- Systems with populations less than 100,000 are considered rural unless otherwise noted.

Even though the 9-1-1 systems were requested to complete the survey by May 13, 2011, many responses continued to be received after this date. In order to allow enough time for a full and complete analysis of the survey data, it was necessary to establish a cutoff date. The cutoff date chosen was May 27, 2011 for this section and Section 6. As of this date 100 system survey responses had been received and contained relevant information for the analysis. The trend analysis and Illinois data used in benchmarking against the five most populous states were based on the survey responses of these 100 systems.

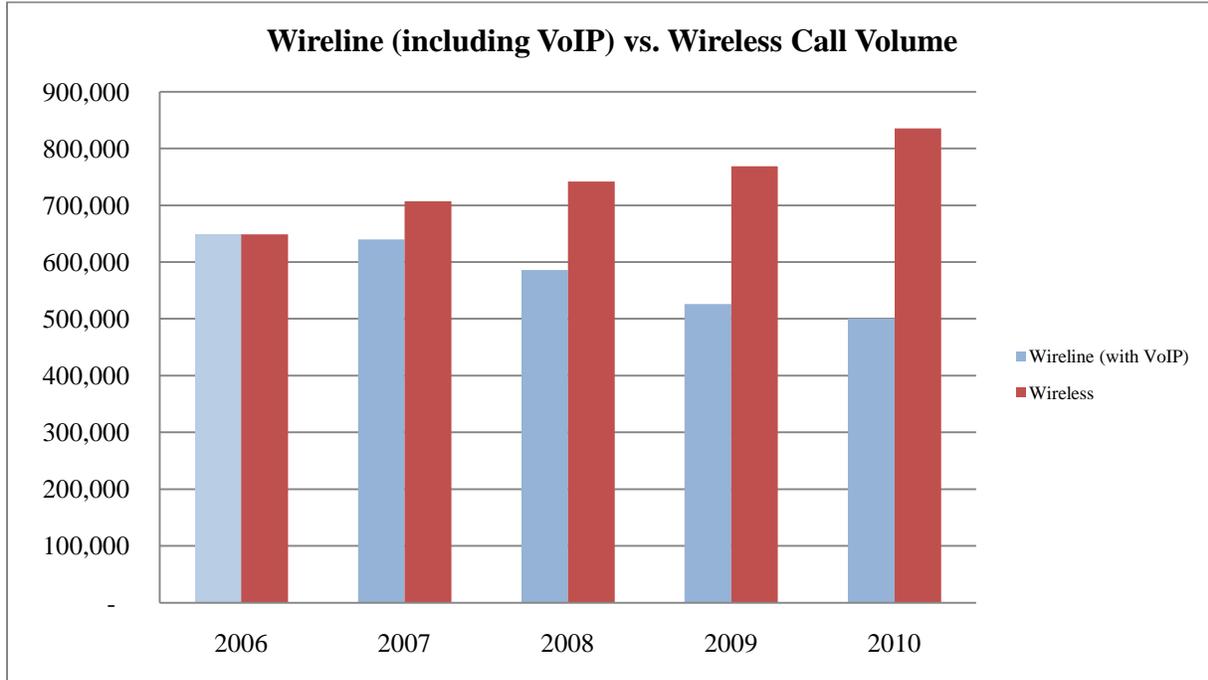
Survey responses continued to be received after May 27 and as of June 22, 2011, a total of 19 additional systems responded to the survey. The survey responses of the 19 systems that were not included in the initial analysis were reviewed and it was determined that the information obtained would not significantly change the results of the analysis prepared using the 100 system responses. Attachments Q through R include a summary of survey responses (of the 19 system survey responses) and has not been modified to reflect any additional information considered in the analysis resulting from further inquiry and discussions with the 9-1-1 systems' coordinators.

### 5.3 CALL VOLUME TRENDS

The survey asked systems to report on wireline, wireless, and VoIP monthly and annual 9-1-1 call volume for the years 2006-2010. Since there are a variety of technologies and systems deployed, there were a variety of responses. Some systems with newer equipment are able to track daily, monthly, and annual call volumes by incoming call type. Other systems with older equipment may have only been able to track total monthly volumes. Some systems were able to differentiate between wireline and wireless calls but not VoIP calls which were included in either wireline or wireless. More than one system reported past system crashes which erased older call volume data.

It is not unexpected that wireline call volumes have been decreasing relative to wireless call volumes over the past years because of access line losses in Illinois and across the country as many consumers disconnect wireline phones in favor of wireless phones. It is also not unexpected that wireless call volumes have been increasing year over year because of growth in wireless services. Out of the 100 survey responses used in the analysis, there were 32 that provided annual call volume data for the years 2006-2010. Exhibit 5-2 displays wireline call volume data (including VoIP) versus wireless call volume data reported by these 32 system respondents. This exhibit displays a growing divergence of 9-1-1 call volumes from wireline and wireless callers.

Exhibit 5-2



**Source:** Survey responses from 32 Illinois 9-1-1 systems that provided complete and comparable annual information.

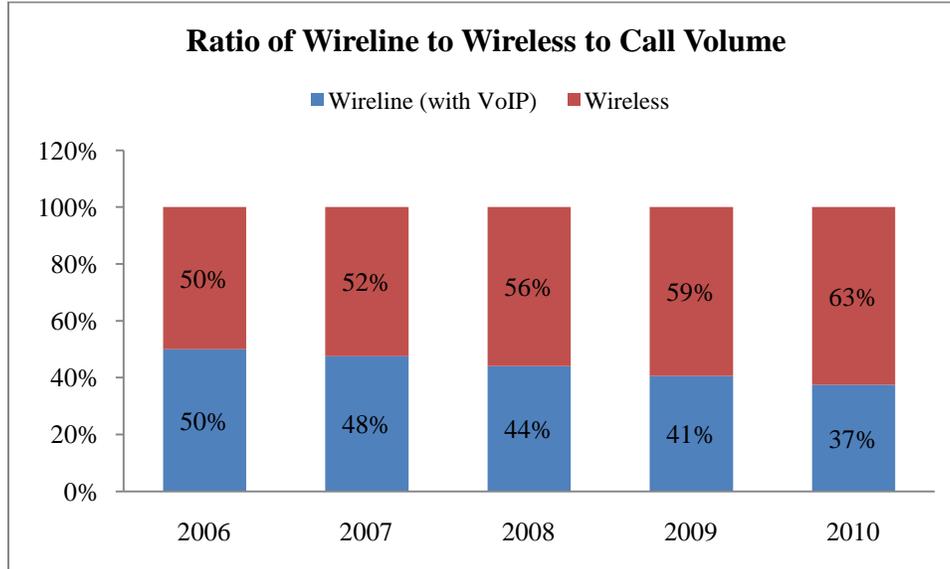
In 2006, wireline and wireless 9-1-1 call volumes were approximately equal. Since that time, wireless call volumes have increased dramatically, as displayed in Exhibit 5-3 below. By 2010, wireline traffic only accounted for 37% and wireless accounted for 63% of the total. The total call volumes have remained fairly consistent over the past five years even though the source of networks used to place 9-1-1 calls has changed.

Exhibit 5-3

Annual Wireline and Wireless Call Volume					
	2006	2007	2008	2009	2010
Wireline (with VoIP)	649,209	639,730	586,073	526,171	500,478
Wireless	649,012	707,029	742,055	768,452	835,557
Total	1,298,221	1,346,759	1,328,128	1,294,623	1,336,035

**Source:** Survey responses from 32 Illinois 9-1-1 systems that provided complete and comparable annual information.

Exhibit 5-4



*Source:* Survey responses from 32 Illinois 9-1-1 systems that provided complete and comparable annual information.

#### 5.4 WIRELINE SURCHARGES

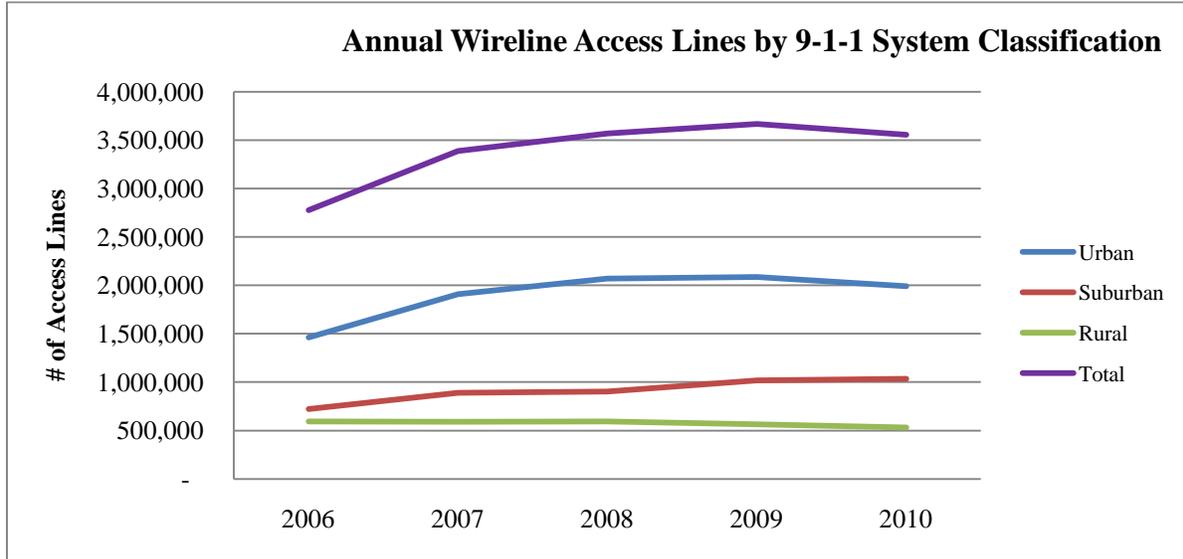
Exhibits 5-5 through 5-7 are based on survey response data from the 59 systems reporting wireline access line information for 2006-2010. These charts show that rural areas have been experiencing more access line erosion than suburban or urban areas in Illinois.

Exhibit 5-5

Annual Access Lines by 9-1-1 System Classification					
	2006	2007	2008	2009	2010
Urban	1,461,063	1,907,002	2,069,592	2,087,428	1,989,699
Suburban	720,992	880,149	887,984	1,017,074	1,035,144
Rural	535,280	520,030	532,149	500,140	470,943
Total	2,717,335	3,307,181	3,489,725	3,604,642	3,495,786

*Source:* Survey responses from 59 Illinois 9-1-1 systems that provided complete and comparable annual information.

Exhibit 5-6



Source: Exhibit 5-5

Before there was wireline competition allowed by the Telecom Act of 1996, only one wireline telecommunication company was awarded a franchise to serve in any one area. This telecommunication company, called an incumbent local exchange carrier (ILEC), would keep track of all access lines it served and ensure that 9-1-1 record databases were accurate. When competitors, called competitive local exchange carriers (CLECs), entered the marketplace it created additional record keeping for systems. For example, CLECs and now VoIP companies remit access line reports to each jurisdiction along with payment of collected surcharges.

Based on survey responses, many systems have either not kept accurate records, have not been provided accurate access line counts, or both. Systems rely on 9-1-1 service providers to maintain databases of location addresses for wireline customers. It appears that some systems were using the number of location database records instead of the number of access lines that they received surcharges from. Other systems reported that they did not start tracking access line counts also reported by CLECs or VoIP providers until 2008 or 2009 even though they were receiving surcharges from the service providers.

Exhibit 5-7

Percentage Change in Wireline Access Lines (by Classification)				
	2007	2008	2009	2010
Urban	30.5%	8.5%	0.9%	-4.7%
Suburban	22.1%	0.9%	14.5%	1.8%
Rural	-2.8%	2.3%	-6.0%	-5.8%
Total	21.7%	5.5%	3.3%	-3.0%

Source: Survey responses from 59 Illinois 9-1-1 systems that provided complete and comparable annual information.

These facts help explain why the access line counts in the survey results showed annual access line increases from 2006 to 2009 contrary to FCC reports showing access line decreases at the national and state level as seen in Exhibit 5-18. The survey results indicated access lines trended down in 2010 which corresponds with the FCC data. Suburban areas fared the best in terms of actually seeing growth year over year. Rural areas saw a decline in three of four years and only a modest increase in the other year.

Since there may be one ILEC, multiple CLECs, and some nomadic VoIP providers in coverage areas, it can be difficult for 9-1-1 systems to know with certainty how many access lines are being served in their area and how much surcharge revenue is collected. Some systems reported that the jurisdiction’s finance office received wireline surcharge payments and access line reports and the system was unaware of the number of access lines. Another challenge to 9-1-1 systems is that an access line is not always an access line which a customer pays a wireline surcharge. Some access lines are exempt from paying a 9-1-1 surcharge. In addition, private switch customers using PBX trunks are required to pay a 9-1-1 surcharge per trunk that is equal to five times the network connection surcharge. Customers with Centrex (central exchange) lines pay a reduced 9-1-1 surcharge for each line. This creates a situation where the wireline surcharge revenues do not always reconcile to the number of access lines reported.

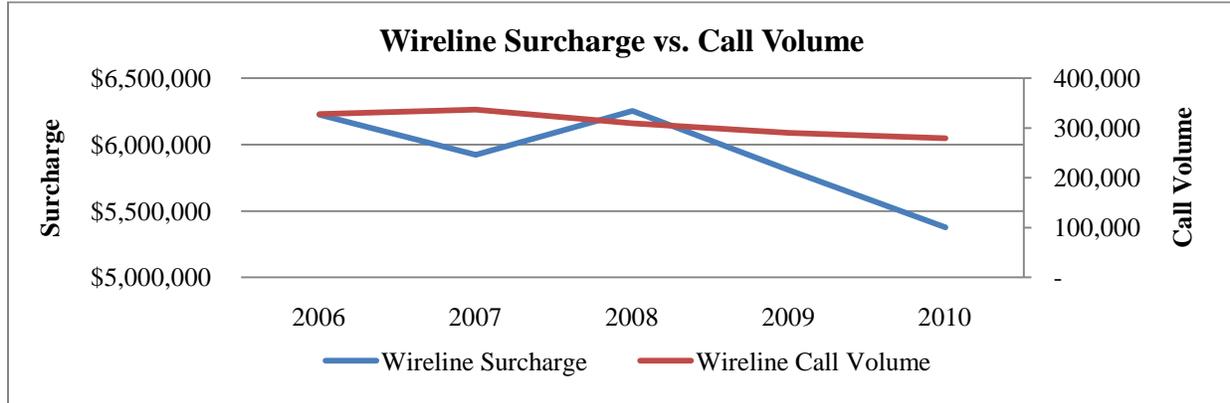
Exhibits 5-8 and 5-9 are based on responses from the 17 systems that provided complete and comparable information. The data shows that wireline surcharges are decreasing at a higher rate than wireline call volumes. This data indicates systems are receiving less wireline surcharges in total and less wireline revenue in proportion to the number of wireline calls received.

Exhibit 5-8

<b>Wireline Surcharge vs. Wireline Call Volume</b>					
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Wireline Surcharge	\$ 6,225,283	\$ 5,922,195	\$ 6,253,198	\$ 5,807,477	\$ 5,376,978
Wireline Call Volume	328,012	336,779	309,462	290,208	279,366

*Source: Survey responses from 17 Illinois 9-1-1 systems that provided complete and comparable annual information.*

Exhibit 5-9



Source: Exhibit 5-8

### 5.5 WIRELESS SURCHARGES

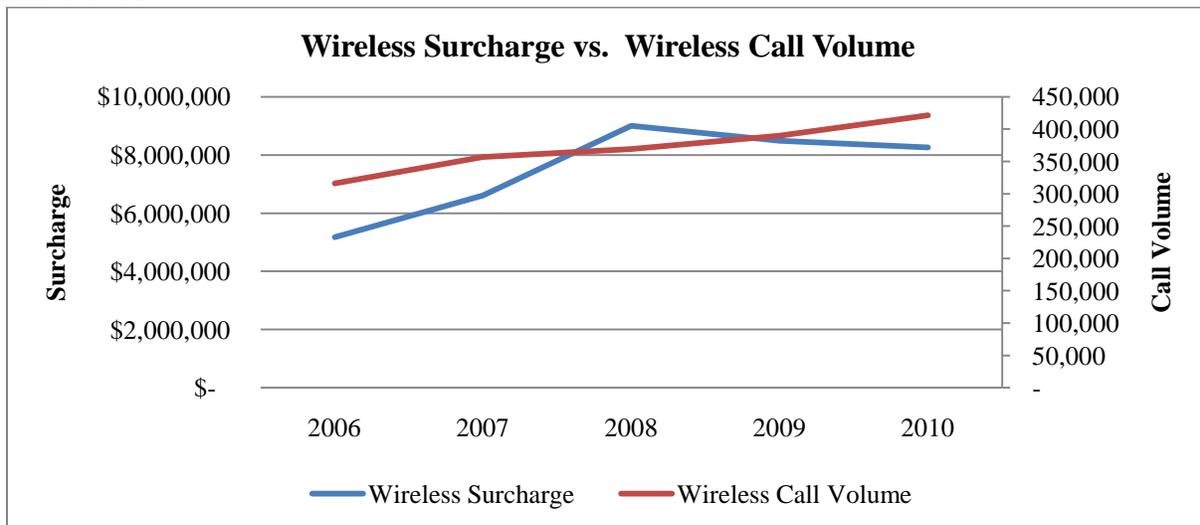
Exhibit 5-10 shows wireless call volume and surcharges based on data from 17 systems that provided complete information in their survey responses.

Exhibit 5-10

Wireless Surcharge vs. Wireless Call Volume					
	2006	2007	2008	2009	2010
Wireless Surcharge	\$ 5,177,100	\$ 6,612,051	\$ 8,998,968	\$ 8,487,651	\$ 8,257,866
Wireless Call Volume	315,949	356,910	369,335	389,795	421,243

Source: Survey responses from 17 Illinois 9-1-1 systems that provided complete and comparable annual information.

Exhibit 5-11



Source: Exhibit 5-10

Surcharge revenues remitted by the ICC to 9-1-1 systems have decreased since 2008 based on Exhibits 5-9 and 5-10; however this trend is distorted by the recent transfers from the Wireless Carrier Reimbursement Fund.

As discussed in Section 6.5, wireless carriers may either (1) seek reimbursement from the Wireless Carrier Reimbursement Fund up to \$0.1475 of the \$0.73 monthly surcharge they have remitted; or (2) self recover as a separate item on customers' bills. Surcharges remitted to the Wireless Carrier Reimbursement Fund are segregated by carrier and may only be used to reimburse the individual carrier that originally remitted the surcharge (i.e., surcharges may not be redistributed to reimburse other carriers). Over time, the Wireless Carrier Reimbursement Fund accumulated "excess" funds from the carriers that elected to self-recover instead of seeking reimbursement.

Illinois Public Act 95-0063 became effective on August 13, 2007. Under the legislation, the ICC is required to review the balance in the Wireless Carrier Reimbursement Fund annually and then transfer "excess" amounts to the Wireless Services Emergency Fund for distribution to systems. The first transfer was made in June 2008 for a total of approximately \$13 million dollars, which included the excess funds accumulated to-date. Subsequent annual transfers of approximately \$3.5 million and \$1.6 million were made in June 2009 and 2010, respectively.

Illinois Public Act 95-0698 became effective January 1, 2008. The legislation had three key provisions related to wireless surcharge. First, the monthly wireless surcharge was reduced from \$0.75 per subscriber to the current \$0.73. Second, the amount of the monthly surcharge allocated to the Wireless Carrier Reimbursement Fund decreased from \$0.25 to the current \$0.1475 with the difference being redirected to the 9-1-1 systems. Finally, the act ordered a one-time transfer of \$8 million from the Wireless Carrier Reimbursement Fund to the Wireless Services Emergency Fund and authorized the ICC to distribute the transferred funds to 9-1-1 systems in the form of grants.

It should be noted that Exhibits 5-9 and 5-10 do not reflect the full \$27 million transferred from the Wireless Carrier Reimbursement Fund because the exhibits are based on the responses of only the 17 systems that provided complete information in their survey responses. While the systems in our sample reported decreasing wireless surcharge revenues, there should have been an upward trend based on an increase in the number of wireless subscribers (see Exhibit 5-19) and the increased proportion of the monthly surcharge allocated to the systems as a result of Public Act 95-0698. Exhibits 5-9 and 5-10 would most likely show an upward trend since 2008 had the 17 systems not included the 2008-2010 Wireless Carrier Reimbursement Fund transfers, however the survey responses had insufficient detail to distinguish fund transfers from wireless surcharge distributions.

## 5.6 EXPENSE INFORMATION

Based on the information gathered from the survey responses, total expenses showed an increasing trend from 2006 to 2009 as displayed in Exhibits 5-12 and 5-13.

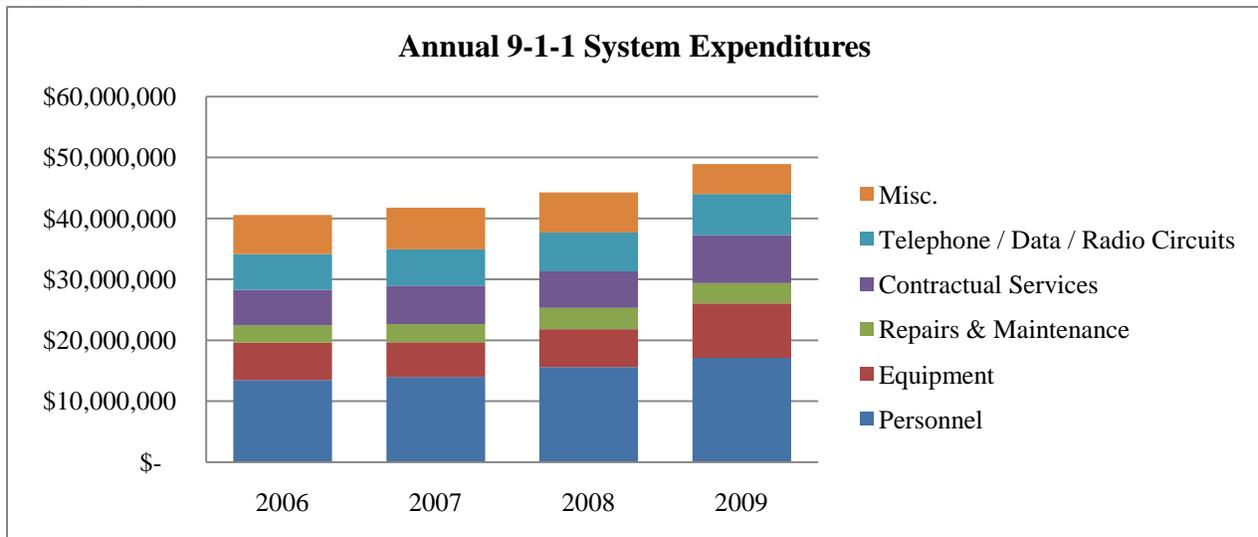
When broken down into five basic categories of expenses, there has been some consistency in system expenditures. For example, repairs and maintenance has been consistent over the four year period, as has telephone/data/ and radio expenses as a percentage of total expense. Personnel expense is the single largest category of expenses for 9-1-1 systems. Interestingly, personnel expenses have increased significantly from 2006 to 2009 (a total of 27%) while annual 9-1-1 call volume has remained relatively constant. Total reported expenses increased approximately 20.6%. There were also significant increases reported in equipment and contractual services in 2009 versus earlier years.

Exhibit 5-12

Annual 9-1-1 System Expenditures								
	2006		2007		2008		2009	
Personnel	\$13,468,637	33%	\$13,976,841	33%	\$15,583,958	35%	\$17,126,144	35%
Equipment	6,146,273	15%	5,684,022	14%	6,243,076	14%	8,914,736	18%
Repairs & Maintenance	2,830,665	7%	2,995,537	7%	3,461,099	8%	3,341,026	7%
Contractual Services	5,842,857	14%	6,315,275	15%	6,021,687	14%	7,873,435	16%
Telephone / Data / Radio Circuits	5,837,246	14%	5,955,776	14%	6,384,268	14%	6,763,301	14%
Misc.	6,418,108	16%	6,836,907	16%	6,580,569	15%	4,881,171	10%
<b>Total Expenditures</b>	<b>\$40,543,786</b>	<b>100%</b>	<b>\$41,764,358</b>	<b>100%</b>	<b>\$44,274,657</b>	<b>100%</b>	<b>\$48,899,814</b>	<b>100%</b>

*Source: Survey responses from 67 Illinois 9-1-1 systems that provided complete and comparable annual information*

Exhibit 5-13



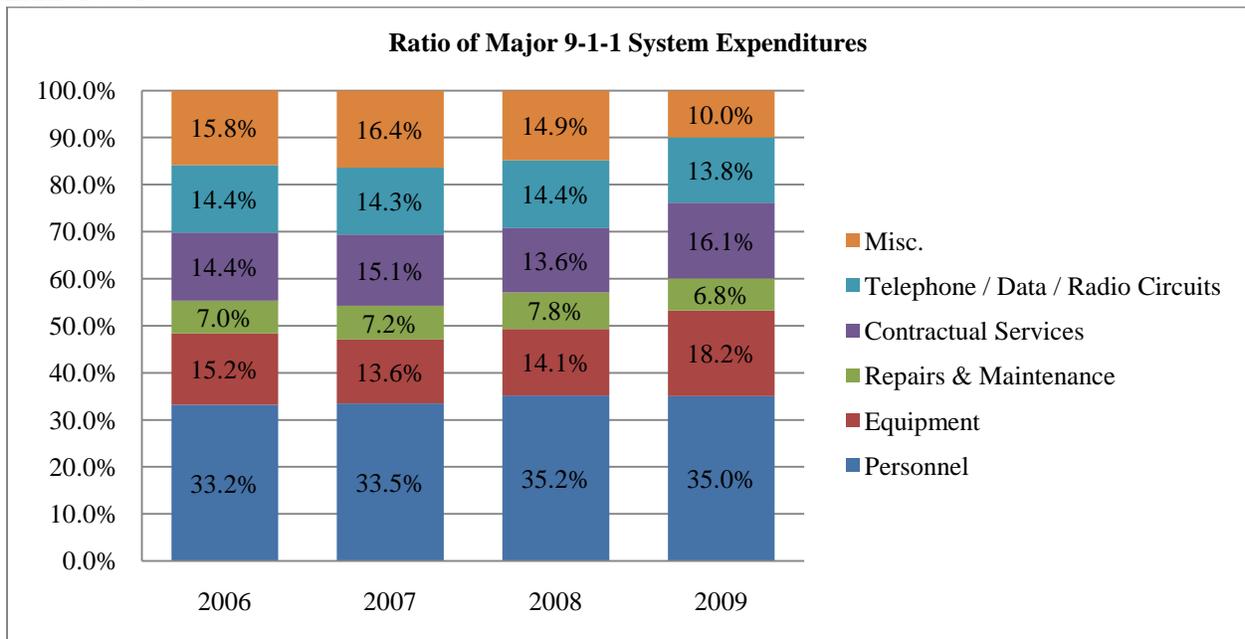
*Source: Exhibit 5-12*

Exhibit 5-14

<b>Ratio of Major 9-1-1 Systems Expenses to Total Expenses</b>				
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Personnel	33.2%	33.5%	35.2%	35.0%
Equipment	15.2%	13.6%	14.1%	18.2%
Repairs & Maintenance	7.0%	7.2%	7.8%	6.8%
Contractual Services	14.4%	15.1%	13.6%	16.1%
Telephone / Data / Radio Circuits	14.4%	14.3%	14.4%	13.8%
Misc.	15.8%	16.4%	14.9%	10.0%
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*Source: Survey responses from 67 Illinois 9-1-1 systems that provided complete and comparable annual information.*

Exhibit 5-15



*Source: Exhibit 5-14*

Exhibit 5-16 summarizes total revenues versus expenses based on the 9-1-1 system surveys.

Exhibit 5-16

Overall Surcharge Revenues vs. Expenses								
	2006		2007		2008		2009	
Wireline Surcharge	\$ 18,613,813	63%	\$ 17,909,412	58%	\$ 17,716,534	49%	\$ 16,419,794	49%
Wireless Surcharge	11,036,776	37%	13,012,217	42%	18,483,079	51%	17,213,558	51%
Total Surcharge	29,650,589	100%	30,921,629	100%	36,199,613	100%	33,633,352	100%
Total Expense	36,537,496	123%	37,876,438	122%	39,915,581	110%	44,776,371	133%
Annual Shortfall	(6,886,907)	-23%	(6,954,809)	-22%	(3,715,968)	-10%	(11,143,018)	-33%

*Source: 9-1-1 System Survey Responses. This represents the totals for the 51 Illinois 9-1-1 systems that provided complete and comparable annual data.*

As reflected in Exhibit 5-16 above, there was a shortfall between revenues and expenses in each year. The shortfall was reduced in 2008 due to the additional wireless surcharge revenues disbursed by the ICC (see Section 5.5). The 9-1-1 survey responses indicated that the systems have used a combination of reserve funds, general municipal funds and other sources to cover these shortfalls. This condition ultimately could have a significant impact on the amount of funds available to upgrade these systems, including NG 9-1-1.

#### 5.7 INENA WIRELINE AND WIRELESS CALL VOLUMES

Previously the Illinois National Emergency Number Association (INENA) commissioned a financial and statistical study and report of 16 systems across the state. This report, called Illinois Chapter of the National Emergency Number Association Financial and Statistical Data for the years 2003 thru 2008 (the "INENA Report"), was dated November 20, 2010.

The scope of the study was limited. Data from 16 9-1-1 systems was compiled in the INENA report. These systems represented a total of 27 PSAPs and an approximate population of 758,258.<sup>7</sup> The INENA report documented wireline call volume decreases and wireless call volume increases over the period studied. This is consistent with results displayed in Exhibits 5-14 through 5-15. In this report, not all systems provided complete call volume data for both wireline and wireless. Nevertheless, using data provided for the fiscal years of 2006-2008, wireline call volume decreased 6.9% and wireless call volume increased 19.7%<sup>8</sup> for the 16 systems.

These reported results are consistent with the survey responses we received from the 9-1-1 systems.

<sup>7</sup> Illinois Chapter of the National Emergency Number Association Financial and Statistical Data For the years 2003 thru 2008. Compiled by Rotherham & Company, P.C., November 20, 2009, at page 5.

<sup>8</sup> Id. at pages 14-15.

### 5.7.1 INENA REVENUE AND EXPENSES

The INENA Report listed both wireline and wireless surcharge revenues for the years 2003-2008 for the 16 systems. Since not all systems provided complete data for the years 2003-2005, only data for the years 2006-2008 was examined. Because of access line erosion, the wireline surcharge revenues decreased 10.1% over the three years from \$4,992,627 in 2006 to \$4,486,583 in year 2008 per the INENA sample. Likewise because of growth in the number of wireless phones, the wireless surcharge revenues increased 199.4% over the three years from \$2,618,026 to \$5,221,586. In 2008 wireless surcharge revenues surpassed wireline surcharge revenues.<sup>9</sup> It should be noted that wireless surcharge revenues were substantially higher in 2008 due to two separate one time disbursements.

The INENA Report listed Estimated Expense Amounts Paid for the years 2003-2008. Since not all systems provided complete data for the years 2003-2005, only data for the years 2006-2008 was examined. Annual expenses decreased 0.74% from \$11,235,510 to \$11,152,323.<sup>10</sup>

As reflected in Exhibit 5-17 below that there was a shortfall between revenues and expenses in each year for the sampled systems and the shortfall was reduced in 2008 due to the additional wireless surcharge revenues disbursed. There was no information in the INENA report to explain how this shortfall was covered by any of the systems. However, as discussed in Section 5.6 above, the 9-1-1 survey responses indicated that the systems have used a combination of reserve funds, general municipal funds and other sources to cover these shortfalls.

Exhibit 5-17

Surcharge Revenues vs. Expenses Reported by INENA									
	2006			2007			2008		
Wireline Surcharge	\$	4,992,627	66%	\$	4,842,884	60%	\$	4,486,583	46%
Wireless Surcharge		2,618,026	34%		3,182,109	40%		5,221,586	54%
Total Surcharge Revenue		7,610,653	100%		8,024,993	100%		9,708,169	100%
Total Expenses		11,235,510	148%		11,155,791	139%		11,152,323	115%
Annual Shortfall	\$	(3,624,857)	-48%	\$	(3,130,798)	-39%	\$	(1,444,154)	-15%

*Source: Illinois National Emergency Number Association Report. This represents the totals for the 16 Illinois 9-1-1 systems included in the study.*

<sup>9</sup> Id. at pages 8-9.

<sup>10</sup> Id. at page 11.

## 5.8 FUNDING TRENDS

The telecommunication industry is seeing a nationwide decrease in traditional switched access lines (i.e. landline subscribers) as consumers “cut the cord” and move from traditional phone service toward more convenient and cost effective solutions.

Exhibit 5-18 summarizes the access line counts as reported by the FCC’s *Local Telephone Competition Status as of June 30, 2010*. Incumbent local exchange carriers reported a 28% drop in the number of nationwide access lines (including switched end-user and VoIP subscriptions) between June 2006 and June 2010 which includes a 9% drop from June 2009 to June 2010. The State of Illinois experienced comparable losses of ILEC access lines during these periods. The report found that non-ILEC landlines grew almost 63% from June 2006 to June 2010. Non-ILEC lines in Illinois increased 46% over the same period. This mitigated some, but not all, of the overall reduction in landlines.

Exhibit 5-18

Total End-User Switched Access Lines and VoIP Subscriptions (in thousands)					
	As of June				
	2006	2007	2008	2009	2010
<u>Nationwide</u>					
Non-ILEC	29,896	28,729	30,049	44,273	48,782
ILEC	142,293	134,640	124,606	112,748	102,388
	172,189	163,369	154,655	157,021	151,170
<u>State of Illinois</u>					
Non-ILEC	1,139	950	875	1,610	1,661
ILEC	6,354	5,976	5,562	5,086	4,581
	7,493	6,926	6,437	6,696	6,242

**Source:** *FCC Local Telephone Competition Status as of June 30, 2010, pages 23, 24, and 28.*

Exhibit 5-19 compares the decrease in traditional access lines to the increase in wireless subscribers as reported in the FCC’s *Local Telephone Competition Status as of June 30, 2010*. The FCC report does not separately report VoIP lines for years before 2008, but it is clear that the reduction in landlines would be even more pronounced without the growth in VoIP in recent years. Service-specific data was not available for the State of Illinois.

Exhibit 5-19

Telecommunications Subscribers by Type (in thousands)					
	As of June				
	2006	2007	2008	2009	2010
<u>Nationwide</u>					
End-User Switched Access Lines	*	*	*	133,093	122,275
VoIP Subscriptions	*	*	*	23,928	28,895
Total Switched Access and VoIP Lines	172,189	163,369	154,655	157,021	151,170
Mobile Telephony Subscribers	217,418	238,316	255,729	265,332	278,918
Total Nationwide	389,607	401,685	410,384	422,353	430,088
<u>State of Illinois</u>					
Total Switched Access and VoIP Lines	7,493	6,926	6,437	6,696	6,242
Mobile Telephony Subscribers	9,148	9,949	10,634	11,070	11,604
Total State of Illinois	16,641	16,875	17,071	17,766	17,846
*- Detail not available					

*Source: FCC Local Telephone Competition Status as of June 30, 2010, pages 2, 23, 24, and 28.*

The proportionate increase in wireless subscriptions in the State of Illinois is comparable to the nation as a whole: both saw increases of approximately 28% between June 2006 to June 2010 and an increase of approximately 5% between June 2009 and June 2010. The growth in wireless subscribers led to a small increase in total telecommunication subscribers for both the State and the nation. Wireless subscribers growth is expected to continue in the short-term before eventually leveling off as the wireless market becomes saturated.

The trends in telecommunication subscribers highlight the need to evaluate the State's 9-1-1 funding system. The monthly wireline surcharge ranges from \$0.50 to \$3.90 per subscriber and averages approximately \$1.39 based on the surcharges reported in Attachment B. Under WETSA, wireless carriers are required to collect the \$0.73 per month surcharge from wireless customers. Systems receive an average of 52%, of the revenue per subscriber from customers who migrated from landlines to mobile service (\$0.73 / \$1.39). This means that systems that rely on the disproportionately high wireline surcharges to fund their operations are seeing less annual revenue as the landline customer base erodes.

As noted above, the wireline surcharge was established under a separate statute and is administered by local municipalities. The absence of a unified recordkeeping system prevents the State from determining the current annual wireline surcharge collections or forecasting future wireline surcharge collections based on subscriber trends.

## 6. ILLINOIS 9-1-1 SYSTEM COST AND COST RECOVERY ANALYSIS

*Deliverable #5 - Conduct a sampling of urban, suburban and rural 9-1-1 systems to determine the cost of operations per capita in order to make a comparable cost analysis. Perform an analysis of the Wireless Carrier's ability to recover its 9-1-1 related costs from the wireless surcharge. The Wireless Emergency Telephone Safety Act allows wireless carriers to either seek reimbursement from the Wireless Carrier Reimbursement Fund up to 100% of the \$0.1475 per surcharge, per month, which they remit into the fund; or self recover as a separate item on customers' bills. Determine if this process allows all carriers the ability to recover their costs and whether it has an impact on the deployment of 9-1-1 network enhancements in Illinois. Determine if the Wireless Carrier cost recovery portion of the Act needs to be amended in order to ensure 9-1-1 network enhancements are completed in a timely manner without putting any companies at a competitive disadvantage. If it is determined that change is necessary, provide recommendations and reasons for amending the language.*

### 6.1 PROCEDURES AND OBSERVATIONS

In order to determine the cost of operations per capita, we surveyed 9-1-1 systems, interviewed system personnel, performed surveys, and reviewed publicly available data. We also used a combination of interviewing and surveying wireless carrier personnel and ICC staff to determine whether carriers have been able to recover their costs and what impact cost recovery has had on the deployment of 9-1-1 technological enhancements. Samples of the surveys sent to systems and the ICC are located in Attachments L and N, respectively.

As discussed in Section 5, site visits were conducted at three systems in order to gain a better understanding of system operations and reporting structure as well as gather additional information. We also discussed system information received and other issues with ICC staff as we considered necessary.

Surveys were sent to each of the 194 systems under the ICC's oversight and results were analyzed as described in Section 5. Because of the decentralized nature of the State's 9-1-1 systems and the availability of certain requested information, there are inherent limitations with the comparability of the survey responses.

### 6.2 SYSTEM COST ANALYSIS

Section 725 of the State's Administrative Code prescribes certain minimal operational and technical requirements for 9-1-1 systems. Operations and control are decentralized and each 9-1-1 system is responsible for managing and making all critical decisions for its system design, maintenance and daily operations. Because there are not clear cut and enforceable requirements for standardized financial and cost recording and reporting, there is a lack of uniformity in how the systems account for revenues and expenses. This is especially true when allocating costs for shared personnel between the PSAPs and other emergency services agencies such as police and fire department dispatch.

In addition, each system responded to the surveys based on their individual interpretation of the questions included. As a result, comparability of costs from system to system based on the survey responses is limited. However, the cost information obtained from the surveys does provide some insights into the system operating costs, including the difference in operating rural versus urban and suburban systems.

State E9-1-1 funds are distributed in the same manner as they are collected with the ICC bearing responsibility for distributing wireless surcharges from the statewide pools while the ETSB's bear the sole responsibility for authorizing 9-1-1 expenditures in each jurisdiction. The ICC does not have authority over the use of surcharge funds by any ETSB and the ICC generally is not provided with the budgeted or actual expenditures data of the ETSBs. The result is there is no single entity able to report on the finances of the statewide E9-1-1 system.

### 6.3 SYSTEM OPERATING EXPENSES, EXCLUDING EQUIPMENT PURCHASES

Exhibit 6-1 below reflects a summary of the average operating expenses per capita from 2006-2009. The surveys also requested 2010 expense information. However, some systems were unable to provide complete and accurate responses to certain questions, reportedly because 2010 data was still being compiled as of the response dates. Because of the lack of sufficient reliable data, cost information for 2010 has been excluded from the analysis.

Information from 66 of the 100 survey responses were considered for this analysis (only 66 survey responses appeared to contain complete cost information and were received by May 27, 2011). These responses are made up of 14 urban systems, 16 suburban systems, and 36 rural systems.

Reported equipment expenditures have been excluded from this summary to make the results more comparable. Equipment expenditures vary greatly from system to system and year to year. Details of equipment expenditures reported by the systems can be found in the summary of survey responses located in attachments O through R.

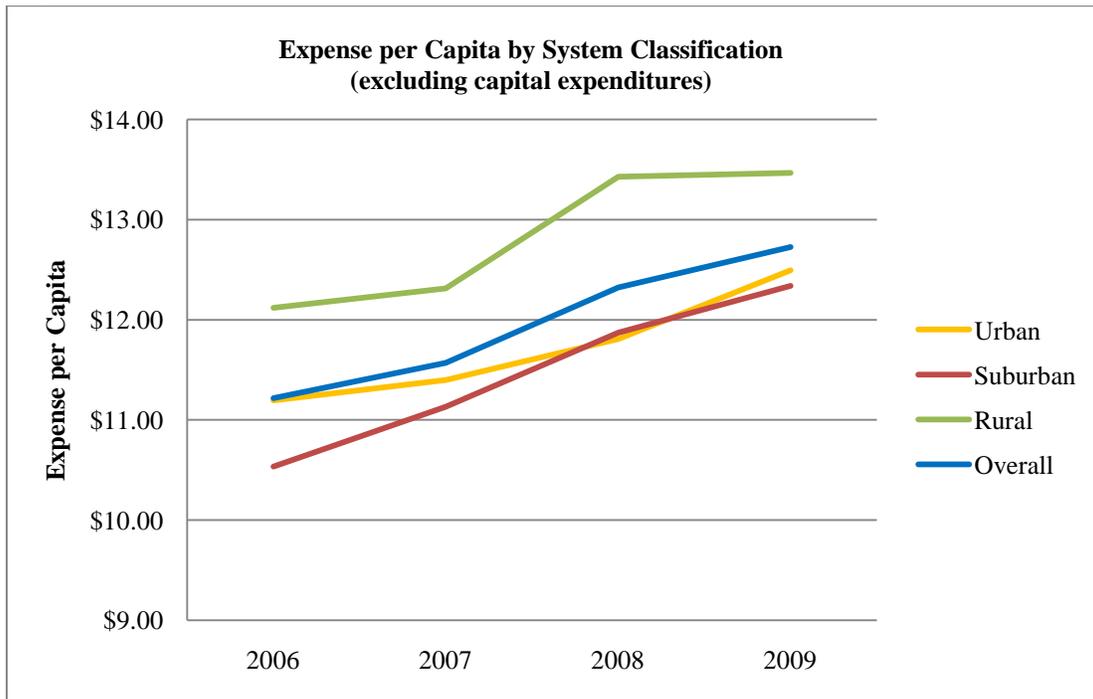
The breakdown of reported annual expenses by system classification, and in aggregate, is as follows:

Exhibit 6-1

<b>Annual Expense per Capita (excluding capital expenditures)</b>				
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Urban	\$11.20	\$11.40	\$11.81	\$12.49
Suburban	10.53	11.13	11.87	12.34
Rural	12.12	12.31	13.43	13.47
Overall	\$11.22	\$11.57	\$12.32	\$12.73

*Source: Survey responses from 66 Illinois 9-1-1 systems that provided complete and comparable annual information.*

Exhibit 6-2



*Source: Exhibit 6-1*

#### 6.4 SUFFICIENCY OF SURCHARGE REVENUES BASED ON TOTAL EXPENSES (INCLUDING EQUIPMENT PURCHASES)

Exhibit 6-3 below provides a comparison of wireless and wireline surcharge revenues to expenses from 2006-2009 for 51 systems based on survey responses (only responses that included five years of wireline surcharge, wireless surcharge and system expense information for 2006-2009 were included in this analysis). These responses are made up of 11 urban systems, 11 suburban systems, and 29 rural systems.

The surveys also requested 2010 expense information. However, accurate expense information for 2010 was not complete for certain of these 51 system survey responses, reportedly because 2010 data was still being compiled as of the response dates. Because of the lack of sufficient reliable data, cost information for 2010 has been excluded from the analysis.

Some system survey responses displayed issues with reconciling access line counts with surcharge revenues received. Often a jurisdiction's revenue department received access line reports along with surcharge revenue remittances and the 9-1-1 system did not receive information on access lines. Other than results from this survey, there are no accurate estimates of the total annual surcharges collected from wireline and VoIP subscribers because collections are administered by the local ET SBs and there is no requirement for the ET SBs to report financial information to the ICC. Because of its oversight responsibilities, the ICC does track wireless surcharge revenues for most of the state. Excluding the City of Chicago, statewide wireless surcharges generated an estimated \$69.7 million in 2010<sup>11</sup>.

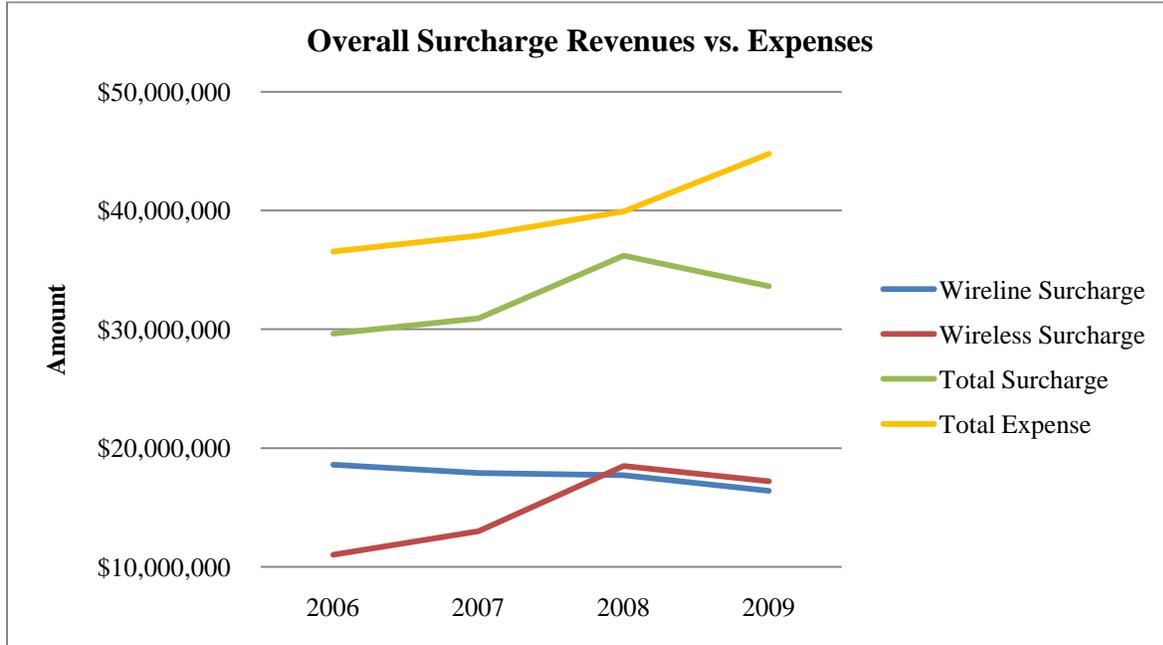
Exhibit 6-3

<b>Overall Surcharge Revenues vs. Expenses</b>				
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Wireline Surcharge	\$ 18,613,813	\$ 17,909,412	\$ 17,716,534	\$ 16,419,794
Wireless Surcharge	11,036,776	13,012,217	18,483,079	17,213,558
Total Surcharge	29,650,589	30,921,629	36,199,613	33,633,352
Total Expense	36,537,496	37,876,438	39,915,581	44,776,371
Annual Shortfall	\$ (6,886,907)	\$ (6,954,809)	\$ (3,715,968)	\$ (11,143,018)

*Source: Survey responses from 51 Illinois 9-1-1 systems that provided complete and comparable annual information.*

<sup>11</sup> Illinois Commerce Commission's response to the FCC's Initial Information Collection Mandated By the New and Emerging Technologies Improvement Act of 2008, May 19, 2011. See page 3.

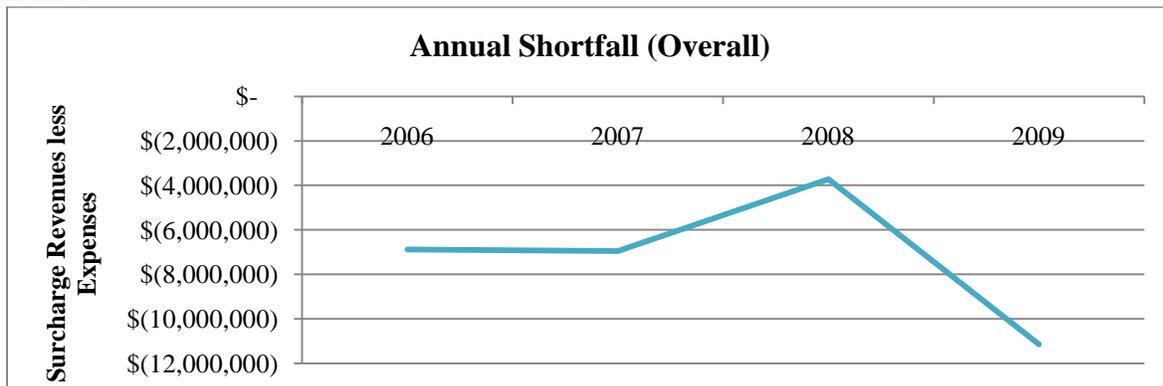
Exhibit 6-4



Source: Exhibit 6-3.

As reflected in Exhibit 6-4 above, there was a shortfall between revenues and expenses in each year and the shortfall was reduced in 2008 due to the additional wireless surcharge revenues disbursed by the ICC. The 9-1-1 survey responses indicated that the systems have used a combination of reserve funds, general municipal funds and other sources to cover these shortfalls. This condition ultimately could have a significant impact on the amount of funds available to upgrade these systems, including NG 9-1-1. The following chart summarizes the total deficit, by year, for the system responses included above.

Exhibit 6-5



Source: Survey responses from 51 Illinois 9-1-1 systems that provided complete and comparable annual information.

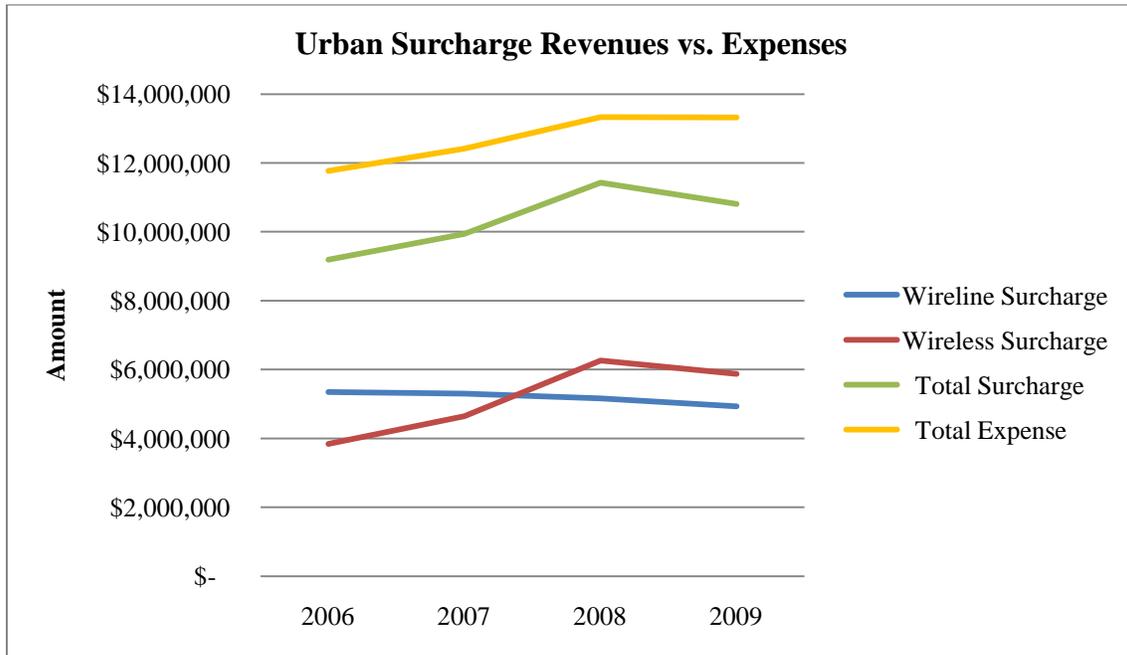
The comparison of surcharge revenues versus expenses by urban, suburban and rural respondents is shown in the following exhibits:

Exhibit 6-6

<b>Urban Surcharge Revenues vs. Expenses</b>				
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Wireline Surcharge	\$ 5,347,827	\$ 5,299,329	\$ 5,161,004	\$ 4,934,038
Wireless Surcharge	3,844,276	4,640,813	6,266,222	5,872,132
Total Surcharge	9,192,103	9,940,142	11,427,226	10,806,170
Total Expense	11,767,953	12,421,074	13,331,673	13,324,629
Annual Shortfall	\$ (2,575,850)	\$ (2,480,932)	\$ (1,904,447)	\$ (2,518,458)

*Source: Survey responses from 11 urban Illinois 9-1-1 systems that provided complete and comparable annual information.*

Exhibit 6-7



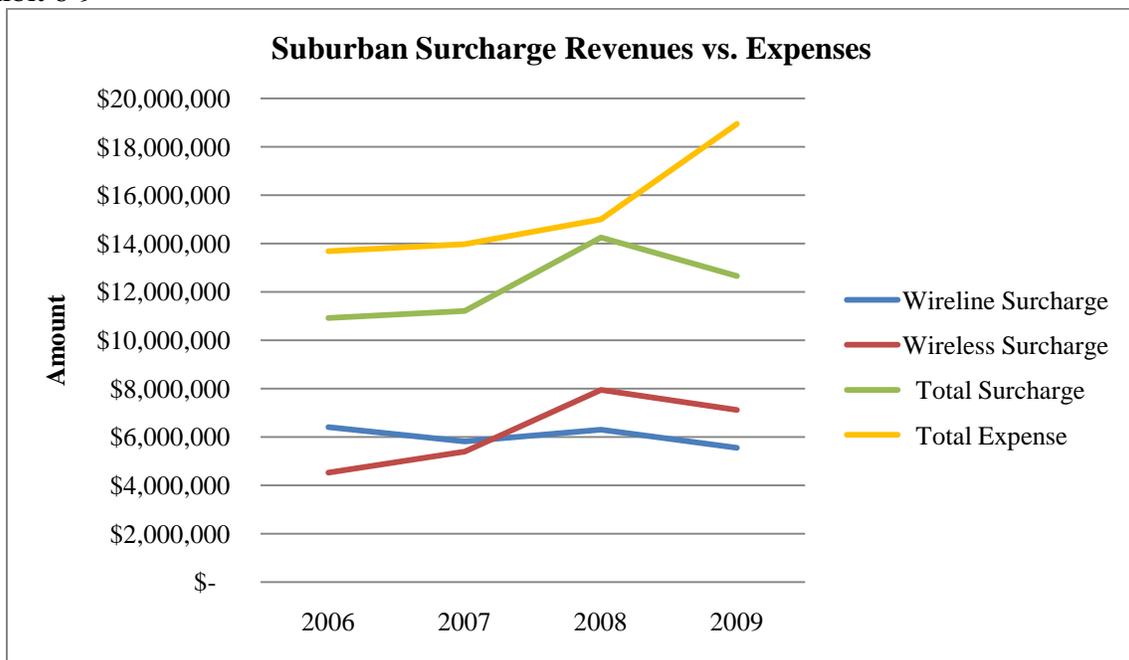
*Source: Exhibit 6-6.*

Exhibit 6-8

<b>Suburban Surcharge Revenues vs. Expenses</b>				
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Wireline Surcharge	\$ 6,403,292	\$ 5,811,583	\$ 6,299,865	\$ 5,543,830
Wireless Surcharge	4,517,799	5,392,976	7,943,291	7,115,347
Total Surcharge	10,921,090	11,204,558	14,243,157	12,659,177
Total Expense	13,677,820	13,968,189	14,998,670	18,946,421
Revenues less Expenses	\$ (2,756,729)	\$ (2,763,631)	\$ (755,513)	\$ (6,287,243)

*Source: Survey responses from 11 suburban Illinois 9-1-1 systems that provided complete and comparable annual information.*

Exhibit 6-9



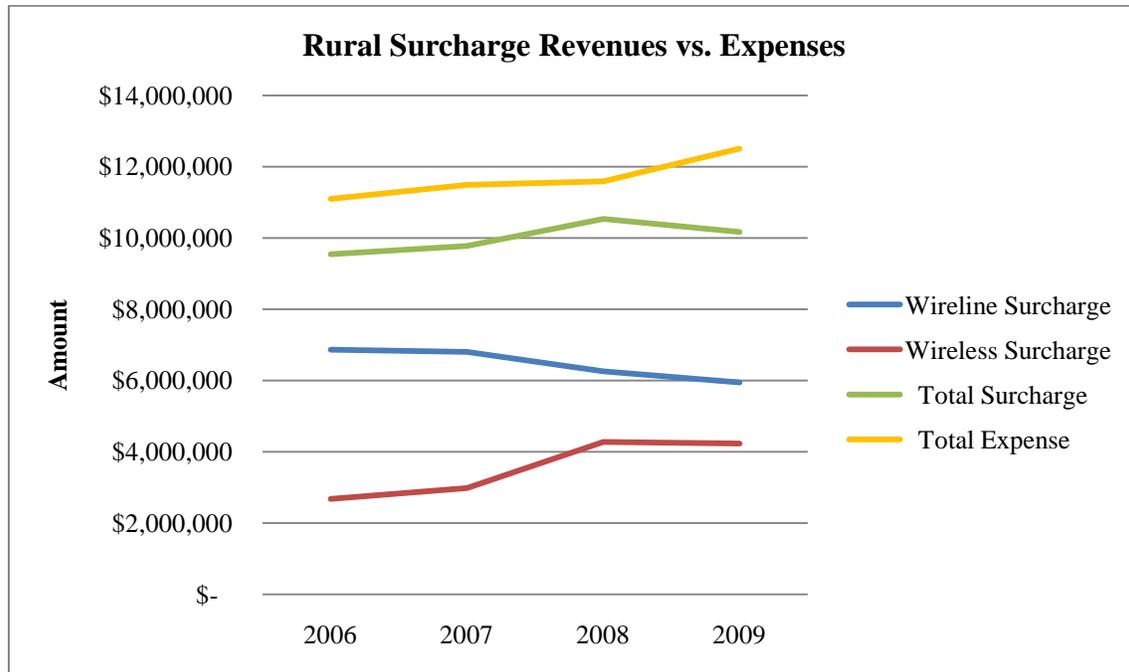
*Source: Exhibit 6-8*

Exhibit 6-10

<b>Rural Surcharge Revenues vs. Expenses</b>				
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Wireline Surcharge	\$ 6,862,694	\$ 6,798,500	\$ 6,255,665	\$ 5,941,926
Wireless Surcharge	2,674,701	2,978,429	4,273,565	4,226,079
Total Surcharge	9,537,395	9,776,929	10,529,230	10,168,005
Total Expense	11,091,722	11,487,175	11,585,238	12,505,321
Annual Shortfall	\$ (1,554,327)	\$ (1,710,246)	\$ (1,056,008)	\$ (2,337,317)

**Source:** Survey responses from 29 rural Illinois 9-1-1 systems that provided complete and comparable annual information.

Exhibit 6-11



**Source:** Exhibit 6-10

Approximately 50% of the system survey responses tabulated indicated that the current surcharge revenues are not sufficient to cover direct expenses. A number of the respondents noted that direct expenses are only covered because of additional revenue received from other sources, such as property taxes and interest income from reserve funds. Certain of these funding sources, such as reserve funds, are limited and not expected to be available for future periods.

Many of the systems that reported that the surcharge revenues are currently sufficient to cover operating expenses indicated a concern that they or would be operating in a deficit position in the near-term.

There appears to be at least some correlation of the sizes of the systems and the ability to recover costs from surcharges. Small, less populated systems appear less likely to receive adequate wireless surcharge revenues to cover all allowable 9-1-1 expenses, primarily because a large portion of operating expenses are fixed costs. Because many of the rural system populations are smaller than the more urban systems, the costs per capita are higher than more densely populated areas. The current funding system funds all systems at the same rate per capita which does not take the higher cost structure for certain rural systems into consideration.

Certain systems that reported surcharges as being sufficient for current expenses indicated concerns that funding is not adequate to replace aging equipment or implement new technology, including Next Generation 9-1-1 services. Other responses, particularly for rural systems, indicated that any available reserve funds are being used to make up shortfalls or there will have to be additional taxes levied within their jurisdiction to continue operations.

When asked whether expiration of the wireless surcharge of \$0.73 per month would have a negative impact on their organization, nearly all of the system respondents indicated that it would. The majority of explanations for these responses indicated that funding cuts to the wireless surcharge revenues could impact service, ability to upgrade equipment, and/or would result in a financial drain.

When asked for the estimated cost of upgrading to NG9-1-1, most systems responded that they do not currently have cost estimates for upgrading, but expect the investment to be substantial. See Section 8 for further details. The ultimate cost to individual systems and PSAPs will vary greatly depending upon whether current equipment can be upgraded to NG9-1-1 capabilities versus the need to purchase new equipment. This is complicated even further by the fact that the ultimate NG9-1-1 standards have not yet been finalized as well as the possible need for additional staffing and specialized knowledge. The cost of retraining staff to adapt to the NG9-1-1 environment can also be significant.

A complete summary of the survey responses is included in Attachments O through R.

By most estimates documented in other state and federal agency studies, the transition to a NG9-1-1 will require capital investment in excess of current funding amounts, especially if current and developing systems are to be operated in parallel for any amount of time. A reliable, predictable and direct funding source is needed. This report is primarily intended to assess the sufficiency of the wireless surcharge; however, it is impractical to assess the sufficiency of either component individually because many PSAPs depend on funding derived from both wireline and wireless surcharges.

## 6.5 WIRELESS CARRIER COSTS AND NETWORK ENHANCEMENTS

WETSA allows wireless carriers to either seek reimbursement from the Wireless Carrier Reimbursement Fund up to 100% of the \$0.1475 per surcharge, per month, which they remit into the fund, or self recover as a separate item on customers' bills. We considered whether this process allows all carriers the ability to recover their costs and whether it has an impact on the deployment of 9-1-1 network enhancements in Illinois. We also considered whether the Wireless Carrier cost recovery portion of the WETSA needs to be amended in order to ensure 9-1-1 network enhancements are completed in a timely manner without putting any companies at a competitive disadvantage.

We surveyed a sample of wireless carriers to provide insights from the carrier point of view. Because of the small number of wireless carriers operating within the State, responses to the survey were only received from five carriers, but did include local, regional, and national carriers.

All respondents indicated that they are in compliance with the Phase of 9-1-1 services offered by each PSAP they serve. All respondents use outside vendors for 9-1-1 services.

When asked whether expiration of the wireless surcharge of \$0.73 per month would have a negative impact on their organizations, most respondents indicated that it would. Explanations of these responses included:

- The loss of this surcharge would impact all citizens in Illinois because it would impact the ability of PSAPs to deploy and operate wireless 9-1-1 services.
- Elimination of the surcharge would eliminate carrier compensation for 9-1-1 related expenses for those carriers that seek reimbursement from the Wireless Carrier Reimbursement Fund.
- Elimination of the surcharge reimbursement would have to be passed on to customers through a rate increase.

Based on the surveys and discussions, wireless carriers have expressed various levels of concern and dissatisfaction with the current reimbursement process. The majority of the wireless carriers' responses indicated the reimbursement process has not allowed their companies to recover all 9-1-1 related costs. The ability to recover these costs from the Reimbursement Fund appears to correlate with the size of the carriers based on the responses. Larger carriers, particularly in more urban areas, have more subscribers on their networks and can spread out their fixed costs. In addition, they generally have more buying power with the 9-1-1 service providers and can obtain better pricing than smaller, rural carriers. As a result, it appears that the current reimbursement methodology places smaller wireless carriers at a competitive disadvantage.

Based on the surveys and discussions with ICC staff, the small and mid-size carriers seek reimbursement for 9-1-1 related expenses from the Wireless Carrier Reimbursement Fund based on \$0.1475 per subscriber, per month. Certain large national wireless carriers have chosen to self recover for 9-1-1 service costs as a separate item on customers' bills. As indicated in 50 ILCS 751/17(h), wireless carriers are allowed "to recover compliance costs" from customers to cover costs not reimbursed from the Fund.

One survey response indicated that the incremental cost associated with improving wireless 9-1-1 service is greater than the cost to wireline carriers. In addition, the systems are receiving a much larger portion of the wireless surcharge than the carriers that participate in the Wireless Carrier Reimbursement Fund based on \$0.1475 per subscriber, per month even though many systems are receiving funding from wireless and wireline carriers. The respondent indicated that a fair method of distributing the surcharge would be at least 50% to the wireless carriers to cover the costs of providing the mandated 9-1-1 service.

Certain wireless carrier respondents also expressed concerns with the administration of the funds, including the length of time between when wireless carrier reimbursement claims are made and actually processed for payment, as well as surcharges having been swept into the State's general fund. Respondents have indicated that there does not appear to be a consistent process for payments to the wireless carriers from the Wireless Carrier Reimbursement Fund. Some carriers have indicated there are outstanding claims that are several years old because the claim amounts are larger than their surcharge collection balance and reimbursements are only received after additional surcharge revenues are remitted. As a result, they have not submitted reimbursement requests for newer expenses incurred.

Also, it appears that a portion of certain wireless carriers' fund pools were included in amounts previously swept into the general fund prior to those carriers receiving their cumulative reimbursement based on the \$0.1475 per subscriber. Under current statutes, wireless carriers cannot be paid from surcharges remitted by other carriers, regardless of whether those carriers participate in the reimbursement process. As a result, while the ICC has been paying invoices as additional surcharges are collected, certain wireless carrier invoices cannot be paid because those carriers do not have sufficient amounts available in their fund pools due to prior fund sweeps.

Respondents also indicated that there is a lack of transparency about the creation of individual contributor "accounts" that limit the amount of funds available to a specific contributor yet allow funds unclaimed by other carriers to be swept into the State general fund and not be used for 9-1-1 expenses incurred by carriers even though the funds were collected for that specific purpose.

Based on the wireless carrier survey responses, it appears that the expense recovery process has not had a direct impact on the deployment of 9-1-1 network enhancements within the wireless networks. These carriers are required to be compliant with the phase of service being provided by the systems being served. However, if carriers were able to receive additional 9-1-1 funding, certain carriers might invest in additional equipment or cell sites that could provide better coverage in rural areas.

## 7. ILLINOIS 9-1-1 SYSTEM ANALYSIS OF CAPABILITIES TO ANSWER WIRELESS CALLS

*Deliverable #6 - Complete an analysis of the phases of wireless service being provided by Illinois 9-1-1 systems today. Determine why not all 9-1-1 systems have deployed Phase 2 wireless service. Determine if the funding from the wireless surcharge is adequate to cover the cost of wireless deployment, and if the surcharge money is fairly distributed among 9-1-1 systems.*

### **Procedures and Observations**

#### 7.1 OVERVIEW

Wireless 9-1-1 calls work differently from wireline, primarily because of the mobility of the service structure. Because there is not a fixed service location for wireless phones, it is impossible to create a location database similar to that used for wireline telephone customers.

Under the current system for wireline calls, when an individual is placing a 9-1-1 call from a residential location using a wireline phone to a PSAP that provides 9-1-1 services, the call delivery is automated and behind the scenes databases are used to provide the telephone number and an address to the PSAP. This information speeds up a dispatch in an emergency situation. Location information is placed in the databases by the caller's telephone service provider. When an individual is placing a 9-1-1 call from a business on an individual line, where one telephone number is associated with the phone connection, the PSAP receives the caller's telephone number and address from which the call originated.

The FCC regulates wireless services and has defined three phases of wireless 9-1-1 services and requirements for wireless carrier as follows:

- Phase 0 or "Basic" 9-1-1 rules require wireless service providers to transmit all 9-1-1 calls to a PSAP, regardless of whether the caller subscribes to the provider's service or not.
- Phase 1 Enhanced 9-1-1 rules require wireless service providers to provide the PSAP with the telephone number of the originator of a wireless 9-1-1 call and the location of the cell site or base station transmitting the call.
- Phase 2 Enhanced 9-1-1 rules require wireless service providers to provide more precise location information to PSAPs; specifically, the latitude and longitude of the caller. This information must be accurate to within 50 to 300 meters depending upon the type of location technology used, as explained in Section 8.

There are 102 counties and 194 9-1-1 Systems in the state of Illinois excluding Chicago. There are well over 300 PSAPs that are operated by these 9-1-1 systems. Not all jurisdictions have a PSAP to answer 9-1-1 calls from citizens. There are also jurisdictions with PSAPs that are limited to only answering wireline calls and not wireless calls. Those areas that do not have a PSAP have 9-1-1 calls answered by the Illinois State Police and those areas with a PSAP that only answers wireline calls have wireless calls answered by the Illinois State Police (ISP). These areas will be referred to as “Phase 0” or “Basic” jurisdictions in this report.

FCC rules allow PSAPs to implement and upgrade wireless 9-1-1 services on their own schedule. Wireless carriers have six months to implement Phase 1 or Phase 2 service after receiving a request from a PSAP. Section 728.200.e of the Illinois Administrative Code requires the State Police to answer all wireless 9-1-1 calls for areas that do not have a 9-1-1 system or areas that have a 9-1-1 system but have elected to not take wireless 9-1-1 calls.

## 7.2 BARRIERS TO PHASE 2 WIRELESS 9-1-1 SERVICE

The State has a total of 194 9-1-1 systems of which 183 answer wireless calls. Thirty-seven wireless systems are not Phase 2 compliant based on our surveys and discussions with ICC staff. Attachment E summarizes the current status of the non-Phase 2 compliant systems. The surveys sent to the systems and the ICC (Attachments L and N, respectively) asked why the systems have not complied.

It appears the majority of the remaining Basic systems and the jurisdictions without a PSAP to answer wireline 9-1-1 calls are all rural. Counties without 9-1-1 systems represent 7.4% of the total number of systems and substantially all are concentrated in the lower half of the state. According to the Census data for 2009, the population for Illinois was 12,910,409. The population of the counties without 9-1-1 systems is listed as 260,050 which is 2.0% of the entire state population. The Phase 1 systems have more than double the population of the Phase 0 systems with 626,855 which represents 4.9% of the entire state population.

According to the survey responses and discussion with ICC staff, the primary stated reason for systems not being Phase 2 compliant is cost, combined with the lack of ability to receive sufficient funding to recover these costs.

Implementing a brand new PSAP or upgrading an existing one to Phase II can be an overwhelming financial burden for jurisdictions that do not have a wireline surcharge in place, are sparsely populated, or may not have financial reserves in their existing governmental budget. This is especially true if 9-1-1 calls are already being answered and processed by a neighboring PSAP, system, or the Illinois State Police.

### 7.3 PHASE II UPGRADE VARIABLES

Certain older PSAP equipment is designed to only display the last eight digits of an incoming call. In a wireline environment, the first digit of eight would be the last digit of the area code and the PSAP would know from where the call had come. Because wireless 9-1-1 calls into a PSAP can come from multiple area codes there is a problem knowing even the full telephone number of the caller let alone receiving location information on Basic equipment.

The survey responses indicate that the cost to convert or migrate to Phase 2 can vary significantly. The survey responses for Phase 2 conversion costs ranged from a low of \$10 thousand for a rural system to \$2 million for an urban system conversion.

The costs vary for many reasons, including, but not limited to:

- Possible need to replace old phone systems to be capable of receiving full ten digit telephone numbers.
- Need for mapping equipment or updated mapping equipment and the capabilities of mapping systems selected.
- Type of dispatch system selected.
- Size of system/number of positions. More positions are needed in the larger serving areas. Even though the cost per position may decrease as the number of positions increases, the absolute cost increases as well.
- Age and capabilities of existing equipment. There may have been cases where the vendor of the phone equipment used by a PSAP was no longer in business and a phone system could no longer be upgraded and had to be replaced.

A PSAP can be Phase 2 without using a mapping system if they receive X and Y coordinates from the wireless call and then cross reference a map to get a location of the caller. This is technically feasible although it may not be efficient from a service standpoint in some areas. If a system desires to use a mapping system, it would also need to provide a map to the equipment provider who would place it in the “engine”. If the map is not sufficient (such as not showing fire hydrants or neighborhoods), it would have to be outsourced to be redrawn at an added expense. Mapping systems can be simple flat maps or they can be 3-D. 3-D maps are developed by compiling information obtained by aircraft flying over an area in 4 different directions. Some mapping systems also have touch screen capabilities that increase the cost.

This is also the case for computer aided dispatch systems used by some systems, which can be basic or advanced. The advanced systems store information that can be used and searched by employees. Another cost variable for PSAPs to convert to Phase 2 is the radio systems used. While radio system replacements are not necessarily required to provide Phase 2, certain PSAPs may have chosen to replace their radio systems at the same time they converted to Phase 2.

All of these factors can have a significant impact on the cost of upgrading systems to Phase 2.

There is another factor that must be considered when evaluating costs of obtaining statewide Phase 2 compliance and it is possibly the most significant variable of all – the 14 jurisdictions whose 9-1-1 calls are currently answered by the Illinois State Police. Certain of these jurisdictions currently have little to no 9-1-1 infrastructure in place. Not only would these jurisdictions have to purchase equipment and staff the PSAPs, they would have to acquire a physical location and obtain a trunking network. It is also assumed that any new PSAPs would purchase equipment that is NG9-1-1 compatible.

Because of these variables, there is not a “one size fits all” average cost of bringing 9-1-1 systems up to Phase 2 compliance. As a result of the number of variables identified, it is not possible to estimate the cost of bringing these systems to Phase 2 compliance. However, based on the survey responses, discussions with ICC staff and discussions with equipment vendors, the initial costs would be a minimum of several million dollars under the current decentralized structure. In addition, there would be a significant increase in operating costs for the 37 jurisdictions, including the costs of running an additional 14 systems. These costs would result in additional funding requirements.

#### 7.4 SURVEY DATA - PHASE 2 UPGRADES

We received survey responses from 59 jurisdictions who indicated they have already upgraded to Phase II 9-1-1 service from either no 9-1-1 system or from Phase I between 1998 and April 2011. Of these responses, 22 jurisdictions were rural, 15 were suburban, and 22 were urban.

Because this data was from survey responses and not from a financial review of invoices and other system records, it has not been independently verified. As displayed in the chart below, the surveys indicate that it is most expensive on a per capita basis to upgrade in rural areas and least expensive in urban areas. Suburban area system responses indicate that their costs are only slightly more expensive per capita than urban areas and still less than half the cost of rural areas. On a cost per jurisdiction basis, the surveys indicate that it is 20% more expensive to upgrade a rural PSAP than an urban PSAP and it is 47% more expensive to upgrade a suburban system than an urban system.

It should be noted that Exhibit 7-1 is presented for general informational purposes only. While this chart shows average costs based on survey responses, the individual responses varied significantly from system to system. Reported costs to achieve Phase 2 compliance ranged from \$10,000 to approximately \$2 million. In addition to the cost variables described in the prior section, the cost of Phase 2 equipment has decreased as the technology costs have come down. The timing of equipment purchases for each system also has a direct impact on the cost of the upgrades.

Exhibit 7-1

Summary of Phase 2 Upgrade Costs						
Classification	Number of Jurisdictions	Population	Cost	Cost / Capita	Cost / Jurisdiction	
Rural	22	1,109,437	\$ 7,115,810	\$ 6.41	\$ 323,446	
Suburban	15	1,955,676	5,914,343	3.02	394,290	
Urban	22	2,153,010	5,912,307	2.75	268,741	
Totals	59	5,218,123	\$ 18,942,460	\$ 3.63	\$ 321,059	

**Source:** Survey responses from the 59 jurisdictions who indicated they have already upgraded to Phase II 9-1-1

#### 7.5 ADEQUACY OF WIRELESS SURCHARGE AND FAIRNESS OF DISTRIBUTION

Based on the information available, including the issues discussed in Section 5, it does not appear that the current wireless surcharge would be sufficient to fund the transition of the 37 jurisdictions to Phase 2 compliance.

The fairness of the distribution among 9-1-1 systems is addressed in Section 6.

## 8. ILLINOIS 9-1-1 SYSTEM TECHNOLOGICAL CHALLENGES

*Deliverable #7 - Provide a summary of technological challenges 9-1-1 systems will be facing in the future. Provide estimated capital and operational expenditures that these types of upgrades might cost per system and whether the current wireless surcharge will be sufficient to fund those future costs.*

### 8.1 BACKGROUND

The general public users of the 9-1-1 system generally assume or expect that the newer technologies that are being used to place their call are matched by the same level of technology at the State's 9-1-1 call centers, also known as Public Safety Answering Points or PSAPs. Unfortunately, this does not always appear to be the case.

Current 9-1-1 systems are built on an infrastructure of analog technology that will not support many of the features and applications that callers may expect to be part of an emergency response system. Modernizing 9-1-1 systems to provide the quality of service that approaches the expectations of callers will require investments in new technologies.

Consistent with most of the United States, the backbone of Illinois' 9-1-1 system is an analog communications network approaching 40-years in age that has not kept pace with technological advances. This system provides reliable emergency services to landline customers throughout the State; however, many systems in the State cannot accurately process calls from wireless users or receive text or video.

When 9-1-1 is dialed from a landline, the call is transmitted directly to a PSAP along with information on the caller's location and the name and number associated with the connection. Mobile phones create problems for 9-1-1 system providers because calls must be routed through cellular towers where the wireless carrier must determine the closest PSAP before routing the call through a landline network. This method of determining a wireless caller's location is less accurate and more time consuming compared to a terrestrial caller and requires additional technology that some PSAPs do not have.

### 8.2 CURRENT LANDLINE (OR WIRELINE) TECHNOLOGY

In America today, the telephone number and term "9-1-1" is known as the number to call in the case of an emergency when law enforcement, fire, or emergency medical resources are needed. Prior to the implementation of the 9-1-1 system, an individual would call a seven or ten digit number or go through the operator to contact a nearby law enforcement agency, fire department, or ambulance service. The caller would be expected to provide their location and possibly telephone number. Sometimes the caller may not know the number or the address. In many cases, precious time was lost looking up phone numbers and trying to communicate the location of the emergency to the proper authority.

Under the current system for wireline calls, when an individual is placing a 9-1-1 call from a residential location using a wireline phone to a PSAP that provides E9-1-1 services, the call delivery is automated and behind the scenes databases are used to provide the telephone number and an address to the PSAP. In an emergency situation this information speeds up a dispatch. Location information is placed in the databases by the telephone service provider. When an individual is placing a 9-1-1 call from a business on an individual line, where one telephone number is associated with the phone connection, then the PSAP would receive the caller's telephone number and address from which the call originated.

Some larger businesses may use a private branch exchange (PBX) telephone system which is essentially a mini-telephone switch located on their premises that will allow interoffice dialing and access to place and receive calls outside of the business. Because much of the calling may be internal to the business, there are a limited number of PBX trunks supplied from the telephone company for external dialing. In many areas of the country when an individual is placing a call from a business over a PBX trunk then only the main telephone number and address associated with the PBX location is delivered to the PSAP. In Illinois, Section (726.205.a).1) requires more location exact information to be delivered to a PSAP for more accurate dispatching. For example, it is required that a different telephone number be delivered on 9-1-1 calls for very large buildings based on blocks of 40,000 feet or less of workspace and for each different entity that may use the PBX.

### 8.3 CURRENT WIRELESS TECHNOLOGY

Because of the mobility of the service, wireless 9-1-1 calls work differently from wireline. There are no databases to place location information because there is no fixed location for the wireless phone. The FCC regulates wireless services and has defined three phases of wireless 9-1-1 services which are discussed in Section 7.1.

Because wireless 9-1-1 requires both the PSAP and the wireless service provider to have specialized location tracking equipment for either Phase I or Phase II to work, FCC rules state that PSAPs desiring to go from Basic to Phase I and then Phase II must request carriers to perform equipment upgrades. Today, most wireless carriers are Phase II capable. The accuracy of the caller tracking ability depends on the type of technology deployed by the carrier. Some carriers use a handset based technology (based on GPS) and some use a network based technology such as triangulation. The handset based technology is generally able to provide more accurate locations to PSAPs than the network based technology. Either way, PSAPs converting to Phase I or Phase II have had to either upgrade the existing equipment or in some cases perform a total replacement of significant portions of their networks to allow accurate mapping of caller locations.

The Federal Communications Commission adopted an Order on July 12, 2011 to require all wireless carriers to phase out the less accurate network based technology after a period of time and only utilize the more accurate handset based technology. The FCC rules are expected to require the phase out to end in 2019. The FCC Order and rules will not become effective until successful Office of Management & Budget review and publication in the Federal Register. In addition to this rule for existing carriers, carriers that implement new wireless networks will also be required to meet the handset based technology standards.

#### 8.4 CURRENT VOICE OVER INTERNET PROTOCOL (VOIP) TECHNOLOGY

While VoIP can be considered a wireline service, 9-1-1 works differently for these calls than traditional landline calls. VoIP customers are expected to provide a registration address to their carrier, similar to what happens with wireline customers. Many VoIP service customers have a fixed location service and the customer's address can be kept in a database that is accessed when 9-1-1 is called. Other VoIP customers have a service that will allow the service to be used in a transient manner at locations wherever they can access a broadband network. When a customer moves the location of their VoIP service to a different location, they are expected to provide an updated registration address in order for any call placed to 9-1-1 to be routed to the closest PSAP or else the last registered address could dictate which PSAP receives the call.

The Federal Communications Commission adopted a Notice of Proposed Rulemaking on July 12, 2011 to seek comments on two main issues that will impact VoIP customers. The FCC will seek comments on whether 9-1-1 rules should apply to VoIP customers with only outbound that are not able to receive incoming calls. In addition, the FCC will seek comment on ways to automate registering the location of VoIP customers to replace the current process that customers follow to manually register a location.

#### 8.5 CURRENT STATUS ILLINOIS 9-1-1 TECHNOLOGY

The 194 Illinois 9-1-1 systems are independently managed, which allows for inherent differences in technology and operating environments. Excluding technology, the systems do have similarities that include having a common mission, being locally based and run, and having working relationships with those that respond to the location of emergencies. Differences in the systems may include different operating procedures, different equipment, different radio systems, the number of PSAPs supported, and staffing levels.

When technology is considered there may be more differences than similarities. In Illinois, 81% of the 194 9-1-1 systems handle wireline calls and are Phase II for wireless calls. There are some jurisdictions that are not served by their own 9-1-1 PSAP or system. There are jurisdictions that handle wireline calls and that do not offer 9-1-1 services to answer wireless calls. There are jurisdictions that handle wireline calls and are Phase I for wireless calls. The Illinois State Police (ISP) is required to answer and route wireless calls for areas that do not have a 9-1-1 system in place or areas that have a 9-1-1 system but have elected not to take wireless 9-1-1 calls.

According to a survey response received from the ISP on June 29, 2010, the ISP answers calls for the 17 jurisdictions listed below in Exhibit 8-1. FCC rules state that a PSAP or system will not require wireless carriers to upgrade to Phase II until a PSAP "is capable of receiving and utilizing the data elements associated with the service and a mechanism for recovering the Public Safety Answering Point's costs of the enhanced 9-1-1 service is in place."<sup>12</sup>

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<sup>12</sup> See 47 C.F.R. § 20.18(j).

Exhibit 8-1

Jurisdictions Served by the Illinois State Police

Counties/Municipality Served	2010 Population
Alexander County	7,849
Pope County	3,752
Hardin County	4,320
Moultrie County	14,392
Shelby County	21,809
Edwards County	6,721
Hamilton County	8,457
Wayne County	16,760
Greene County	13,886
Calhoun County	5,089
Fayette County	22,140
LaSalle County *	113,924
City of Brookfield	18,978
City of Dolton	18,978
City of Forest View	698
City of Justice	12,926
City of Melrose Park	22,217
Totals	312,896

\* The ISP does not receive 9-1-1- calls for cities of LaSalle, Peru, Seneca, Marseilles, and Oglesby.

8.6 NEXT GENERATION TECHNOLOGY

As an example of how technology used by the general population has surpassed the technology used by PSAPs, many smartphones have GPS and the ability to track real time locations, while Phase II E9-1-1 can only determine an approximate location of a wireless caller within 0 and 300 meters. Even though there are developing standards for Next Generation, it is widely accepted that NG9-1-1 will operate on an IP based network compared to the current circuit switched network generally in place now.

Because the NG9-1-1 system would be connected by an IP broadband network, there would be more capacity for the flow of voice messages in addition to text messages, pictures, and video. This network would allow PSAPs and systems to be more interoperable which offers redundancy and information sharing. This is analogous to offices and buildings that connected to a shared computer network.

NG9-1-1 could allow the possibility of more accurate determination of the location of the “caller” and could then be able to perform smart routing of calls and information to the nearest or the most appropriate PSAP.

The FCC is currently examining the topic of Next Generation having released a Notice of Inquiry (NOI) last year.<sup>13</sup> Comments were due to be filed by February 28, 2011 with reply comments due to be filed by March 14, 2011. Since then, multiple groups have made ex parte presentations to the FCC seeking to advocate their own positions. A review of the comments, reply comments, and ex parte filings demonstrate that there are disparate points of view on NG9-1-1. It appears that many of these views may be based on supporting and promoting organizational and financial goals.

The next step for the FCC should be to issue proposed rules and then seek comments and reply comments before an order with final rules is issued. It could be months or years for this to happen. Until the FCC issues rules, there will continue to be many significant unknowns about standards, the ability to have competitive 9-1-1 providers, the application of media types, and concerns about liability for all vested parties.

#### 8.7 FUTURE TECHNOLOGY – OPERATIONAL CHALLENGES

In addition to what parties noted in comments filed with the FCC in response to its NOI, several of the wireless carriers pointed out in survey responses that there currently are no national or state standards for NG9-1-1. Once these national issues are addressed and standards are adopted, there will still be multiple state operational issues to address. Conversion to NG9-1-1 could likely be a lengthy and cumbersome process.

Below is a partial list of potential operational challenges to be faced by Illinois:

- Inherent distrust in change
- Lack of uniform state standards and rules
- Competing interests
- Funding challenges
- Lack of oversight authority over the City of Chicago
- Education of 9-1-1 system and other emergency response employees
- Education of the public
- Additional staffing needed to process receipt of text messages, pictures, and videos

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<sup>13</sup> Framework for Next Generation 9-1-1 Deployment, PS Docket No. 10-255, Notice of Inquiry. Released December 21, 2010.

- Potential traumatic effects experienced by PSAP staff after viewing pictures and videos of emergency situations
- Additional storage and retention issues due to receipt of text messages, pictures, and videos
- Lack of ability to verify location of sender and accuracy of text messages, pictures, and videos
- Implementation will require coordination of multiple layers within multiple organizations (a team approach)

## 8.8 FUTURE TECHNOLOGY – FUNDING CHALLENGES

There are a number of funding challenges that will result from technological changes. These challenges and funding issues will impact the future of the State’s 9-1-1 system.

Below is a list of potential funding challenges to be faced by Illinois:

- Scheduled sunset of the wireless surcharge (loss of funding)
- Steady decline of wireline access lines and surcharge revenues (loss of funding)
- Increasing capital costs due to migration to new technologies
- Increasing operational costs due to equipment upgrades
- Increasing operational costs due to additional staffing to process text messages, pictures, and videos
- Increasing operational costs to maintain existing 9-1-1 systems during conversion to NG9-1-1
- IP broadband network may be more expensive than current analog network both in non recurring and recurring costs

## 8.9 ILLINOIS 9-1-1 SYSTEM NG 9-1-1 COST ESTIMATES

Part of the 9-1-1 system survey was to ask a series of questions related to NG9-1-1 including impacts on operations and costs. The survey results were examined for information about NG9-1-1 system cost estimates already obtained. Twenty-six systems provided some information about cost estimates or quotes. These estimates were summarized and divided into rural, suburban, and urban categories to be analyzed for trends.

Exhibit 8-2

Estimated Capital Costs for NG9-1-1 Equipment Deployment  
(assumes no change in number of 9-1-1 systems)

Classification	Survey Responses Received	Average NG9-1-1 Cost Estimates (nonrecurring only)	Extrapolated to Rest of State	
			Total Systems	Total Cost Estimates
Rural	16	\$ 433,563	70	\$ 30,349,375
Suburban	5	1,565,000	43	67,295,000
Urban	5	775,275	81	62,797,275
	26		194	\$ 160,441,650

It is important to note that there are still 37 jurisdictions that are not Phase 2 and some of these jurisdictions may not even have a PSAP operation in place. As listed in Exhibit 8-2, the total cost estimate to deploy NG9-1-1 equipment in Illinois is approximately \$160.4 million. This estimate is based solely on an extrapolation of the 26 system survey responses received and the underlying cost factors have not been verified. This amount does not take into account additional operating expenses which might be incurred. This investment estimate is approximately one and a half times the combined wireline and wireless surcharge revenues of \$107,536,548 for 2009 as listed in Exhibit 4-2.

There was a question in the 9-1-1 system survey that asked: 4) “What impact would this [Next Generation] have on staffing and other operational expenses?” Approximately 65% of the systems did not respond to the survey question or said they were unable to make a determination at this time. Of those systems that were able to make a determination, approximately 85% stated that NG9-1-1 would result in increased annual operational expenses and staffing requirements, 15% stated there would be no significant impact, and 1% stated expenses would decrease. The main driver cited for increased expenses is extra equipment and personnel required to help process text messages, pictures, and videos coming into the system from people in addition to incoming voice calls.

8.10 ILLINOIS 9-1-1 SYSTEM - SUFFICIENCY OF WIRELESS SURCHARGE REVENUES TO FUND NG9-1-1

According to the 9-1-1 system survey responses, approximately half of respondents do not believe current surcharge revenues are sufficient to cover current direct expenses. In addition, many systems reported using reserves or other funding sources to cover expenses. Most 9-1-1 systems in Illinois collect both wireline and wireless surcharge revenues. As discussed in Section 5, wireline access lines are decreasing and that causes a decrease in wireline surcharge revenues collected by 9-1-1 systems. Even though wireless connections are increasing and 9-1-1 systems are receiving more per year in wireless surcharge revenues, systems only receive approximately 80% of the surcharge collected as the rest covers ICC administrative expenses and reimburses some wireless carriers for 9-1-1 costs.

Since both capital and operational expenses are believed to be higher than current expense levels and half of the 9-1-1 systems are not covering expenses with surcharge revenues, the current wireless surcharge will not be sufficient to fund future costs.

The Federal Communications Commission's Communications Security, Reliability and Interoperability Council (CSRIC) Working Group 4B spent nearly a year researching, analyzing and evaluating a wide variety of models, best practices, standards and examples to address the technological, operational, funding and access issues that must be addressed as part of a successful transition to NG9-1-1 across the Nation. Subsequent to the commencement of this study, the CSRIC issued its *Transition to Next Generation 9-1-1 Final Report*. A summary of the working CSRIC's recommendations can be found at Attachment I.

## 9. ILLINOIS 9-1-1 ISSUES, OBSERVATIONS AND RECOMMENDATIONS FROM OUR STUDY

*Deliverable # 8- Prepare recommendations for efficiencies, accountability of funds, and other public policy or legislative considerations including, but not limited to: restructuring of 9-1-1 in the state, consolidation of 9-1-1 answering points, and alternative revenue sources or funding mechanisms.*

*Deliverable #9 – Provide a recommendation as to whether the wireless surcharge is a necessary revenue source to pay for future technological upgrades or should it be repealed on April 1, 2013 pursuant to 50 ILCS 751/70.*

During the study of the current 9-1-1 structure within the state of Illinois, we observed a number of issues and opportunities for improvement. These observations were gathered throughout our study which included our discussions, surveys, and related research.

Because there are multiple and possibly conflicting interests involved in providing 9-1-1 services in the State of Illinois, there may be resistance to implementing some recommendations. Other than the General Assembly, there is currently no centralized oversight or authority over the current 9-1-1 structure in Illinois.

There have been biases and opinions built up over time for a variety of reasons. Multiple silos of support or opinions have developed over time resulting in belief perceptions from each silo that the other may only be acting in self serving interests and not necessarily doing what's best for the whole system and the citizens of Illinois. There appear to be beliefs that no other organization can do the job as well as it is being performed by current stakeholders. Below are several categories of observations and recommendations that we developed based on our study. Also, many of the recommendations should be evaluated both on a standalone basis and combined with other recommendations.

As stated above, there are multiple and possibly conflicting interests involved in providing 9-1-1 services in the State. Add to this the fact that since initial legislation was passed in 1975 and there has been enormous change since that time. This change has been seen in a consumer shift from wireline to wireless phones, in a buildup of 9-1-1 systems and PSAPs in the State, in services offered to the public, in technology used by systems and PSAPs, and in public expectations. Because there has never been comprehensive 9-1-1 reform at the State level, there are many opportunities for improvement.

### 9.1 LEGISLATIVE ISSUES AND OBSERVATIONS

There is existing ambiguity in the current statutes that could potentially be cleared up through future legislation. It is evident that the ambiguity has created confusion. As an example, as a result of requests from 9-1-1 systems, the State Attorney General has issued 33 separate opinions aimed at clarifying and interpreting statutes for 9-1-1 systems. In addition, current statutes were written for specific wireline and wireless technologies. ETSA became effective in 1975 and

WETSA became effective in 1999. There has been tremendous technological, regulatory, and marketplace change since. The statutes should be updated in a technology neutral manner.

The statutes should also be amended to treat all areas of the state equally, including the City of Chicago. This should allow for consistency across the State as well as contribute to operating and financial efficiencies.

#### 9.1.1 COMPLIANCE REPORTING

Currently, most 9-1-1 related reporting to the ICC is manual and delivered through the U.S. mail. This results in inherent inefficiencies for both the ICC and the wireless carriers and 9-1-1 systems. The ICC should consider increasing the acceptance of reports in an electronic format to streamline data collection and reporting as well as possibly improving the accuracy of the information by reducing the risk of data input errors.

The current legislation requires all wireless carriers to collect and remit 9-1-1 surcharges, regardless of size. The State should consider adding a de minimis exception for very small wireless carriers, such as 100 subscribers or less. Such an exception would eliminate the cost (for both the carriers and the State) of tracking and processing surcharge payments and information for carriers that may exceed the actual surcharges collected and remitted.

There is no uniform system of accounting for 9-1-1 surcharge receipts and disbursements. Similarly, there are no clear and detailed definitions of what constitutes an allowable expenditure of 9-1-1 surcharges. Both of these issues lead to a lack of comparability among the 9-1-1 systems and causes uncertainty regarding allowable expenditures. We recommend that the legislature or an appointed agency such as the ICC, or State 9-1-1 Board described below, develop financial standards that standardize reporting of 9-1-1 related revenues, expenses, and other activities to allow for comparable reporting and to assist those charged with governance with making significant decisions that affect 9-1-1 services within the State of Illinois.

Currently, 50 ICLS 750/14 requires copies of certified agreements between systems and public safety agencies to be filed annually with the Attorney General and the ICC, regardless of whether any changes have occurred since the last report was filed. Systems should only be required to file copies of initial agreements and amendments. Otherwise, they should be allowed to self certify when no changes have occurred.

#### 9.1.2 FUND SWEEPS AND TRANSFERS

Currently, amounts collected from 9-1-1 wireless surcharges are permitted to be transferred or borrowed for use in the State's General Revenue Fund. There are no legislative barriers to prevent these funds from being diverted away from the intended purpose. In addition, until legislation became effective in January 2011 to change it, Legislature sweeps to the general fund and transfers to 9-1-1 systems totaled \$63.7 million from the 9-1-1 wireless surcharge pool from 2003 to 2011 (primarily from pools contributed by carriers that have chosen to self-recover their cost of providing 9-1-1 services as opposed to seeking \$0.1475 per subscriber reimbursement from the State). Of this amount, approximately \$26.5 million was transferred to 9-1-1 systems

and approximately \$6.7 million was swept with the requirement to be repaid within 18 months of the transfers. The remainder had no repayment requirements. As a result of these fund sweeps, the State has diverted approximately \$37.2 million of wireless surcharges that were collected for the purpose of funding 9-1-1 services within the State and used them for other purposes. This practice has apparently contributed to a certain level of frustration and distrust among certain 9-1-1 systems and wireless carriers that believe these funds should have been protected and only used for funding 9-1-1 services. We recommend enacting further regulations that prohibit 9-1-1 surcharges from being used for anything other than intended 9-1-1 expenditures, or including an assessed penalty or interest amount to be paid on diverted funds and requiring short repayment windows. The State could then elect to use those funds to increase reimbursements to the 9-1-1 systems and/or wireless carriers and/or establish a reserve to help fund future initiatives, such as the conversion to NG9-1-1.

### 9.1.3 ESTABLISH A STATE 9-1-1 BOARD

The current governance structure does not include an agency or organization with responsibility to oversee and coordinate all 9-1-1 related issues across the entire state. While the ICC collects wireless surcharges and distributes them from State pools, wireline surcharges are typically established by municipal or county referenda and funds are remitted directly to the ETSB's. State statutes include restrictions on the use of 9-1-1 surcharges, but each ETSB bears the sole responsibility for authorizing 9-1-1 expenditures within its jurisdiction. Even though the ICC has the power to establish certain technical standards that ETSB's and telecommunications carriers must adopt and adhere to, there is limited oversight authority after operations are commenced. Each system is responsible for managing and making all critical decisions for its system design, maintenance, daily operations, and equipment upgrades.

The ICC has been given limited responsibilities and oversight authority over 9-1-1 in the State. For example, wireless 9-1-1 surcharge revenues are being received and distributed from State pools and the majority of the State currently has Phase II wireless 9-1-1 service. However, there are certain inherent limitations with the current decentralized structure. For example, there is currently no central clearinghouse for information, such as wireline surcharge collections, other sources of 9-1-1 funding, and system expenditures. Also, as described in Section 6, there are also no consistent financial reporting standards or defined costs of providing 9-1-1 services. As a result, during this study it was very difficult to obtain meaningful information about system revenues and costs in a consistent and comparative format. It is also difficult for the State to effectively oversee and monitor overall 9-1-1 activities within the State, as well as plan for the future of 9-1-1 services.

As discussed in the NG9-1-1 recommendations, a 9-1-1 Board or similar agency could be crucial to planning and implementing next generation technologies effectively and efficiently.

We recommend that the Legislature establish a State 9-1-1 Board, possibly under the ICC. The 9-1-1 Board's responsibilities could include the following:

- Implementing and maintaining a clearly defined reporting system for both surcharge collections and expenditures annually (both wireless and wireline surcharges).
- Coordinating and monitoring technological and financial requirements for the development of a statewide 9-1-1 system.
- Monitoring compliance among 9-1-1 system providers.
- Auditing the 9-1-1 funding mechanism.
- Measuring the ability of the wireless carriers and 9-1-1 systems to recover costs.
- Planning and budgeting for future needs and initiatives of the 9-1-1 systems within the State, including the implementation of NG9-1-1.

The General Assembly should determine the representational make-up of the Board, define the scope and power of the Board's oversight responsibility and authority for technological development and standardization as well as its ability to monitor and control financial resources. It is important to keep in mind that providing responsibility without authority is often not productive.

## 9.2 PUBLIC AWARENESS

When the ICC staff responded to this question in a survey, “[h]ow do public assumptions about the Illinois E911 system’s capabilities compare to its actual limitations?” they indicated there are public perception issues. “People tend to believe that the enhanced level of 9-1-1 is available throughout the State and that 9-1-1 will know exactly where a caller is located at all times. Additionally, there may be some misconceptions from the younger generations that 9-1-1 assistance can be reached through texting, sending pictures or videos and/or other social media like Facebook or Twitter.”<sup>14</sup> Until Phase 2 and then NG9-1-1 services are deployed state wide, the State should consider implementing a public awareness program to help ensure that its citizens are well informed on the capabilities and limitations of the current 9-1-1 systems as well as the status of new initiatives, such as NG9-1-1.

## 9.3 FINANCIAL TRANSPARENCY

Currently, information on statewide 9-1-1 activities, such as surcharges, expenditures, and fund transfers are not published and made readily available to the public. As a result, 9-1-1 systems, wireless carriers and citizens are not able to evaluate them. Furthermore, as recommended in the reporting section, the State should consider gathering and tracking financial information and other operating data related to the funding of 9-1-1 systems and wireless carrier reimbursements within the State as well as information on wireline surcharges, wireless surcharges and other 9-1-1 revenue sources. This data should be published and made available to the general public in order to increase transparency of 9-1-1 operations as well as to educate the citizens of Illinois on the true costs of delivering 9-1-1 services within the State.

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<sup>14</sup>Written ICC response received on June 17, 2011.

## 9.4 CONSOLIDATION

According to 50 ILCS 750/1, “Provision of a single, primary three digit emergency number through which emergency services can be quickly and **efficiently** obtained... Such a simplified means of procuring emergency services will result in the saving of life, a reduction in the destruction of property, quicker apprehension of criminals, and **ultimately the saving of money**”. (Emphasis added.)

The landscape of 9-1-1 services has changed significantly since the above language became law in 1975. There are 102 counties and 194 9-1-1 Systems in the state of Illinois excluding Chicago and there are 37 jurisdictions that are still without Phase 2 service. There are well over 300 PSAPs that are operated by these 9-1-1 systems. While this decentralized structure does provide local systems with substantial control and responsibility, on the surface it is inherently inefficient from a cost standpoint because of a tremendous amount of resource duplication.

As described in more detail below, each system (and the PSAPs within each system) has its own fixed costs ranging from personnel to equipment and maintenance. Examples of these costs can be found in Sections 5 and 6 of this report and in the system survey responses summarized in Attachments O through R. Many of these costs are duplicated to varying degrees.

### 9.4.1 CONSOLIDATION BENEFITS

A prevalent trend in E9-1-1 systems is the consolidation of PSAPs. Consolidation can take many forms, including a single statewide network run by a centralized State or private administrator, regional consolidation where several neighboring PSAPs share services, or Virtual PSAPs where dispatchers use remote terminals to connect to a centralized computer network.

According to an Association of Public-Safety Communications Officials (APCO) Consolidated Center Directors Network survey, the main drivers for consolidation are cost savings and operational benefits.<sup>15</sup> Operational benefits include having a single point of contact and control, as well as standardization. According to survey data presented in Section 5, personnel expenses are the single largest category of operating expenses. Much like the concept of using 9-1-1 systems to answer calls and perform dispatch functions is more cost effective than multiple public safety agencies each having a dedicated staff to answer calls it is more cost effective for multiple PSAPs and systems to consolidate. In addition, consolidated PSAPs and systems require fewer administrative positions because of the economies of scale. “While the motive to consolidate is often to save money, the outcome is sometimes not direct savings but avoided costs and improved service.”<sup>16</sup>

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<sup>15</sup> Consolidated Center Directors Network *Consolidated Communications Center Survey Results* at 1. The survey was made available in April 2010 and it is unclear when results were made available. The survey can be viewed at this link:

<http://www.apco911.org/new/commcenter911/downloads/CCDN%20Consolidation%20Survey%20Report.pdf>

<sup>16</sup> Department of Public Safety PSAP Consolidation, February 20, 2004, *Report to the Minnesota Legislature*, at 89.

“A shared communications operation, with proper implementation, also offers significant service improvements to all of the participants. By establishing high standards of performance, consistently assuring that those standards of service are achieved and further assuring that the center is properly organized, adequately staffed, responsive to the public safety providers and citizens, and well managed, the service provided to the citizens of the region maintains its excellence. The goal must be the operation of efficient, high-performing, customer-friendly organizations.”<sup>17</sup>

Call centers are capital intensive because of the computer and dispatch equipment required to process calls, but also because each must have backup power systems and environmental controls sufficient to keep the centers operating during a disaster. The technological cost to add additional dispatchers to an existing call center is marginal, making it much more efficient to operate a regional call center instead of several local centers. Consolidated PSAPs are more likely to qualify for bulk purchase discounts on equipment due to the larger order quantities.

From a wireless carrier perspective, consolidation of several PSAPs or systems can increase the efficiency of call routing and response times for callers. Currently because wireless coverage areas often overlap 9-1-1 system service areas, oftentimes calls are directed to the closest system, however because of divisions of jurisdictional responsibility, those calls must be rerouted or an additional call made by the receiving PSAP to a more appropriate PSAP. If there were fewer systems, then the calls could be handled more efficiently and effectively and at a much reduced cost.

#### 9.4.2 CONSOLIDATION CHALLENGES

There are also several possible drawbacks to consolidation. The most cited public safety concern is that local dispatchers are more familiar with the operating area than regional dispatchers. This is based on the perception that a dispatcher familiar with a territory can more effectively direct emergency responders. This obstacle can be overcome with proper training and a good mapping system.

Local PSAPs often express satisfaction with existing systems and do not see the need to consolidate. Employees fear job losses and local ETSB's may be reluctant to give up control over their systems, especially in areas where local governments may not trust other local governments or state officials, such as finances and operating decisions.

It is also important to be aware that neighboring jurisdictions may use different radio systems that are not compatible. The local police, fire, and ambulance services could have to upgrade radio systems for consolidation to occur.

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<sup>17</sup> Final Regional Emergency Communications Center Feasibility Study Town of Monson, MA October 8, 2010, at 69.

### 9.4.3 CONSOLIDATION INCENTIVES FOR ILLINOIS

The current economic times with increasing expenses and no guarantee of sufficient funding may be useful to help more systems discuss consolidation. As noted in Exhibits 5-12 and 5-13, expenses have been increasing. Exhibit 5-16 demonstrates a funding shortfall for systems. Other state studies have found little reason for PSAPs to consolidate on their own. There are two basic avenues for States to encourage consolidation: financial incentives and mandates. Examples of financial incentives include block grants and mechanisms that share cost savings with the local governments. Incentives have had some success in motivating consolidation at the local government level, but it is generally not effective in getting “buy in” from personnel since it does little to assure their employment concerns. Consolidation plans that rely on State mandates for change have been unsuccessful. As noted in Minnesota, “[t]he state’s optimal role is to create a ‘consolidation friendly’ environment. It appears from the best practice research that to influence consolidations the optimal role for the state would be as a facilitator – making the environment ‘consolidation friendly.’”<sup>18</sup>

It should be noted that consolidation alone, does not guarantee cost savings, particularly in early years. Consolidation may require additional up-front capital and start-up costs that may take years to recoup.

There is currently no incentive in Illinois to require only one PSAP per county or other designated coverage area to be funded through a statewide 9-1-1 surcharge, nor is there encouragement to create some other grant system to encourage units of local government (specifically those smaller, neighboring municipal 9-1-1 systems) to consolidate their operations. In addition, there are currently no financial incentives for systems to share equipment and infrastructure where possible so as to reduce redundancy. “Research indicates that states need to have a financial role in financing PSAPs or they are not likely to have much direct influence on consolidation. It also indicates that when local governments consolidate or consider consolidation they avail themselves of tools made available by state action.”<sup>19</sup>

Other states have taken steps to encourage consolidation. For example, in its State 911 Plan, North Carolina recommended that “no additional primary PSAPs shall be approved or funded, except for those created through the consolidation of existing PSAPs...”<sup>20</sup>

### 9.4.4 CONSOLIDATION SUMMARY

Based on the benefits described above, we believe that some form of 9-1-1 system consolidation, if properly implemented, would be beneficial to the State. This is particularly true with the transition towards NG9-1-1 systems which will be using broadband networks.

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<sup>18</sup> Department of Public Safety PSAP Consolidation, February 20, 2004, *Report to the Minnesota Legislature*, at 95

<sup>19</sup> *Id.*, at 95.

<sup>20</sup> North Carolina State 911 Plan, released May 14, 2010, at pages13-14.

The FCC's Communications Security, Reliability and Interoperability Council (CSRIC) recently performed a study of 12 state and regional areas that have undergone various forms of PSAP consolidation<sup>21</sup>. The study sample included a wide range of consolidation types from full consolidation to limited sharing of regional infrastructure. The CSRIC collected data from each study area and then met with personnel from various agencies to get their views of the challenges of consolidation. Attachment J summarizes the key findings of this study and effective practices for successful consolidation to occur. We recommend that the State refer to this study for additional information on the benefits and challenges of consolidation.

## 9.5 CURRENT TECHNOLOGY

As described in Section 8, technological standards are needed for full implementation to NG9-1-1. Statewide standards could be useful to enhance interoperability between systems.

A comprehensive inventory of systems and equipment would be beneficial. Without a comprehensive inventory, it would be difficult to determine current equipment and interconnectivity issues. Similarly, standards for equipment and operations have not yet been adopted. A statewide (vendor neutral) delivery network for all types of calls does not exist. In addition, such an inventory could assist in more effectively evaluating the costs and equipment requirements of upgrading to NG9-1-1 when standards are available.

Currently there are 37 jurisdictions in the State that do not provide Phase 2 9-1-1 service. We recommend that the State ensure Phase 2 coverage is provided statewide. During implementation, if new equipment is purchased, there should be a requirement to purchase NG 9-1-1 compatible equipment. In addition, these jurisdictions should be encouraged to consolidate with neighboring jurisdictions to the extent possible.

According to one of the wireless carriers, deployment of "location-only" sites throughout wireless carrier service areas should be considered. Currently, location equipment is co-located with the cellular network sites. In areas where there is more than sufficient capacity and coverage for voice, texting and data, the performance of the network-based solution can be somewhat lacking in certain areas. Equipment could be installed on structures that don't require voice equipment to be deployed. We recommend that the State investigate this option further.

## 9.6 FUTURE NG9-1-1 TECHNOLOGY

Coordination and acceptance of new standards including future NG-9-1-1 standards among Public Safety agencies, government entities, wireless carriers, wireline carriers, and equipment vendors are needed. A State 9-1-1 Board could be effective in providing statewide coordination.

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<sup>21</sup> Communications Security, Reliability and Interoperability Council, Key Findings and Effective Practices for Public Safety Consolidation Final Report, October 2010.

The ability for communication among system PSAPs and public safety agencies will be crucial to address similar issues relating to call routing and operations as part of the NG9-1-1 plan. Similarly the ability for radio communication between PSAPs and police, fire, and medical resources to be dispatched is especially critical.

Training of dispatchers will be needed once text messaging is established and should include common texting shorthand language.

Once NG standards are established and more detailed cost information is available, system administrators and public safety officials should have a system to evaluate the cost benefit of deploying next generation services.

A task force should be established under the recommended State 9-1-1 Board to explore the feasibility as well as the costs and benefits of implementing NG9-1-1. If cost effective statewide implementation is to occur, it should be thoroughly researched and planned to ensure a smooth transition. Some systems might be reluctant to initially adopt due to high costs and having to learn a new way of doing things.

We recommend that the state adopt a NG9-1-1 transition plan after national standards have been established. The plan should include timetables and deadlines for all systems and PSAPs to support a minimal set of NG9-1-1 capabilities should be established after national standards have been finalized and approved.

## 9.7 ILLINOIS 9-1-1 WIRELESS SURCHARGE EXPIRATION AND OTHER FUNDING RECOMMENDATIONS

### 9.7.1 COST REIMBURSEMENT ISSUES

It appears that the initial intent behind the wireless surcharge was to provide the State of Illinois with sufficient resources both for 9-1-1 systems and for wireless carriers to cover the cost of implementing and maintaining wireless 9-1-1 services for the State. As described in Section 5 of this report, the sufficiency of the current reimbursement structure varies by system for 9-1-1 and from wireless carrier to carrier. While these findings are based largely upon survey responses that are not necessarily comparable, it is apparent that the current reimbursement system does have some inherent biases. It is also apparent that there is not statewide Phase 2 coverage now because of the reported inability for smaller jurisdictions to recover costs.

A centralized collection and distribution system does not currently exist that could potentially be more efficient and provide a more equitable way to fund the 9-1-1 systems. This could keep the 9-1-1 systems in larger, more densely populated areas from collecting more money than may be needed to fund their system. It could also allow 9-1-1 systems in smaller, less populated rural areas to fund their system adequately.

The State should consider revising the reimbursement process for both wireless carriers and the 9-1-1 systems in order to ensure a more fair and equitable methodology is embraced. However, any changes made have to be balanced with not providing systems and carriers incentives to incur additional costs. One alternative would be to develop a tiered reimbursement system whereby a flat reimbursement is provided to each system to cover certain eligible fixed costs and then a certain amount per capita would be provided in a similar fashion used in the current system. A similar approach could also be taken with wireless carriers.

As discussed in the consolidation recommendations (see Section 9.4), there are currently no policies in place to encourage cost savings, such as alternative system structures, equipment sharing, and limiting the number of PSAPs within any given system. The State should consider these issues when determining what level of reimbursement a system will receive. For example, the State should consider such measures as limiting reimbursement to cover the expenses of additional PSAPs within any given 9-1-1 system, unless cost effective public benefit can be proven. Similarly, the State could offer financial incentives to systems that voluntarily undertake cost-saving initiatives, such as equipment sharing or consolidating, particularly in rural areas.

#### 9.7.2 CARRIER REIMBURSEMENT PROCESS

The State currently reimburses wireless carriers based on what the individual carriers have collected from customers and paid into the pool; however, certain amounts paid in by wireless carriers that are reimbursed under the \$0.1475/subscriber were swept into the General Revenue Fund in early fund sweeps. As a result, carriers may not yet have been paid for certain invoices submitted to the State because there are no funds available in their pool and the current regulations do not allow those carriers to be paid from other carrier contributions. The delinquent amounts are held up indefinitely until the fund sweeps are repaid from the General Revenue Fund under the current system. We recommend that the statutes be amended to specifically allow the ICC to disburse funds for any delinquent invoices to the extent that wireless carriers have paid into the pools on a cumulative basis, even if it requires using other unclaimed carrier funds.

#### 9.7.3 SURCHARGE EXPIRATION AND FUNDING RECOMMENDATIONS

##### 9.7.3.1 OVERVIEW

The WETSA wireless surcharge is scheduled to expire on April 1, 2013 pursuant to 50 ILCS 751/70. We have been asked to provide our recommendations as to whether the surcharge should be continued or repealed as of that date.

Based on the system survey responses, wireless carrier survey responses, discussions with the ICC, and our other research, we do not believe the State can adequately continue funding current operations or pay for future technological upgrades without some form of wireless surcharge or a replacement funding mechanism. We have two alternative recommendations with regard to the continuation of the wireless surcharge funding:

1. Let the surcharge expire and replace the funding with a universal state tax collection.

2. Extend the wireless surcharge, but amend the process.

These recommendations and our rationale for each are discussed in more detail below.

#### 9.7.3.2 GENERAL FUNDING OBSERVATIONS

During this study and as discussed in Section 5 of this report there are difficulties in obtaining the true costs to provide 9-1-1 services in Illinois. There is not much consistency in expense reporting and resources are shared between 9-1-1 systems and public safety agencies. Add to this the fact that Chicago operates independently from the rest of the State and it is a significant challenge to determine what expenses that funding is truly needed for. However, it is clear from the data obtained during this study that the future funding needs will be considerable. These findings are consistent with the other state studies and Federal studies, that all indicate the cost of future technological investments will be substantial. They also indicate that some form of consolidation is prudent.

Erosion in the landline customer base makes it highly doubtful that the ETSA wireline funding mechanism will provide for the long-term funding needs of 9-1-1 systems by itself. The WETSA wireless surcharge is scheduled to expire on April 1, 2013 pursuant to 50 ILCS 751/70. Our survey discovered varying funding levels by system in which some larger systems that receive funding under both ETSA and WETSA may receive enough funding to support their 9-1-1 system operations in addition to purchase laptops for police vehicles, while some smaller systems have reported the necessity to use reserves to cover current spending instead of saving for equipment replacement.

**The following excerpt from North Carolina's State 911 Plan** is evidence that other states have faced similar funding and disbursement dilemmas.

***“Finding Number Four:***

*The current funding model is inequitable and locked in at 2007 levels.*

*911 service in North Carolina is supported by a 70¢ per month per voice communications connection fee that is collected from wire line, wireless, and VoIP voice communications service subscribers within the State. Those funds are currently disbursed to primary PSAPs based upon a fiscal snapshot in time taken on June 30, 2007. That fiscal snapshot cements inequities among local government wire line 911 service fees in effect at that time. Some local governments were collecting more than they could expend in accordance with statutory restrictions on the use of 911 funds, while others were not collecting enough to meet minimum needs. A new funding model that equitably supports all primary PSAPs both now and into the future is needed.”<sup>22</sup>*

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<sup>22</sup> North Carolina State 911 Plan, May 14, 2010, at 15.

The Communications Security, Reliability and Interoperability Council provides similar insights:

*“In particular, areas that rely heavily on wireline surcharges are experiencing difficulty as wireless and VoIP substitution results in lower wireline revenues. In addition, rural areas with smaller fee bases commonly struggle and, in the absence of grant programs or outside assistance, rural localities often lag in E9-1-1 service. Finally, high call volume in areas where mobile traffic is frequent—such as along interstates and in tourist destinations populated by out-of-state residents—often burdens a jurisdiction’s 9-1-1 services. This demonstrates that mobile telephony is problematic for existing surcharge models—mobility partitions the location from which a call is made from the address where a surcharge is collected. This is important for high mobile call volume jurisdictions because traditional surcharge models do not provide for contributions from 9-1-1 callers who live outside their jurisdiction.66 This finding is also demonstrated in Vermont (see above Source of Funds, Table 5-3), where current funding structures are challenged by increasing service demands and decreasing revenue streams.”<sup>23</sup>*

The volume and percentage of emergency calls placed from wireless phones are estimated to continue to grow in future years, thus exacerbating this issue of fairness and equality causing further economic challenges for rural jurisdictions and possibly enriching the suburban and urban jurisdictions. We could make recommendations about how to redistribute the surcharge based on where call volume is being generated or some other activity based input but this would be a futile exercise. Industry communications trends change yearly and evolve over time. As such there needs to be a new funding structure that is not dependent on call volumes or other operating statistics.

It is clear that the current methodology for funding 9-1-1 services has much need for improvement evidenced by the inefficiency of operations and inequality of the funding mechanisms. Merely extending the wireless surcharge in its current form would further exacerbate the issues seen today, and likely magnify them once NG9-1-1 is contemplated in the State

### 9.7.3.3 CURRENT SYSTEM COSTS

The data collected and described in sections 5 and 6 and a special emphasis on the lack of statewide Phase 2 coverage indicate that current surcharge funding is not sufficient for all of the 9-1-1 systems in the state under the current structure. The State has 102 counties, 194 9-1-1 Systems and approximately 300 PSAPs. There is a rural-urban funding divide that is evidenced by the fact that the entire state is not Phase 2 compliant. Furthermore, the cost of migrating to NG9-1-1 is expected to be substantial.

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<sup>23</sup> *The Communications Security, Reliability and Interoperability Council, Working Group 4B Transition To Next Generation 9-1-1 Final Report, March 2011, at 86.*

While many systems are reporting shortfalls that are currently being covered by other revenue sources, it is difficult to say how much of the shortfalls are a surcharge revenue issue on a statewide basis versus an issue with the current process for allocating those surcharges to the individual systems. Furthermore, due to the current lack of comparability in financial reporting, it is not even possible to determine what specifically is being considered as 9-1-1 expenses for the systems responding to the surveys. Finally, current operating expenses could be impacted significantly by implementation of our other recommendations, particularly consolidation.

#### 9.7.3.4 CURRENT WIRELESS CARRIER COST REIMBURSEMENT

Currently, not all wireless carriers request reimbursement from the State at the current \$0.1475 per subscriber funding. Some of the larger carriers self recover their 9-1-1 costs from customers with the use of a separate surcharge. Of the carriers that do seek reimbursement from the fund, very few carriers submit all invoices that reflect full costs incurred for 9-1-1 services. This is because the funding mechanism does not allow carriers to recover more than remitted from customer surcharges. This makes it difficult for carriers, particularly those with fewer customers, to fully recover costs. These companies only invoice the \$0.1475. As result, it is impossible to determine their true cost within the scope of this study, including non-recurring equipment expenditures that would be submitted for reimbursement if funding were available.

#### 9.7.3.5 FUTURE TECHNOLOGY INVESTMENTS

As discussed in Section 8.9, only 26 system surveys out of 194 requests provided any information on the cost of technology upgrades needed to transition to NG9-1-1. The responses received did not provide us with a statistically valid sample. In addition, certain responses were based on vendor pricing quotes that could be two or more years old. These factors significantly limit the reliability and usefulness of any projections and conclusions that can be made from these survey responses. However, the responses do provide at least an indication that the initial cost of technology upgrades for NG9-1-1 compatibility for this limited number of 9-1-1 systems will be significant and could easily exceed \$160 million as seen in Exhibit 8-2.

It should be noted that these estimates are based, to a large extent, on the systems continuing to operate independently under the current structure. As discussed in Section 9.4, we recommend that the State give serious consideration to consolidating these systems at some level which could also have a significant impact on the cost of future technology borne by the citizens of Illinois.

Approximately 69% of the systems that responded to the survey either did not complete the question asking for estimated changes to staffing and other operating costs under a NG9-1-1 platform or stated that they were unable to make a determination at this time. Of those systems that were able to make a determination, approximately 85% stated that NG9-1-1 would result in increased annual operational expenses and staffing requirements.

None of the wireless carrier survey responses provided estimated costs of upgrading to NG9-1-1.

### 9.7.3.6 UNIVERSAL TAX COLLECTION

9-1-1 services have been made available to all residents of the State of Illinois even if not all jurisdictions have their own 9-1-1 system and Phase 2 is not available statewide. The State should consider a real estate tax assessment or a similar universal tax in lieu of the current surcharge system as an alternative funding mechanism.

In its purest sense, 9-1-1 is merely a mechanism to connect people with the appropriate emergency resources. Arguably, a 9-1-1 system is part and parcel to police, fire, ambulance and other services, which are typically funded through the real estate tax base by business and residential property owners. While the wireless surcharge offers a viable revenue stream that could be used to pay for current operating costs and to fund the future technological needs, it does not fairly assess fees from those that use the services based on the inherent mobility of wireless use. The upcoming sunset of the wireless provision on April 1, 2013 pursuant to 50 ILCS 751/70 should be used to transition away from a funding source based on phone usage (wireless and wireline) to a methodology that collects fees in the real estate tax base or another form of universal tax similar to the funding of the emergency resources that respond as a result of the call.

Transitioning to an established and more universal tax funding mechanism would simplify the administrative requirements for the State, municipalities, wireless carriers, VoIP companies, traditional wireline companies and others who currently have to collect, remit or process surcharge or other 9-1-1 funding revenues. Ultimately, such a structure would allow the State to better measure and manage the 9-1-1 funding, and it should also assist in preparing for the funding of the possible transition to NG9-1-1 services.

We recommend that the State allow the expiration of the surcharge effective April 1, 2013 and begin the design and implementation of the alternative funding source of real estate or other universal tax as soon as possible.

### 9.7.3.7 EXTEND AND AMEND THE SURCHARGE

Because there are potential challenges to a universal tax funding system, such as those described in the excerpt below from the Communications Security, Reliability and Interoperability Council, we are providing the State with an alternative recommendation, outlined below after the quote.

*“General tax policy provides some level of funding for essential services at a federal, state, and local level today. However, current fiscal conditions pose a threat to the concept of predictability, sustainability, and sufficiency—all goals of a core service of government. For this reason, it has become more and more essential that 9-1-1 and NG9-1-1 be established as a —core essential service// of government in legislation to, among other things, prevent raiding of funds. The strength of the argument that general tax policy should be applied to 9-1-1*

*funding is that it helps to support the concept of core services (arguable 9-1-1 being a core service of government) being funded by the tax base. The level of 9-1-1 service and support in a community speaks to its desire to provide, and adequately fund, quality of life services in that community. The weakness in this argument is that taxes continue to be the subject of contentious political debate, with many governments finding creative ways to divert funding to other sources. While this general tax method of funding 9-1-1 does simplify accounting and collections, there is an alternate argument that some users of the 9-1-1 system and its associated response services are not always taxpayers (e.g., real estate owners) and thus this percentage of the population that helps to drive the costs of a system (via usage) is not paying its fair share of the systems costs”.*<sup>24</sup>

The current wireless surcharge does have many shortfalls and inherent challenges. However, the volume and percentage of emergency calls placed from wireless phones are projected to grow in future years. Extending the wireless surcharge in some form would ensure wireless users are assessed a continued share of the system’s costs. Furthermore, the wireless customer base provides the most reliable funding source based on subscriber growth patterns when compared to wireline sources. The alternative option that we recommend is keeping some form of wireless surcharge, but amending the statutes to incorporate many of the recommendations discussed in Section 9 above to improve the current process and provide a more consistent and fair funding methodology.

Some specific recommendations that we believe need to be incorporated into a surcharge funding mechanism are as follows:

- Apply uniform surcharge rates to VoIP, wireline, wireless, prepaid wireless and any other device or technology that can contact 9-1-1.
  - **“5.1.3.1.9 Competitively Neutral Mechanisms**  
*While all current and anticipated funding methods present collection challenges, a principle that should be applied to any future 9-1-1 funding mechanism is that it should be technologically and competitively neutral. All service providers, both traditional and non-traditional should be viewed as equal with regard to 9-1-1 surcharges. No one service should be collecting more than its competitors, and no one technology should be responsible for collecting all of the surcharge fees. All communications providers and those who provide access to 9-1-1 should collect and remit the same amount, whatever is deemed to be appropriate in that community, to the 9-1-1 Authority”.*<sup>25</sup>

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<sup>24</sup> *The Communications Security, Reliability and Interoperability Council, Working Group 4B Transition To Next Generation 9-1-1 Final Report, March 2011, at 92-93.*

<sup>25</sup> *The Communications Security, Reliability and Interoperability Council, Working Group 4B Transition To Next Generation 9-1-1 Final Report, March 2011, at 89.*

- Have the state be responsible for cost recovery.
- Amend the allocation of surcharge funding to 9-1-1 systems and wireless carriers as recommended.
- Annually reevaluate the sufficiency of monthly surcharges based on uniform expense reporting from 9-1-1 systems and carriers.

The State could also implement a hybrid approach that uses a universal state tax to supplement the wireless and wireline surcharges, as amended for our recommendations.

#### 9.7.3.8 RATE CONSIDERATIONS

We considered an appropriate amount for a possible adjustment to the current surcharge that might be necessary to adequately fund ongoing costs of system operations, wireless carrier cost reimbursement, and future technological upgrades.

We also considered the sufficiency of the total wireless surcharge revenues based on the current rate of \$0.73 per subscriber, per month. As indicated in Sections 5 and 6, approximately one half of the systems that responded to the surveys indicated that the current reimbursement is not sufficient to fund operations. However, an accurate analysis of the sufficiency of the current system funding from wireless surcharges is difficult to perform with accuracy.

As discussed in more detail in Sections 5 and 6, the surveys that were performed, were not designed to provide a basis for determining specific wireless funding needs. The sampling technique used was not statistically valid and the system responses were ambiguous and not comparable in many regards. Also, there are many other factors that play into the 9-1-1 system revenues and expenses, such as wireline surcharges and other funding sources, as well as cost structure and what types of expenses were included by the systems. As a result of these limitations, an extrapolation of this data should be used only as a general indication of what the current shortfall may be, rather than as an accurate assessment of the shortfall and should not be used as a basis for making adjustments to the surcharge.

Based solely on the 2009 information received from survey responses and ICC data, it appears that the current wireless surcharge could be approximately \$0.40 per subscriber less than system reported expenses, in aggregate, assuming no recommendations to increase efficiency and other changes to the State's current 9-1-1 structure. This amount could be significantly different if our other recommendations, particularly some form of system consolidation, were implemented. This analysis does not reflect the shortfalls being reported by wireless carriers, as those amounts have not been determined.

Even if the above data was proven accurate, changes to the gross surcharges received by the State would do little to change the underlying budget challenges for individual systems because the way the surcharge revenues are ultimately distributed to the systems is based on the number of subscribers in the jurisdictions being served. For example, raising the surcharge rate by \$0.10 per subscriber has no impact under the current statute. Even if the system reimbursement rate was adjusted proportionately, it would not solve the underlying funding problem at the system level. For a system serving a small population, this increase would do little to assist with any

reported shortfall. However, for a larger system, it would provide the systems with multiple times the additional revenue allocated to the smaller system. In the case where this system is already covering costs, this cash could presumably be used to fund other related services or placed in a reserve fund of some sort. The unintended result would be that the larger system would be put at an even greater advantage, while the smaller system would still be experiencing a shortfall. Any increase in the present rate would make the “winners” gain more while the “losers” would still be struggling.

Furthermore, we realize that different users of this report have different expectations as to what the surcharge should be. Most of the system responses indicate that the surcharge should be increased. Certain wireless carriers have indicated that the percentage of the wireless surcharges that are returned to the carriers should be increased. Presumably, wireless subscribers would not like to see an increase in the surcharge rates.

We believe it would be premature to adjust the rate (or cumulative funding under the tax change recommendation) until other issues identified have been resolved. We recommend that a property tax rate initially be set to provide the State with cumulative revenues equal to what is being provided by the \$0.73 wireless surcharge for the year preceding implementation (or continue the wireless surcharge at \$0.73) until the other significant issues identified throughout our recommendations have been addressed. We recommend (for an interim period only) that the State implement our other recommended changes, including a change to the allocation methodology whereby wireless surcharges are allocated to systems based on their cost as a percentage of total State systems costs (based on budgets approved by the ICC or newly formed agency). Again, we believe this would be a short-term recommendation and would need to be adjusted after the State approves a NG9-1-1 plan and/or plan of system consolidation.

*“State models of analysis and evaluation of current costs and historical perspectives on collections would assist a state in determining what funds will be required going forward. It may be necessary, as it was for North Carolina, for a state’s funding mechanism and level to be re evaluated using both historical analysis and its vision for NG9-1-1 implementation as outlined in a State Next Generation Plan”.*<sup>26</sup>

We also recommend that the State immediately provide a minimum cost reimbursement to the wireless carriers that have elected to participate in the State’s \$0.1475 system to help reduce the impact of an unfunded mandate for the carriers. For example, the minimum could be based on least the carriers’ recurring 9-1-1 service provider expenses, not to exceed an approved annual budget amount. Funding could come from Carriers not using the fund before re-allocating those excess funds to the 9-1-1 systems.

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<sup>26</sup> *The Communications Security, Reliability and Interoperability Council, Working Group 4B Transition To Next Generation 9-1-1 Final Report, March 2011, at 88-89.*

Ultimately, we recommend that the State move to a full cost reimbursement structure for wireless carriers. At this time, there is not enough information on the wireless carrier costs to determine the most appropriate methodology to accomplish this goal. However, other states (Nebraska and North Carolina, for example) have adopted cost reimbursement methodologies that could be used as a model when developing such a system.

The ultimate goal of these funding changes should be to reduce expenses or minimize increases in expense and reduce disparity among the systems and wireless carriers.

Also, we recommend that the State begin saving for future technology costs. These savings should be protected from any type of fund sweeps to ensure it is available to use for the intended purpose.

Efficient, timely and reliable 9-1-1 services are services that citizens typically expect to be offered by governmental agencies. The costs of providing these services are significant and must be funded. While there is not one perfect funding mechanism, we believe that the recommendations noted above could assist the State to adequately fund these costs, allocate fund in more equitable manners, while improving the efficiency and effectiveness of the overall system.

## 9.8 RECOMMENDATIONS SUMMARY

The following is a summary of recommendations discussed above, listed in terms of importance:

- Adopt new revenue collection and fund disbursement processes as recommended in Section 9.7.
- Establish a State 9-1-1 Board with oversight authority over funding, technological, and consolidation issues.
- Update statutes to make them technology neutral.
- Update statutes to reduce existing ambiguities.
- Eliminate the Home Rule exemption for the City of Chicago.
- Implement legislation that prohibits 9-1-1 surcharges from being used for anything other than intended 9-1-1 expenditures, or include an assessed penalty or interest amount to be paid on diverted funds and requiring short repayment windows.
- Adopt financial incentives for consolidation.
- Establish a NG9-1-1 Task Force to develop a statewide NG9-1-1 transition plan.
- Make financial information available to the public for increased transparency.
- Eliminate the need in statutes for 9-1-1 systems to file certified copies of agreements between systems and public safety agencies if there has been no change.
- Implement an electronic reporting process for annual reports to ICC.
- Conduct a statewide equipment inventory.
- Implement a public awareness program to help ensure that its citizens are well informed on the capabilities and limitations of the current 9-1-1 systems as well as the status of new initiatives, such as NG9-1-1.
- Investigate the options to deploy more wireless location tracking equipment that can be shared amongst wireless carriers.
- Establish training programs for staff and the public before NG9-1-1 services are deployed.

## 10. ADDITIONAL STUDIES AND ANALYSES

Deliverable #10 – *Provide recommendations for additional studies and analyses.*

Recommendations for Further Studies:

- Conduct a study of the existing policies and procedures used by the State’s various emergency service providers. Determine each system’s staffing resources, training levels, and organizational structures and assess the efficiency and effectiveness of each model. Identify operational “best practices” that can be promoted and standardized statewide.
- Pending the development of national NG 9-1-1 standards, conduct a cost-benefit analysis of the next generation technology and establish preliminary standards to be adopted statewide. Evaluate technological options which provide the greatest benefit and develop minimum standards. Determine the cost and implementation issues preventing non-compliant systems from meeting minimum standards. This analysis can be overseen by the newly formed 9-1-1 Board recommended above.
- Conduct a detailed technological assessment of each of the State’s 194 systems and the connecting infrastructure. Identify obsolete and inadequate equipment that must be upgraded to meet minimum standards (when adopted). Identify strategies adopted by ETSB’s that have efficiently implemented Phase II compliance and components of NG9-1-1 systems. Identify “best practices” that can be promoted and standardized statewide.
- Based on the results of the previous operational and technological studies, identify opportunities for PSAP consolidation.
- Conduct a study of alternative funding sources. Determine the feasibility of expanding the funding mechanism to include property and general tax assessments that can replace or supplement the current funding mechanism. Investigate grant opportunities offered by Federal agencies and private entities such as NENA and APCO.

## 11. CONCLUDING REMARKS

The State of Illinois is at a decision point. The opportunities to implement Phase 2 service statewide, continue to improve the efficiency of the current 9-1-1 delivery service and the possible transition to the NG9-1-1 environment in the not-so-distance future are both exciting and full of challenges. We believe that by being proactive and beginning to re-evaluate the current 9-1-1 system, the State has laid the foundation to help ensure the long-term success of 9-1-1 services within Illinois.

We appreciate the opportunity to have performed this study and provided the State of Illinois with additional insights into its 9-1-1 system and future challenges.

## ATTACHMENTS

## Attachment A - List of Acronyms

<b><u>Acronym</u></b>	<b><u>Description</u></b>
ALI	Automatic Location Information
ANI	Automatic Number Identification
ANSI	American National Standards Institute
APCO	Association of Public Safety Communication Officials
CAD	Computer Aided Dispatch
CLEC	Competitive Local Exchange Carrier
CSEC	(Texas) Commission on State Emergency Communications
E9-1-1	Enhanced 9-1-1
ECD	Emergency Communications District
ETSA	Emergency Telephone System Act
ETSB	Emergency Telephone System Boards
FCC	Federal Communications Commission
GPS	Global Positioning System
ICC	Illinois Commerce Commission
ILCS	Illinois Compiled Statutes
ILEC	Incumbent Local Exchange Carrier
INENA	Illinois Chapter of the National Emergency Number Association
IP	Internet Protocol
ISP	Illinois State Police
LEC	Local Exchange Carrier
NENA	National Emergency Number Association
NG9-1-1	Next Generation 9-1-1
NOI	Notice of Intent
PEMA	Pennsylvania Emergency Management Agency
PBX	Private Branch Exchange
POS	Point of Sale
PSAP	Public Safety Answering Points
RFP	Request for Proposal
VoIP	Voice over Internet Protocol
WCRF	Wireless Carrier Reimbursement Fund
WETSA	Wireless Emergency Telephone Safety Act
WSP	Wireless Service Provider

## Attachment B - Illinois 9-1-1 Systems

System	County	(1) Wireline Surcharge	(1) Population	Sq. Miles	Classification	(2) Response Received?
ADAMS COUNTY	Adams	N/A	68,277	866	Rural	Yes
ALSIP	Cook	\$ 0.50	19,725	7	Urban	No
BARRINGTON	Lake & Cook	\$ 0.75	20,000	17	Suburban	No
BARRINGTON HILLS	Lake	\$ 1.50	3,915	29	Suburban	Yes
BEDFORD PARK	Cook	\$ 0.75	574	8	Urban	No
BELLWOOD	Cook	\$ 0.95	21,000	3	Urban	Yes
BERKELEY	Cook	\$ 1.00	5,245	2	Urban	No
BERWYN	Cook	\$ 0.96	54,000	4	Urban	Yes
BLUE ISLAND	Cook	\$ 0.75	39,444	12	Urban	No
BOND COUNTY	Bond	\$ 1.45	17,633	380	Rural	No
BOONE COUNTY	Boone	\$ 0.60	52,300	288	Rural	No
BRIDGEVIEW	Cook	\$ 1.25	15,335	4	Urban	No
BROADVIEW	Cook	\$ 1.30	8,300	2	Urban	No
BROOKFIELD	Cook	\$ 1.25	19,085	3	Urban	No
BUREAU COUNTY	Bureau	\$ 1.95	35,503	869	Rural	Yes
BURR RIDGE	Cook & DuPage	\$ 0.60	11,259	7	Urban	No
CALUMET CITY/BURNHAM	Cook	\$ 0.95	43,241	10	Urban	No
CALUMET PARK	Cook	\$ 0.95	8,500	1	Urban	No
CARROLL COUNTY	Carroll	\$ 1.75	16,674	444	Rural	No
CASS COUNTY	Cass	\$ 2.00	13,695	383	Rural	Yes
CEN COM	Lake	\$ 0.75	65,000	13	Suburban	No
CHAMPAIGN COUNTY	Champaign	\$ 1.50	185,682	1,001	Suburban	Yes
CHICAGO	Cook	\$ 2.50	2,896,016	231	Urban	No
CHICAGO HEIGHTS	Cook	\$ 1.00	32,776	10	Urban	Yes
CHRISTIAN COUNTY	Christian	\$ 2.00	35,372	709	Rural	No
CICERO	Cook	\$ 1.00	87,000	5	Urban	No
CLARK COUNTY	Clark	\$ 2.95	17,200	502	Rural	Yes
CLAY COUNTY	Clay	\$ 2.25	14,560	464	Rural	Yes
CLINTON COUNTY	Clinton	\$ 1.30	36,000	440	Rural	Yes
COLES COUNTY	Coles	\$ 1.95	53,196	508	Rural	Yes
COOK COUNTY	Cook	\$ 1.25	123,158	956	Urban	Yes
COUNTRY CLUB HILLS	Cook	\$ 0.80	18,000	6	Urban	Yes
COUNTRYSIDE	Cook	\$ 1.00	6,000	4	Urban	Yes
CRAWFORD COUNTY	Crawford	\$ 1.65	20,000	444	Rural	Yes
CUMBERLAND COUNTY	Cumberland	\$ 2.50	11,000	347	Rural	Yes
DEERFIELD/BANNOCKBURN	Lake	\$ 0.50	20,000	10	Suburban	Yes
DeKALB COUNTY	DeKalb	\$ 0.84	88,969	634	Rural	Yes
DeWITT COUNTY	DeWitt	\$ 1.25	16,000	400	Rural	Yes
DOLTON	Cook	\$ 1.25	26,000	5	Urban	Yes
DOUGLAS COUNTY	Douglas	\$ 1.45	19,300	430	Rural	Yes
DUPAGE COUNTY	DuPage	\$ 0.50	920,000	334	Urban	Yes
E-COM	Cook	\$ 1.00	92,000	28	Urban	Yes
EDGAR COUNTY	Edgar	\$ 2.00	19,704	650	Rural	Yes
EFFINGHAM COUNTY	Effingham	\$ 2.75	34,264	486	Rural	Yes
ELGIN	Kane, Cook,	\$ 0.65	120,000	40	Urban	No
ELMWOOD PARK	Cook	\$ 1.25	25,505	2	Urban	Yes
EVANSTON	Cook	\$ 1.50	74,239	8	Urban	Yes
FORD COUNTY	Ford	\$ 1.50	14,241	468	Rural	Yes
FOREST PARK	Cook	\$ 1.00	15,600	3	Urban	No
FOREST VIEW	Cook	\$ 2.00	778	2	Urban	Yes

## Attachment B - Illinois 9-1-1 Systems (continued)

System	County	(1)	(1)	Sq. Miles	Classification	(2)
		Wireline Surcharge	Population			Response Received?
FOX LAKE	Lake	\$ 0.65	9,000	10	Suburban	Yes
FRANKLIN COUNTY	Franklin	\$ 1.50	39,018	430	Rural	Yes
FRANKLIN PARK	Cook	\$ 1.00	19,434	5	Urban	Yes
FULTON COUNTY	Fulton	\$ 1.85	38,250	883	Rural	Yes
GALLATIN COUNTY	Gallatin	\$ 0.95	8,700	324	Rural	Yes
GLENCOE	Cook	\$ 1.50	8,762	4	Urban	Yes
GLENVIEW	Cook	\$ 1.00	42,000	13	Urban	Yes
GRAYSLAKE	Lake	\$ 0.90	20,330	25	Suburban	No
GRUNDY COUNTY	Grundy	\$ 1.80	42,000	425	Rural	Yes
GURNEE	Lake	\$ 0.75	28,834	77	Suburban	Yes
HANCOCK COUNTY	Hancock	\$ 1.95	21,300	816	Rural	No
HARVEY	Cook	\$ 1.25	30,000	6	Urban	No
HARWOOD HEIGHTS	Cook	\$ 1.25	8,297	1	Urban	Yes
HENRY COUNTY	Henry	\$ 0.95	51,020	823	Rural	Yes
HICKORY HILLS	Cook	\$ 0.85	13,926	2	Urban	Yes
HIGHLAND PARK	Lake	\$ 1.00	31,365	13	Suburban	Yes
HIGHWOOD	Lake	\$ 1.00	4,143	1	Suburban	No
HILLSIDE	Cook	\$ 0.85	8,200	3	Urban	No
HOMETOWN	Cook	\$ 0.75	4,467	1	Urban	No
INDIAN HEAD PARK	Cook	\$ 2.75	3,685	2	Urban	No
IROQUOIS COUNTY	Iroquois	\$ 2.00	31,334	1,120	Rural	No
JACKSON COUNTY	Jackson	\$ 1.25	59,612	620	Rural	Yes
JASPER COUNTY	Jasper	\$ 1.85	10,117	494	Rural	No
JEFFERSON COUNTY	Jefferson	\$ 0.80	40,045	571	Rural	No
JERSEY COUNTY	Jersey	\$ 2.50	21,500	376	Rural	Yes
JoDAVIESS COUNTY	JoDaviess	\$ 1.75	23,000	618	Rural	Yes
JOHNSON COUNTY	Johnson	\$ 2.00	12,800	435	Rural	Yes
JUSTICE	Cook	\$ 1.25	12,200	2	Urban	No
KANE COUNTY	Kane	\$ 0.50	264,800	474	Suburban	Yes
KANKAKEE COUNTY	Kankakee	\$ 1.00	104,000	680	Suburban	Yes
KENDALL COUNTY	Kendall	\$ 0.75	88,200	360	Rural	Yes
KENILWORTH	Cook	\$ 3.00	2,494	1	Urban	Yes
KNOX COUNTY	Knox	\$ 1.25	52,906	720	Rural	Yes
LAGRANGE	Cook	\$ 0.75	15,608	3	Urban	Yes
LAGRANGE PARK	Cook	\$ 1.00	13,300	2	Urban	Yes
LAKE BLUFF	Lake	\$ 0.65	6,056	4	Suburban	No
LAKE COUNTY	Lake	\$ 0.75	214,978	457	Suburban	Yes
LAKE FOREST	Lake	\$ 0.65	20,059	17	Suburban	No
LANSING	Cook	\$ 0.50	28,500	6	Urban	Yes
LASALLE	LaSalle	\$ 0.65	9,700	8	Suburban	Yes
LEE COUNTY	Lee	\$ 1.75	35,000	728	Rural	Yes
LIBERTYVILLE	Lake	\$ 0.75	23,000	9	Suburban	Yes
LINCOLNSHIRE	Lake	\$ 1.50	6,108	4	Suburban	Yes
LINCOLNWOOD	Cook	\$ 1.00	12,000	3	Urban	Yes
LIVINGSTON COUNTY	Livingston	\$ 1.50	39,678	1,044	Rural	Yes
LOGAN COUNTY	Logan	\$ 1.95	31,183	622	Rural	Yes
LYNWOOD	Cook	\$ 1.50	11,400	14	Urban	No
LYONS	Cook	\$ 1.00	10,255	2	Urban	Yes
MACOMB/MCDONOUGH CO.	McDonough	\$ 1.40	35,837	589	Rural	Yes

## Attachment B - Illinois 9-1-1 Systems (continued)

System	County	(1)	(1)	Sq. Miles	Classification	(2)
		Wireline Surcharge	Population			Response Received?
MACON COUNTY	Macon	\$ 0.90	111,175	581	Suburban	No
MACOUPIN COUNTY	Macoupin	\$ 2.00	49,019	864	Rural	Yes
MADISON COUNTY	Madison	\$ 0.65	258,941	725	Suburban	Yes
MARION, CITY OF	Williamson	N/A	16,035	40	Rural	No
MARION COUNTY	Marion	\$ 1.25	41,446	572	Rural	Yes
MARKHAM	Cook	\$ 0.85	12,620	5	Urban	No
MARSEILLES	LaSalle	\$ 1.50	4,700	64	Suburban	Yes
MARSHALL COUNTY	Marshall	\$ 2.60	13,205	406	Rural	Yes
MASON COUNTY	Mason	\$ 1.85	16,038	539	Rural	Yes
MASSAC COUNTY	Massac	\$ 1.95	15,161	243	Rural	No
MAYWOOD	Cook	\$ 0.85	26,081	3	Urban	No
MCCOOK	Cook	\$ 2.00	287	2	Urban	Yes
MCHENRY COUNTY	McHenry	\$ 0.50	296,389	591	Suburban	Yes
MCLEAN COUNTY	McLean	\$ 1.25	162,000	1,184	Suburban	No
MELROSE PARK	Cook	\$ 2.00	23,171	6	Urban	No
MENARD COUNTY	Menard	\$ 3.25	12,703	314	Rural	No
MENDOTA	LaSalle	\$ 1.25	7,272	144	Suburban	No
MERCER COUNTY	Mercer	\$ 1.75	16,957	561	Rural	Yes
MERRIONETTE PARK	Cook	N/A	2,400	2	Urban	Yes
MIDLOTHIAN	Cook	\$ 1.25	14,315	3	Urban	No
MONROE COUNTY	Monroe	\$ 1.00	31,040	389	Rural	Yes
MONTGOMERY COUNTY	Montgomery	\$ 2.00	30,652	704	Rural	No
MORGAN COUNTY	Morgan	\$ 1.00	36,221	569	Rural	Yes
MUNDELEIN	Lake	\$ 0.50	32,651	9	Suburban	Yes
NAPERVILLE	DuPage	\$ 1.00	142,315	38	Urban	Yes
NORRIDGE	Cook	N/A	14,582	2	Urban	No
NORTH CHICAGO	Lake	\$ 0.75	34,918	7	Suburban	No
NORTH RIVERSIDE	Cook	\$ 1.25	6,688	3	Urban	No
NORTH SUBURBAN JT ETSB	Cook	\$ 1.00	145,000	34	Urban	Yes
NORTHBROOK	Cook	\$ 0.75	33,435	13	Urban	No
NORTHFIELD	Cook	\$ 2.00	5,726	3	Urban	Yes
NORTHWEST CENTRAL DISP	Cook	\$ 0.75	461,781	113	Urban	Yes
OAK FOREST	Cook	\$ 0.75	28,500	9	Urban	No
OAK LAWN	Cook	\$ 1.00	119,303	22	Urban	No
OAK PARK	Cook	\$ 1.00	52,524	5	Urban	No
OGLE COUNTY	Ogle	\$ 1.25	51,000	757	Rural	Yes
OGLESBY	LaSalle	\$ 1.50	3,600	5	Suburban	Yes
ORLAND PARK	Cook	\$ 1.00	71,000	25	Urban	No
OTTAWA	LaSalle	\$ 0.52	18,307	8	Suburban	No
PARK CITY	Lake	\$ 0.75	7,000	2	Suburban	Yes
PEORIA COUNTY	Peoria	\$ 0.80	185,000	629	Urban	Yes
PERRY COUNTY	Perry	\$ 1.50	23,094	439	Rural	Yes
PERU	LaSalle	\$ 0.65	9,835	9	Suburban	No
PIATT COUNTY	Piatt	\$ 1.95	16,800	451	Rural	Yes
PIKE COUNTY	Pike	\$ 2.95	17,384	849	Rural	Yes
PULASKI COUNTY	Pulaski	\$ 3.00	7,348	201	Rural	Yes
PUTNAM COUNTY	Putnam	\$ 3.90	6,250	178	Rural	Yes
QUADCOM	Kane	\$ 0.65	48,000	48	Suburban	Yes
RANDOLPH COUNTY	Randolph	\$ 0.98	34,000	604	Rural	Yes

## Attachment B - Illinois 9-1-1 Systems (continued)

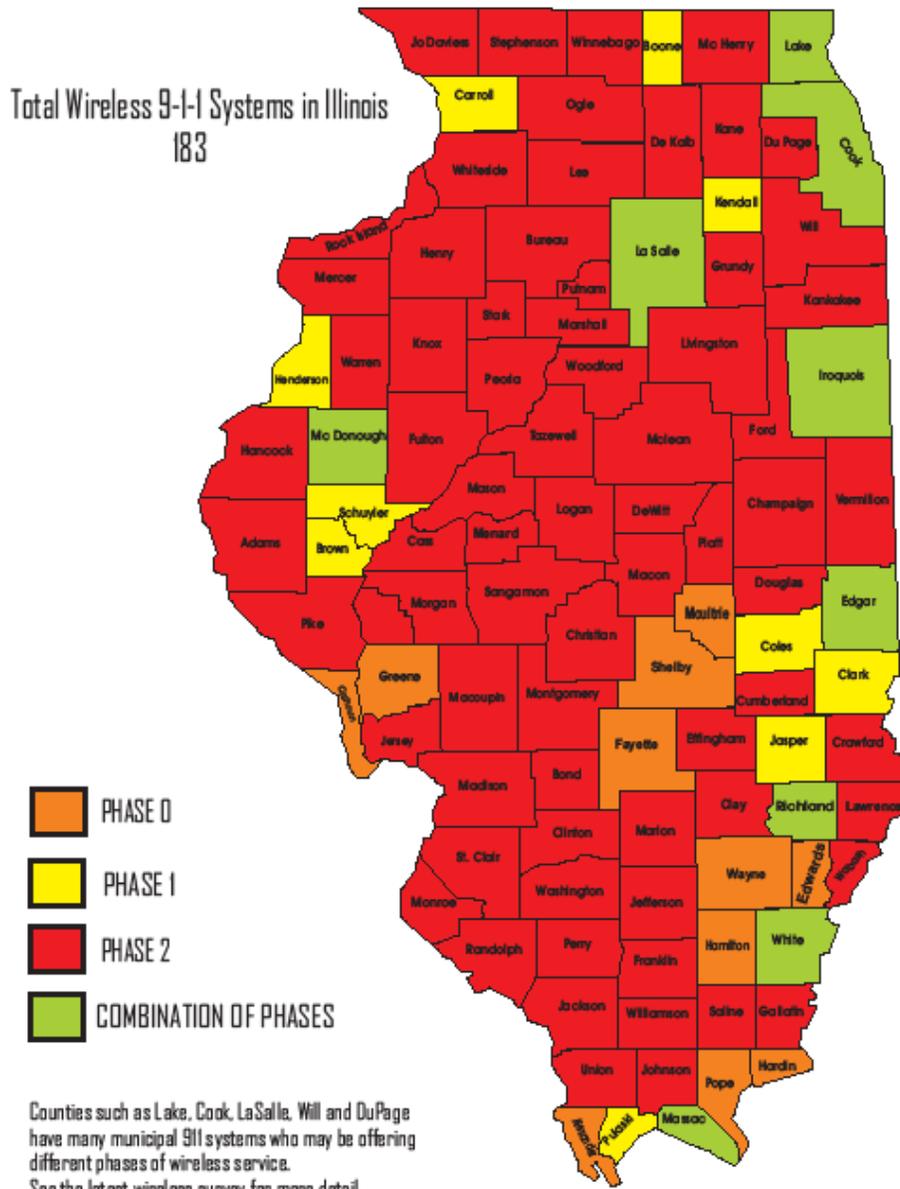
System	County	(1)	(1)	Sq. Miles	Classification	(2)
		Wireline Surcharge	Population			Response Received?
RICHLAND COUNTY	Richland	\$ 1.55	16,149	360	Rural	Yes
RIVER FOREST	Cook	\$ 1.50	11,635	3	Urban	No
RIVER GROVE	Cook	\$ 1.00	10,650	2	Urban	No
RIVERSIDE	Cook	\$ 1.25	8,900	2	Urban	Yes
ROCK ISLAND COUNTY	Rock Island	\$ 0.65	149,374	427	Suburban	No
ROSEMONT	Cook	\$ 1.65	4,224	3	Urban	Yes
SALINE COUNTY	Saline	\$ 1.50	26,733	385	Rural	Yes
SANGAMON COUNTY	Sangamon	\$ 0.75	188,951	877	Suburban	Yes
SAUK VILLAGE	Cook	\$ 1.00	10,411	6	Urban	No
SCHILLER PARK	Cook	\$ 1.00	11,850	3	Urban	No
SCOTT COUNTY	Scott	\$ 3.50	5,800	240	Rural	Yes
SENECA	LaSalle	\$ 2.00	2,053	4	Suburban	Yes
SKOKIE	Cook	N/A	66,659	11	Urban	Yes
SOUTH CHICAGO HEIGHTS	Cook	\$ 1.25	4,000	12	Urban	No
SOUTH ELGIN	Kane	\$ 0.65	20,844	7	Suburban	No
SOUTHCAM	Cook	\$ 0.80	30,193	21	Urban	No
SOUTHWEST CENTRAL	Cook	\$ 0.75	132,000	80	Urban	No
ST. CLAIR COUNTY	St. Clair	\$ 0.65	257,000	664	Suburban	Yes
STEPHENSON COUNTY	Stephenson	\$ 1.23	48,979	564	Rural	No
STICKNEY	Cook	\$ 2.00	6,500	5	Urban	No
STREATOR	LaSalle	\$ 1.50	14,190	10	Suburban	Yes
SUMMIT	Cook	\$ 1.00	10,637	8	Urban	No
TAZEWELL COUNTY	Tazewell	\$ 0.80	129,999	649	Suburban	Yes
TINLEY PARK	Cook/Will	\$ 0.75	58,323	16	Urban	No
UNION COUNTY	Union	\$ 2.50	18,293	426	Rural	Yes
VANDALIA	Fayette	N/A	6,700	56	Rural	No
VERMILION COUNTY	Vermilion	\$ 0.75	84,500	912	Rural	Yes
VERNON HILLS	Lake	\$ 0.75	23,450	8	Suburban	Yes
WABASH COUNTY	Wabash	\$ 2.50	12,937	221	Rural	Yes
WARREN COUNTY	Warren	\$ 1.35	18,000	544	Rural	Yes
WASHINGTON COUNTY	Washington	\$ 0.95	15,148	565	Rural	Yes
WAUKEGAN	Lake	\$ 0.75	91,000	24	Suburban	Yes
WESTCHESTER	Cook	\$ 1.50	16,500	4	Urban	No
WESTERN SPRINGS	Cook	\$ 1.00	12,493	4	Urban	Yes
WHEELING	Cook	\$ 0.75	40,306	11	Urban	Yes
WHITE COUNTY	White	\$ 2.00	15,371	502	Rural	Yes
WHITESIDE COUNTY	Whiteside	\$ 0.75	60,651	687	Rural	Yes
WILL COUNTY	Will	\$ 0.75	680,000	865	Urban	No
WILLIAMSON COUNTY	Williamson	\$ 1.55	61,296	424	Rural	Yes
WILLOW SPRINGS	Cook	\$ 1.00	5,027	4	Urban	No
WILMETTE	Cook	\$ 1.50	27,651	6	Urban	No
WINNEBAGO COUNTY	Winnebago	\$ 0.50	278,418	520	Suburban	Yes
WINNETKA	Cook	N/A	12,419	4	Urban	Yes
WINTHROP HARBOR	Lake	\$ 1.00	8,000	4	Suburban	No
WOODFORD COUNTY	Woodford	\$ 1.25	35,833	546	Rural	Yes
ZION	Lake	\$ 0.75	23,998	10	Suburban	No

(1) Population and surcharge information is as reported by the Illinois Commerce Commission 2010 Status Report

(2) Response received as of June 22, 2011.



# WIRELESS 9-1-1 Status



2010

Source: ICC's 2010 Illinois 9-1-1 Status Report

Attachment E – Status of Wireless Systems that are not Phase II Compliant

<b>System</b>	<b>Basic</b>	<b>Phase 1</b>	<b>Combination</b>	<b>Population</b>
Berkeley		x		21,000
Berwyn		x		5,245
Blue Island		x		54,000
Boone County		x		17,633
Broadview		x		15,335
Carroll County		x		35,503
Coles County		x		36,000
Edgar County			x	142,315
Calhoun County	x			5,015
Dolton	x			6,000
Edwards County	x			6,458
Fayette County	x			20,887
Forest View	x			713
Green County	x			13,493
Hamilton County	x			8,061
Hardin County	x			4,329
LaSalle County	x			112,146
Moultrie County	x			14,405
Pope County	x			4,014
Shelby County	x			21,622
Vandalia	x			34,264
Wayne County	x			16,207
Iroquois County			x	51,020
Jasper County		x		59,612
Kendall County		x		104,000
Kenilworth		x		16,500
Libertyville		x		88,969
Massac County			x	16,038
Midlothian		x		88,200
Oak Lawn		x		6,108
Orland		x		23,450
Pulaski County		x		3,600
Richland County			x	14,190
White County			x	18,293
Willow Springs		x		15,148
Wilmette		x		15,371
Zion			x	278,418
<b>Totals</b>	<b>14</b>	<b>17</b>	<b>6</b>	<b>1,393,562</b>

## Attachment F - Attorney General ETSA Opinions

SUBJECT	OPINION NUMBER
<b>Authority:</b>	
ETS Board's Authority to Change Municipal Addresses .....	96-027
ETS Board's Authority to Change Names of Roads in Unincorporated Areas .....	99-019
Contractual Authority of a Municipal ETS Board.....	I-90-045
Authority of County ETS Board to Retain Private Legal Counsel .....	I-94-058
Investment Authority for ETS Fund .....	I-96-007
Power of County Board to Change Addresses to Conform to 9-1-1 ETS Database .....	1-03-011
Authority of ETS Board to Purchase Real Estate .....	I-06-022
Powers of ETS Board (Planning and Maintenance of ETS, Disbursement of Funds, Real Estate, Contracts, Law Suits).....	I-07-047
<b>Expenditure of Funds:</b>	
Expenditures from ETS Fund .....	92-019
Illinois Municipal Retirement Fund Contributions for Employees of ETS Board .....	96-038
Expenditure of ETS Funds (maintenance of road and street signs, non-emergency uses, purchase and maintenance of computerized record-keeping systems) .....	98-005
Expenditure of ETS Funds to Compensate Dispatchers.....	98-009
Disbursements from ETS Fund for "Communications Equipment" .....	I-93-025
Investment Authority for ETS Fund .....	I-96-007
Expenditure of ETS Funds for the Maintenance of Road and Street Signs .....	I-97-032
Expenditure of ETS Funds for the Creation and Maintenance of a Geographic Information System.....	I-97-033
Powers of ETS Board (Planning and Maintenance of ETS, Disbursement of Funds, Real Estate, Contracts, Law Suits) .....	I-07-047
Expenditure of ETS Funds (Computer Software) .....	1-09-015
<b>Compatibility of Offices/Conflict of Interest:</b>	
County Board Member and County ETS Board Member .....	91-028
County Board Member and County ETS Employee .....	92-019
County Board Members Serving on County ETS Board .....	96-041
County ETS Board Member Employed by City Operating the ETS.....	I-92-023
Chairman of One ETS Board Serving as Employee of Another ETS Board .....	I-02-053
<b>Personnel:</b>	
Illinois Municipal Retirement Fund Contributions for Employees of ETS Board .....	96-038
Personnel Attributable Directly to the Operation of an ETS .....	98-024
ETS Coordinator's Release of Unlisted Telephone Numbers .....	I-97-026
<b>Creation/Operation:</b>	
Legal Representation and Competitive Bidding Requirements for ETS Boards .....	I-90-046
ETS Board as County Agency Entitled to Representation by State's Attorney .....	1-96-042
Local Law Enforcement Agency Intergovernmental Agreements (ETS Contract with Sheriff for Services - "Enhanced" Services and Fees).....	1-02-040
Composition of County ETS Board.....	1-07-008
Powers of ETS Board (Planning and Maintenance of ETS, Disbursement of Funds, Real Estate, Contracts, Law Suits).....	1-07-047
Creation of ETS Board without Passage of Refendum .....	1-08-019
Creation and Operation of Joint Dispatch Call Center .....	1-08-021

## Attachment G - Summary of Proposed Legislation

### **Bills Introduced in the 97th General Assembly (current as of May 18, 2011)**

#### **97th General Assembly Bills**

**HB1610 - EMERGENCY PHONE ACT-DISABLED** (5/12/2011 Senate Placed on Calendar Order of 3rd Reading May 13, 2011)

Synopsis As Introduced

Amends the Emergency Telephone System Act. Provides that in order to enable access to a 9-1-1 system for cognitively-impaired, disabled, or special needs persons, the installation or connection of any automatic alarm, automatic alerting device, or mechanical dialer shall be allowed. Provides that the device shall be used only in an emergency situation reported by a caregiver after initiating a missing person's report. Sets forth the requirements for the device.

**HB1522 - LOC GOV-EXPENDITURE MANDATES** (3/17/2011 House Rule 19(a) / Re-referred to Rules Committee)

Synopsis As Introduced

Amends the Emergency Telephone System Act. Provides that moneys from the Emergency Telephone System Fund may be expended for the costs of public safety agency personnel who are and equipment that is dispatched in response to an emergency call. Amends the Illinois Municipal Code. In provisions pertaining to the expenditure of the amounts collected by municipalities from municipal hotel use taxes or hotel operator's taxes, provides that the corporate authorities of a municipality may, by ordinance, provide for the amounts collected to be deposited into the general fund of the municipality for any municipal purpose (now, the amounts collected must be spent to promote tourism). Effective immediately.

**HB1910 - EMGCY TELEPHONE - 9-1-1 SYSTEM** (3/17/2011 House Rule 19(a) / Re-referred to Rules Committee)

Synopsis As Introduced

Amends the Emergency Telephone System Act. In a provision prohibiting the installation of or connection to a telephone company's network of any automatic alarm, automatic alerting device, or mechanical dialer that causes the number 9-1-1 to be dialed in order to directly access emergency services, provides an exemption for certain devices used to enable access to the 9-1-1 system for cognitively-impaired, disabled, or special needs persons in an emergency situation reported by a caregiver after initiating a missing person's report. Effective immediately.

Attachment G - Summary of Proposed Legislation (continued)

**Bills Introduced in the 97th General Assembly (current as of May 18, 2011)**

**HB2123 - \$ICC FY12 OCE** (2/22/2011HouseAssigned to Appropriations-General Services Committee)

Synopsis As Introduced

Makes appropriations for the ordinary and contingent expenses of the ICC for the fiscal year beginning July 1, 2011, as follows: General Funds \$1,000,000; Other State Funds \$119,456,500; Total \$120,456,500.

Section 25. The sum of \$65,000,000, or so much thereof as may be necessary, is appropriated from the Wireless Service Emergency Fund to the ICC for its administrative costs and for grants to emergency telephone system boards, qualified government entities, or the Department of State Police for the design, implementation, operation, maintenance, or upgrade of wireless 9-1-1 or E9-1-1 emergency services and public safety answering points.

**HB3296 - WIRELESS EMERGENCY PHONE** (4/15/2011HouseRule 19(a) / Re-referred to Rules Committee)

Synopsis As Introduced

Amends the Wireless Emergency Telephone Safety Act. Provides that the definition of "wireless telephone service" includes wireless enhanced 9-1-1 service, wireline enhanced 9-1-1 service, interconnected VoIP provider service as defined by the regulations set forth by the Federal Communications Commission, IP-enabled service, and prepaid wireless service. Requires that beginning on July 1, 2013, all public safety answering points must provide Phase II wireless services for at least 50% of their carriers. Further provides that surcharges collected and remitted on or after the effective date of the amendatory Act, shall be deposited into the Wireless Service Emergency Fund, totaling \$0.73 per surcharge. Provides that the Wireless Service Emergency Fund is not subject to sweeps that would in any way transfer any funds into any other fund of the State. Removes a provision repealing the Wireless Emergency Telephone Safety Act on April 1, 2013. Effective immediately.

**SB1240 - EMERGENCY TELEPHONE BD-PROP** (5/12/2011SenatePlaced on Calendar Order of Concurrence House Amendment(s) 1 - May 13, 2011)

Synopsis As Introduced

Amends the Emergency Telephone System Act. Provides that an Emergency Telephone System Board shall be authorized to purchase real property if the purchase is made before February 1, 2011. Effective immediately.

## Attachment G - Summary of Proposed Legislation (continued)

### **Bills Introduced in the 97th General Assembly (current as of May 18, 2011)**

**SB1330 - EMGCY TELEPHONE - 9-1-1 SYSTEM** (3/14/2011SenatePlaced on Calendar Order of 3rd Reading March 15, 2011)

Synopsis As Introduced

Amends the Emergency Telephone System Act. In a provision prohibiting the installation of a connection to a telephone company's network of any automatic alarm, automatic alerting device, or mechanical dialer that causes the number 9-1-1 to be dialed in order to directly access emergency services, provides an exemption for certain devices used to enable access to the 9-1-1 system for cognitively-impaired, disabled, or special needs persons in an emergency situation reported by a caregiver after initiating a missing person's report. Effective immediately.

### **SB2063 - PREPAID WIRELESS SURCHARGE**

Introduced in 2011 to codify collection of 9-1-1 surcharges for prepaid phone service. (Hearing scheduled for May 19, 2011.)

Synopsis As Introduced

Creates the Prepaid Wireless 9-1-1 Surcharge Act. Provides for a prepaid wireless 9-1-1 surcharge of 1.5% per retail transaction. Provides that a home rule municipality with a population of more than 500,000 that was imposing its own surcharge on wireless carriers prior to July 1, 1998, may impose a prepaid wireless 9-1-1 surcharge not to exceed 6% per retail transaction sourced to that jurisdiction. Defines "retail transaction". Sets forth the requirements and procedures for sellers to collect and remit the prepaid wireless 9-1-1 surcharge. Exempts providers and sellers of prepaid wireless telecommunications service from liability for damages under specified circumstances. Preempts home rule powers. Contains other provisions. Amends the Wireless Emergency Telephone Safety Act. Removes from the definition of "wireless telephone service" prepaid wireless telephone service. Deletes certain provisions concerning surcharges for prepaid wireless telephone service. Extends the repeal of the Act to January 1, 2019. Provides that the term "wireless subscriber" does not include a subscriber with an account or number associated with prepaid wireless telecommunication service. Makes other changes. Effective July 1, 2011.

### **Existing Rules**

#### **Public Act 096-0025**

SB0074 Enrolled - Section 5. The Emergency Telephone System Act is amended by adding Section 15.7 as follows:

Sec. 15.7. Compliance with certification of 9-1-1 system providers by the ICC. In addition to the requirements of this Section, all 9-1-1 system providers must comply with the requirements of Section 13-900 of the Public Utilities Act.

## Attachment G - Summary of Proposed Legislation (continued)

### **Bills Introduced in the 97th General Assembly (current as of May 18, 2011)**

#### **Public Act 096-0927**

SB0107 Enrolled - Section 5. The High Speed Internet Services and Information Technology Act is amended by changing Sections 20 and 25 as follows:

Defines Interconnected Voice Over Internet Protocol (VoIP) and requires VoIP service providers to collect and remit landline 9-1-1 surcharges.

#### **Public Act 096-1443**

HB4990 Enrolled - Section 5. The Emergency Telephone System Act is amended by changing Sections 10, 11, and 15.4 and by adding Sections 2.21, 2.22, and 2.23 as follows:

"Next generation 9-1-1" or "(NG9-1-1)" means, for the purposes of a Regional Pilot Project, a system comprised of managed Internet Protocol-based networks and elements that augment or replace present day 9-1-1 features and functions and add new capabilities, which may enable the public to transmit text, images, video, or data, or a combination thereof, to the 9-1-1 system.

"Regional Pilot Project" means an experimental program designed to test the efficacy of next generation 9-1-1 (NG9-1-1) within a region that includes not less than 15 counties and not more than 19 counties with an aggregate population no greater than 500,000. Any Regional Pilot Project must be approved by the Commission and provide for an initial testing phase designed to demonstrate the ability of the technology to provide access to emergency services from new and existing sources with no reduction in existing service quality, reliability, or safety.

A board, a qualified governmental entity, a group of boards, or a group of qualified governmental entities involved in a Regional Pilot Project to implement next generation 9-1-1, as defined in this Act, shall submit a plan to the Commission describing in detail the Regional Pilot Project no fewer than 180 days prior to the implementation of the plan..... The Commission shall have authority to approve one, and only one, Regional Pilot Project to implement next generation 9-1-1.

Attachment H - Range of 9-1-1 User Fees as of March, 2011

State	Wireline	Wireless	VoIP
Alabama	Up to 5% of Highest Bundled Rate	\$0.70 \$0.70 Prepaid	Up to 5% of Highest 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 Prepaid	\$0.65
California	.50% of intrastate calls	.50% of intrastate calls	.50% of intrastate calls
Colorado	\$0.43 - \$1.50 (max)	\$0.43 - \$1.50 (max) 1.4% of Sales - Prepaid	\$0.43 - \$1.50 (max)
Connecticut	\$0.50	\$0.50	\$0.50
Delaware	\$0.60	\$0.60	\$0.60
District of Columbia	\$0.76 Wireline \$0.62 Centrex \$4.96 PBX Trunk	\$0.76	\$0.76
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 \$2.50 City of Chicago \$0.73 Prepaid	\$0.25-\$5.00
Indiana	3% or 10% of Monthly Access	\$0.50 \$0.25 Prepaid	3% or 10% of Monthly Access
Iowa	\$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 \$1.30 - \$2.00 Business	\$0.85 2% of Retail Sales - Prepaid	\$1.00
Maine	\$0.45	\$0.45 \$0.45 Prepaid	\$0.45
Maryland	\$1.00	\$1.00	\$1.00

Attachment H - Range of 9-1-1 User Fees as of March, 2011 (continued)

State	Wireline	Wireless	VoIP
Massachusetts	\$0.75	\$0.75 \$0.75 Prepaid	\$0.75
Michigan	\$0.19 State Fee \$0.00 - \$3.00 by County	\$0.19 State Fee \$0.00 - \$3.00 by County \$0.90 Prepaid	\$0.19 State Fee \$0.00 - \$3.00 by County
Minnesota	\$0.97	\$0.90	\$0.80
Mississippi	\$1.00 Res \$2.00 Commercial (25 Lines)	\$1.00 \$1.00 Prepaid	\$1.00
Missouri	15% of Base Rate (51 Counties) .5% of Sales Tax (41 Counties) Unfunded – Remaining Counties	None	
Montana	\$1.00	\$1.00	\$1.00
Nebraska	\$0.50 - \$1.00	\$0.50 - \$0.70	
Nevada	Varies by Jurisdiction – Property tax and/or Surcharge (max \$0.25)	Must be equal to wireline 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) (Legally limited to a few Counties, no general surcharge.)	\$0.28	
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	
South Dakota	\$0.75	\$0.75	\$0.75

Attachment H - Range of 9-1-1 User Fees as of March, 2011 (continued)

State	Wireline	Wireless	VoIP
Tennessee	\$0.65 - \$1.50 Res./ \$2.00 - \$3 Bus	\$1.00	\$1.00
Texas	\$0.50 State Program Fees Vary – District	\$0.50 2% of Sales - Prepaid	\$0.50
Utah	\$0.61 Local Fee plus \$0.08 State Fee	\$0.61 Local Fee plus \$0.08 State Fee	\$0.61 Local Fee plus \$0.08 State Fee
Vermont	Universal Service Funding	Universal Service Funding	
Virginia	\$0.75	\$0.75 \$0.50 Prepaid	\$0.75
Washington	\$0.25 Statewide \$0.70 by Counties	\$0.25 Statewide \$0.70 by Counties	\$0.25 Statewide \$0.70 by Counties
West Virginia	\$0.98 - \$5.34 by County	\$3.00 6% of Sales - Prepaid	\$0.98 - \$5.34 by County
Wisconsin	\$0.36 - \$1.00	None	
Wyoming	\$0.25 - \$0.99	\$0.25 - \$0.99	

Source: National Emergency Number Association website <http://www.nena.org/wireless-9-1-1-deployment>.  
Exact amounts may be adjusted locally.

## Attachment I – CSRIC Transition to NG9-1-1 Recommendations

The Federal Communications Commission’s Communications Security, Reliability and Interoperability Council (CSRIC) Working Group 4B spent nearly a year researching, analyzing and evaluating a wide variety of models, best practices, standards and examples to address the technological, operational, funding and access issues that must be addressed as part of a successful transition to NG9-1-1 across the Nation. Subsequent to the commencement of this study, the CSRIC issued its *Transition to Next Generation 9-1-1 Final Report* which includes the following recommendations:

Recommendations of the CSRIC Working Group 4B Technology subgroup include<sup>27</sup>:

- Additional work to review and modify BP’s identified in the report need further work to align them with NG9-1-1 characteristics and needs. Evaluate the timing to develop future BPs, applicable to NG9-1-1, which are not definable yet.
- Accelerate research and development into emerging technologies for people with disabilities to access 9-1-1. This may include in the near term, technologies such as handset/device-based TTY emulation. In the longer term, evaluation, research and development of real-time text standards and emerging technologies should be intensified while the next generation systems are being designed.
- Additional coordination between the various standards development organizations is needed. In order to maintain interoperability across NG9-1-1 systems and networks, well understood areas of focus and responsibility, and non-overlapping standards efforts will help ensure the compatibility needed to realize the full potential of NG9-1-1.
- FCC should take appropriate actions to support introduction of appropriate legislation to address the liability protection concerns related to the use of SMS in accessing 9-1-1, as well as support national efforts to provide appropriate public education. In addition, the considerations of the current limitations must be well understood, especially with regard to the significantly difference in behavior of SMS versus voice calling.
- 9-1-1 Authorities and PSAPs should inventory and evaluate the IP networks that they are already using because it is likely that multiple, limited-purpose networks will already exist. Consolidation of legacy networks into single (or as few as possible) networks should be strongly urged, rather than multiple, limited-purpose networks.
- The design and engineering of NG9-1-1 systems must take into account the impact on 9-1-1 systems and PSAPs as standardized security practices are implemented where they have not been in place before. Identifying the technical expertise required to design, implement and administer security in a complex network architecture for mission-critical systems will be a priority.

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<sup>27</sup> The Federal Communications Commission’s Communications Security, Reliability and Interoperability Council Working Group 4B *Transition to Next Generation 9-1-1 Final Report*, March 2011, page 10

## Attachment I – CSRIC Transition to NG9-1-1 Recommendations

Recommendations of the CSRIC Working Group 4B Operations subgroup include<sup>28</sup>:

- In support of NG9-1-1 nationwide call routing and transfer capabilities, the National 9-1-1 Program Office, as well as other entities, should be considered for the role of establishing and maintaining the National Forest Guide.
- Promoting collaboration by PSAP administrators through developing relationships with PSAPs outside of their normal service jurisdiction, in an effort to improve their ability to handle calls in an overflow, backup, or disaster situation.
- NENA and APCO should develop standards, which should be implemented at the state, regional, and local PSAP levels, on a variety of operational needs, including: virtual PSAPs, multimedia call processing, text messaging to 9-1-1, and nationwide call transfer procedures.
- Increase educational opportunities offered to 9-1-1 Authorities, Statewide 9-1-1 coordinators, and 9-1-1 stakeholders through educational programs provided by NENA, and APCO, and the National 9-1-1 Program Office.
- Development of models of consortium arrangements and governance supporting system operations roles and responsibilities, regional and state-level coordination should be identified by NENA and the National 9-1-1 Program Office.
- FCC should work with appropriate Federal agencies and non-governmental organizations (e.g., National Association of Regulatory Utility Commissioners [NARUC] and National Conference on State Legislatures [NCSL]) to evaluate regulations, legislation, and tariffs to identify and make recommendations on needed modifications.
- Development of public education programs to inform stakeholders about NG9-1-1 is needed. The APCO/NENA NG9-1-1 Education work group should complete its work and enlist the assistance of the National 9-1-1 Program Office, NENA, and the National Governors' Association in development and distribution of a nationwide message.

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<sup>28</sup> <sup>28</sup> The Federal Communications Commission's Communications Security, Reliability and Interoperability Council Working Group 4B *Transition to Next Generation 9-1-1 Final Report, March 2011, page 11*

## Attachment I – CSRIC Transition to NG9-1-1 Recommendations

Recommendations of the CSRIC Working Group 4B Funding subgroup include<sup>29</sup>:

- Existing surcharges and taxes alone may no longer be adequate to fund both a legacy 9-1-1 system and a transition to next generation services, and as such, new and existing funding models should be evaluated.
- Funding sources must be predictable and sustainable and not reliant on one specific service type.
- Fund diversion or raiding should be prohibited. Sound account management practices call for transparency and accountability in the collection of funds by the government.
- A comprehensive next generation plan and strategy must be developed in sufficient detail to provide direction to states and to establish the framework at a national level and to ensure that the transition to NG9-1-1 is effective.
- States should be analyzing their existing 9-1-1 enabling legislation and subsequent rules, interpreting their 9-1-1 statute to ensure that it properly addresses a transition to NG9-1-1 and development of model legislation should be encouraged.
- Technical standards development and application throughout the NG9-1-1 system are critical to ensure interoperability and minimize cost. Adherence to adopted NG9-1-1 standards should be required for eligibility to funding.
- The National 9-1-1 Program should act as a collector of available grant opportunities and a repository of grant information to assist states and 9-1-1 Authorities with NG9-1-1 transition.
- Implementation, Transition and Maintenance costs will need to be identified at the national-level, state-level, and PSAP level. Data and personnel costs will need to be identified as well.
- The reader should note that while several concepts on NG9-1-1 funding were discussed in the CSRIC 4B Working Group, there was a lack of consensus on specific recommendations. Consensus was reached on the recommendation that the FCC should encourage the National 9-1-1 Program to convene a Blue Ribbon Panel as soon as possible, to address 9-1-1 funding issues and make recommendations for funding construction and maintenance of NG9-1-1 systems.

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<sup>29</sup> <sup>29</sup> The Federal Communications Commission’s Communications Security, Reliability and Interoperability Council Working Group 4B *Transition to Next Generation 9-1-1 Final Report, March 2011, page 12*

## Attachment I – CSRIC Transition to NG9-1-1 Recommendations

Recommendations of the CSRIC Working Group 4B Access subgroup include<sup>30</sup>:

- As recommended by NRIC VII in 2005: —PSAPs should be able to receive and reply to e-mail, SMS and store and forward messages. However, because of their latency and unreliable delivery, such messaging is problematic for emergency communication and users should be educated as to of limitations inherent to these services.||7
- The first recommendation should remain in effect through transition to NG9-1-1 and until there is a generally available real-time text (RTT) solution throughout the wireless industry and across devices.
- Work underway for NOVES industry standards should be encouraged and accelerated. Technical standards leaders in this area should reach out to the accessibility community so that all parties are in agreement on what is being done. Guidance and assistance in coordinating by the FCC could be helpful.
- International awareness and coordination is needed, especially as trials in various countries regarding text messaging and video (sign language) access to emergency services are conducted.
- Interpreter training needs to be in place for the emergency call environment.
- Federal agencies should consider how best to certify devices and services or develop other processes to ensure that the devices and services can properly provide emergency services access as/when needed.
- New access methods should be protected from fraudulent use, from misuse overload, and from intentional overload such that real emergency calls and requests have difficulty getting through to those who can help.

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<sup>30</sup> <sup>30</sup> The Federal Communications Commission’s Communications Security, Reliability and Interoperability Council Working Group 4B *Transition to Next Generation 9-1-1 Final Report, March 2011, page 13*

## Attachment J –CSRIC Summary of Key Findings and Effective Practices for Public Safety Consolidation

**Finding #1** - Successful consolidations require that a trusted and secure governance structure be established, a champion must lead the project and the political leadership must be in place to support the effort.

Effective Practice 1.1 - Consolidation efforts cannot begin until the political ‘will’ exists to see the process through to completion.

Effective Practice 1.2 - Successful consolidations usually have one trait in common, a well-respected champion to spearhead the process from beginning to end.

**Finding #2** - Securing “agency buy-in” was the next biggest challenge.

Effective Practice 2.1 - All participants, regardless of size, have a sense of equal status in both governance and service delivery.

Effective Practice 2.2 - Communicate honestly, meet to resolve issues often, anticipate turf battles and unforeseen problems, allow for contingencies, and treat all stakeholders equally.

**Finding #3** - Legislation may be necessary to create a sustainable funding mechanism or codify relationships between the parties.

Effective Practice 3.1 - More often than not, legislation was required to establish a sustainable funding mechanism and in some cases define structure.

Effective Practice 3.2 - In each case, an education campaign for all stakeholders and the public was necessary to gain approval of the legislation.

## Attachment J- CSRIC Summary of Key Findings and Effective Practices for Public Safety Consolidation (continued)

**Finding #4** - Formalize the arrangement through some sort of legal agreement and to establish strong and clear membership structures.

Effective Practice 4.1 – Agreements must be clear, well defined, and should define major responsibilities, expectations and dispute resolution procedures.

Effective Practice 4.2 - Whatever governance structure is agreed upon, it is essential that an individual is appointed or hired who is responsible for executing according to the policies and direction given by the Board.

Effective Practice 4.3 - A consolidation that provides the supporting functions to its members has many benefits and can easily be expanded to a complete consolidation as needed.

Effective Practice 4.4 - Emergency communication regions should be aligned with other governance regions, e.g. EMS, Fire, Public Health, for maximum efficiencies in governance.

**Finding #5** - Personnel issues are most difficult and troubling in any consolidation and require a great deal of thought at the policy level early on.

Effective Practice 5.1 – Employees at all levels affected by the consolidation should be advised well in advance how the consolidation will impact their income and benefits.

Effective Practice 5.2 – Personnel policy and structure should be created at the beginning and codified in official agreements.

Effective Practice 5.3 – Personnel cannot be effectively managed by a committee so one entity needs to step up and assume this role for the consolidation.

**Finding #6** - Well defined communication channels among stakeholders and the governing body is critical to successful consolidation.

Effective Practice 6.1 – Stakeholder communication can be facilitated through board members who represent stakeholder groups.

Effective Practice 6.2 –Mandated meetings for stakeholder groups or user group meetings are necessary to keep staff informed.

## Attachment J- CSRIC Summary of Key Findings and Effective Practices for Public Safety Consolidation (continued)

Effective Practice 6.3 – Communications tools are used to update stakeholders including policy-level officials.

Effective Practice 6.4 – Open communications and frequent discussions to identify and address issues of concern.

**Finding #7** - Consolidation can produce long term cost efficiencies by reducing operations and technology duplication.

Effective Practice 7.1 – Having an emphasis on improving service with cost saving as a result was a much more realistic goal than placing the emphasis on cost savings and hoping for service improvements as a result.

Effective Practice 7.2 – The benefit of technology consolidation is the shared infrastructure that improves quality of service and interoperability enabling collaboration between different agencies during an incident.

Effective Practice 7.3 – Stakeholders define what is equitable for their particular type of consolidation and that the established funding mechanism or cost allocation structure be sustainable.

Effective Practice 7.4 – Incentivizing consolidation will bring more benefit and eliminate more challenges than mandating a consolidation. Rather than just providing incentive for countywide consolidation, there should be incentives for multicounty/ state consolidations.

Effective Practice 7.5 – Capital costs should be planned and budgeted for by the stakeholders and based on an equitable formula that is codified in the organizations governing agreements

**Finding #8** - Consolidation results in better trained and more focused personnel, increasing the level of public safety.

Effective Practice 8.1 – Set standards for trained and certified personnel employed by local agencies.

Effective Practice 8.2 – Career path planning for staff aids in employee retention.

## Attachment J- CSRIC Summary of Key Findings and Effective Practices for Public Safety Consolidation (continued)

**Finding #9** - The technical infrastructure has become increasingly complex over the last decade, translating into both higher maintenance costs as well as increased training requirements.

Effective Practice 9.1 – Technology must reduce the complexity in how solutions integrate and interface to the public safety operator.

Effective Practice 9.2 – Integrated command and control through a standardized / common technology platform can reduce the cost of ownership, maintenance, training, and operational efficiencies.

Effective Practice 9.3– It is not practical to attempt the migration to NG9-1-1 systems on less than a major metropolitan area, regional (multi-County), state, , or even multi-state basis, as applicable, due to economic and overall system and operational management considerations.

**Finding #10** - Interoperating across technologies is critical.

Effective Practice 10.1 – Standards-based technology enables common user experiences across the operator positions with meaningful interactions across the applications.

Effective Practice 10.2 – Recent trends towards regional, multi-jurisdictional and multi-disciplinary approaches improve day-to-day mission effectiveness and incident response.

**Finding #11** - Shared, standards based systems lead to technical, operational, and financial advantages.

Effective Practice 11.1 – Much of the communications equipment used by emergency responders is being upgraded to the Project 25 (P25) suite of standards based digital equipment.

Effective Practice 11.2 – Shared radio systems provide the optimal level of interoperability.

Effective Practice 11.3 – Standards based public safety wireless communications systems are becoming increasingly important for grant funding.

## Attachment J- CSRIC Summary of Key Findings and Effective Practices for Public Safety Consolidation (continued)

**Finding #12** - The traditional revenue streams to fund capabilities are not keeping pace with the costs to refresh and maintain technology

Effective Practice 12.1 – Developing a sustainable funding mechanism that is separate from the normal appropriation mechanism is needed.

Effective Practice 12.2 – A state by state review of enabling legislation is required to update the policies and regulatory environment to keep pace with new technology.

Effective Practice 12.3 – A review of current fiscal regulations and practices is required to assure that public safety has the necessary control over potential funding sources.

**Finding #13** - Successful implementation of technology is supported by a secure governance structure is highly dependent on effective operational procedures and consistent training of practitioners.

Effective Practice 13.1 – Technology may be a big hurdle to consolidation but experience has shown that governance and political issues are harder to solve.

Effective Practice 13.2 – A monthly survey of the participating agencies is used to ensure that performance meets expectations.

Effective Practice 13.3 – Metrics, such as average time to answer, are tracked regularly to ensure high performance.

**Finding #14** - SOPs must be developed reviewed and vetted by operations personnel prior to consolidation to ensure they are consistent.

Effective Practice 14.1 – Administrative and operational SOPs be drafted by management with input from field operational personnel.

Effective Practice 14.2 – SOPs should be reviewed and approved by police and fire operational boards then the governance board.

## Attachment J- CSRIC Summary of Key Findings and Effective Practices for Public Safety Consolidation (continued)

**Finding #15** - Uniform training is required to ensure agencies coordinate training personnel, standards, policies, procedures and systems.

Effective Practice 15.1 – A training blueprint should be determined and have clear expectations prior to consolidation.

Effective Practice 15.2 – The unified training concept improves operational efficiency, specifically in staffing, utilization of overtime, call handling performance, and morale.

Effective Practice 15.3 – All personnel entrusted with the responsibility for answering 9-1-1 calls should at a minimum complete the APCO Basic Telecommunicator Training Program. If call takers are also responsible for processing calls for medical assistance they should be required to be trained in an approved Emergency Medical Dispatch Training Program. And all call takers should receive formal training that meets the ANSI national standard for processing calls reporting missing and abducted children.

**Finding #16** - Training among the consolidated agencies should be supplemented with exercises that provide reinforcement and practical firsthand experience in handling disasters and other situations that are not routine.

Effective Practice 16.1 – Exercises not only reinforce training but will provide extremely valuable lessons that will improve performance and efficiency during unanticipated catastrophic events.

*Source: Federal Communications Commission's Communications Security, Reliability and Interoperability Council (CSRIC) WORKING GROUP 1A Key Findings and Effective Practices for Public Safety Consolidation Final Report, October 2010*

# Attachment K - Sample Wireless Carrier Survey

**Illinois Wireless Carrier 911 Survey Questions**

**PART I - SURVEY QUESTIONS:**

Survey Questions	Responses
<b>General/Services Currently Offered</b>	
1) Please provide contact information for the Illinois 911 compliance manager at your company.	
2) What is the total number of subscribers for the service jurisdiction area served within Illinois (total by geographic location such as MSA, RSA, BTA, etc.) as of December 31 for each of the following years: 2005, 2006, 2007, 2008, 2009, and 2010? What percentage of these subscribers were prepaid customers for each year?	
3) How many PSAPs do you serve in Illinois?	
4) What Phase (0, 1, or 2) are these PSAPs?	
5) Are you compliant with the Phase offered by each PSAP you serve?	
6) Who is your 911 services vendor?	
7) Do you use a handset based technology (GPS) or a network based technology (Triangulation) in Phase 2 areas?	
<b>Current Legislation</b>	
1) According to legislation, the wireless customer surcharge of 73¢ per number (excluding Chicago) is set to expire on April 1, 2013. Will this have a positive or negative impact on your organization?	
1.a If positive, please explain:	
1.b If negative, please explain:	
<b>911 Expense Recovery</b>	
1) The Wireless Emergency Telephone Safety Act allows wireless carriers to either seek reimbursement from the Wireless Carrier Reimbursement Fund up to 100% of the 14.75 cents per surcharge, per month, which they remit into the fund; or self recover as a separate item on customers' bills. Which cost reimbursement methodology has your company adopted?	
2) Has this process allowed your company the ability to recover all related costs? Please explain.	
3) Has this expense recovery/reimbursement process had an impact on the deployment of 9-1-1 network enhancements within your Illinois wireless network? Please explain.	
4) If you receive expense reimbursement from the Reimbursement Fund:	
4.a How much reimbursement have you requested from the Fund?	
4.b How much reimbursement have you received from the Fund?	
4.c How much reimbursement do your records indicate are receivable from the Fund as of April 30, 2011? What is the age of these receivables?	
5) Does the Fund 911 carrier expense reimbursement process work fairly and efficiently? Please explain.	
6) Do you believe the Wireless Carrier cost recovery portion of the Act puts any wireless carriers at a competitive disadvantage?	
6.a If yes, please provide recommendations and reasons for amending the regulations.	
7) Have any transfers of remitted funds to the State's General Fund had an impact on your reimbursement? Please explain.	
<b>Surcharges and Other Funding:</b>	
1) How much funding have you received from wireless 911 customer surcharges for each of the years 2005, 2006, 2007, 2008, 2009, and 2010? How much from state reimbursements?	Please complete Part II of the Survey (Table A)

Attachment K - Sample Wireless Carrier Survey (continued)

Survey Questions	Responses
2) What other sources of funding do you receive to cover the costs of 911 services?	Please complete Part II of the Survey (Table B)
<b>Expenses:</b>	
1) How much have direct 911 service expenses been for each of the years 2005, 2006, 2007, 2008, 2009, and 2010?	Please complete Part II of the Survey (Table C)
2) Are 911 surcharge revenues sufficient to cover your direct expenses?	
3) What types of expenses are incurred by your company that <u>are</u> covered by 911 customer surcharge revenues?	
4) What types of expenses are incurred by your company that <u>are not</u> covered by 911 customer surcharge revenues?	
5) If all expenses are not covered by state reimbursements or surcharge revenues, how much would the state reimbursements and surcharges need to be for expenses to be covered? Please show supporting calculations and/or rationale.	
<b>Next Generation 911/Future Services:</b>	
1) Do you have any network limitations that would interfere with or prevent customers from sending text messages, pictures, or video from wireless phones to 911 PSAPs?	
2) Are any PSAPs in Illinois able to receive text messages, pictures, or video sent from wireless phones?	
3) Are you aware of any other PSAPs in the country able to receive text messages, pictures, or video sent from wireless phones? If so, please provide details.	
4) Is there any difference in investment or cost to you for customers to be able to send text messages, pictures, or video from wireless phones to 911 PSAPs? Please explain.	
5) What do you consider to be Next Generation 911 services?	
6) What recommendations do you have in order for wireless carriers and the state of Illinois to be able to upgrade to Next Generation 911?	
7) What type of Next Generation 911 system do you recommend for Illinois? Please provide your rationale.	
<b>Other Recommendations:</b>	
1) What recommendations do you have to increase the efficiency of 911 services in your markets?	
2) There is a separate surcharge and reimbursement system in place for the Chicago market. Please provide your thoughts on this. Should this methodology be changed? If so, please provide your recommendations.	
3) What recommendations do you have for the General Assembly to do or not to do?	
4) Should PSAPs within a 9-1-1 system be encouraged to consolidate or share equipment to reduce expenses? Please explain your thoughts on this issue.	
5) Should 911 Systems consolidate and share equipment to reduce expenses? Please explain your thoughts on this issue.	
6) Should the information included on required reporting for wireless carriers be changed?	
7) If yes, how? What should be removed or added?	
8) Do you think the wireless 911 customer surcharge should be continued past April 1, 2013?	
9) If yes, what do you think the rate should be? Also, please provide recommendations for changes to the surcharge for family plan phones, prepaid wireless and other non-standard plans.	

Attachment K - Sample Wireless Carrier Survey (continued)

Survey Questions	Responses
9) Please provide your recommendation on how future funding for 911 services should occur. Given the movement to NG911, should 911 in Illinois continue to be governed on a local level or should it be managed from a Statewide perspective?	
10) Provide a summary of technological challenges 911 systems and PSAPs will be facing in the future.	
11) Provide a summary of 911 related technological challenges wireless carriers will be facing in the future.	
12) If you operate in other states that have Wireless 911 Reimbursement Funds, are there any practices that you would recommend be adopted in Illinois? Please provide details.	
<b>Other Feedback/ Recommendations (please note in detail below):</b>	

**Survey Completed by:**  
 Name: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Title/ Position: \_\_\_\_\_  
 Date Completed: \_\_\_\_\_  
 Telephone Number: \_\_\_\_\_  
 Office Address: \_\_\_\_\_  
 Email Address: \_\_\_\_\_

## Attachment L - Sample System Survey

<b>ICC 911 Survey Questions</b>	
The Illinois Commerce Commission has contracted with Stone Carlie, an accounting and consulting firm, to “conduct a study to determine the future technological and financial needs of (Illinois) wireless 9-1-1 systems” as required by legislation. Your res	
<b>PART I - SURVEY QUESTIONS:</b>	
<b>Survey Questions</b>	<b>Responses</b>
<b>General:</b>	
1) According to legislation, the wireless customer surcharge of 73¢ per number is set to expire on April 1, 2013. Will this have a positive or negative impact on your organization?	
1.a If positive, please explain:	
1.b If negative, please explain:	
<b>Organization:</b>	
1) How many PSAPs do you have in your 9-1-1 system?	
2) What is your address?	
3) Please describe who your back-up PSAP is. For example, in the event of an operational malfunction, what is the back-up plan?	
4) How many primary and secondary PSAPs are in your 9-1-1 system?	
<b>Demographics:</b>	
1) What are the population numbers for the service jurisdiction area served (total population by geographic location such as county or municipality) as of December 31 for each of the following years: 2000 and 2010.	
2) What is the total number of access lines (users) for the service jurisdiction area served (total by geographic location such as county or municipality) as of December 31 for each of the following years: 2005, 2006, 2007, 2008, 2009, and 2010?	
3) How many employees do you have in total? How many dispatchers are on duty dedicated to handling 911 calls at any given time? What is the full time equivalent of these employees?	
4) Since 2005, how has the number of employees changed by year?	
5) What company is the 911 system provider?	
6) Please provide contact information for the 911 system provider.	
7) Describe your wireline service area and provide all or a portion of zip codes served for wireless.	

## Attachment L - Sample System Survey (continued)

<b>Services Offered:</b>	
1) Do you answer calls and dispatch for Law Enforcement____, Fire/Rescue____, EMS____, Other____?	
2) Does your PSAP receive calls from wireline phones?	
3) Does your PSAP receive calls from wireless phones?	
4) Does your PSAP receive calls over the internet using VoIP technology?	
5) If wireless calls are received, are you currently on Phase 0, Phase 1, or Phase 2?	
6) If Phase 2, when did you convert to Phase 2? Were you previously a Phase 1 or Phase 0 center?	
7) If Phase 2, what was the total equipment cost of conversion to Phase 2?	
8) If Phase 1, why have you not converted to Phase 2? If it is too costly, please provide details.	
9) Do you plan to convert to Phase 2?	
10) If yes, when is conversion planned?	
11) If Phase 0, why have you not converted to Phase 1 or Phase 2? If it is too costly, please provide details.	
12) If Phase 0, do you plan to convert to Phase 1 or Phase 2?	
<b>Call Volume:</b>	
1) What is the monthly and annual call volume from wireline phones?	
2) What is the monthly and annual call volume from wireless phones?	
3) What is the monthly and annual call volume from VoIP? <i>(if available)</i>	
4) If the VoIP call volume cannot be tracked separately, is the VoIP call volume included in the call volume for wireline or wireless?	
5) How many dispatches occur each month as a result of 911 calls? <i>(if available)</i>	
6) Please provide as much detail as possible about the types of dispatches; how many are for Law Enforcement, for Fire/Rescue, for EMS, and for Other? <i>(if available)</i>	
7) How many of these dispatches occur as a result of wireline phone calls? <i>(if available)</i>	
8) How many of these dispatches occur as a result of wireless phone calls? <i>(if available)</i>	
9) Do you have enough employees to handle the call volume? If no, please provide details.	
<b>Funding:</b>	
1) What is the wireline 911 customer surcharge in the area(s) served?	
2) How much funding have you received from wireline 911 customer surcharges for each of the years 2005, 2006, 2007, 2008, 2009, and 2010?	
3) How much funding have you received from wireless 911 customer surcharges for each of the years 2005, 2006, 2007, 2008, 2009, and 2010?	
4) What other sources of funding do you receive to cover the costs of 911 services?	
<b>Expenses:</b>	
1) How much have direct 911 service expenses been for each of the years 2005, 2006, 2007, 2008, 2009, and 2010?	
2) Are 911 surcharge revenues sufficient to cover your direct expenses?	
3) What types of expenses are incurred by your system that <u>are</u> covered by 911 customer surcharge revenues?	
4) What types of expenses are incurred by your system that <u>are not</u> covered by 911 customer surcharge revenues?	
5) If all expenses are not covered by surcharge revenues, how much would the wireline and wireless surcharges need to be for expenses to be covered? Please show supporting calculations and/or rationale.	

## Attachment L - Sample System Survey (continued)

<b>Reporting:</b>	
1) Is the system and PSAP required to report periodically (i.e. monthly, quarterly, annually, etc.) to your Board, government agencies and other corporate authorities?	
2) If yes, what reports do you prepare, at what frequency are they prepared and what information is included in the reports?	
3) How much time is required to complete the reports?	
4) Do reports present an accurate image of services offered?	
5) Do reports present an accurate image of revenues and expenses?	
6) Are the reports certified for accuracy?	
7) Are financial operations of the system audited?	
8) Is there an audit performed at the county (or municipality) that includes the financial operations of the 9-1-1 system?	
9) Please provide copies of audited reports from 2005 through present	
<b>Next Generation:</b>	
1) Is your equipment able to receive text messages, pictures, or video sent from wireless phones?	
2) If not, would this be helpful to you and the callers you serve? Please explain in detail.	
3) If not, do you have detailed cost estimate information necessary for upgrades that can be shared?	
4) What impact would this have on staffing and other operational expenses?	
5) How much funding would be needed in order to recover expenses needed for an upgrade to Next Generation 911? Please provide supporting calculations and/or rationale for this estimate.	
<b>Recommendations:</b>	
1) What recommendations do you have to increase the efficiency of 911 services in your area?	
2) What recommendations do you have to be able to upgrade to Next Generation 911?	
3) What recommendations do you have for the General Assembly to do or not to do?	
4) Should PSAPs within a 9-1-1 system be encouraged to consolidate or share equipment to reduce expenses? Please explain your thoughts on this issue.	
5) Should 911 Systems consolidate and share equipment to reduce expenses? Please explain your thoughts on this issue.	
6) Should the information included on required reporting be changed?	
7) If yes, how? What should be removed or added?	
8) Do you think the wireless 911 surcharge should be continued past April 1, 2013?	
9) Please provide your recommendation on how future funding for 911 services should occur. Given the movement to NG9-1-1, should 9-1-1 in Illinois continue to be governed on a local level or should it be managed from a Statewide perspective?	
<b>Other Feedback/ Recommendations (please note in detail below):</b>	
<b>Survey Completed by:</b>	
Name:	
Signature:	
Title/ Position:	
Date Completed:	
Telephone Number:	
Office Address:	
Email Address:	

## Attachment L - Sample System Survey (continued)

**ICC 911 Survey Questions**

**PART II - SURVEY TABLES:**

Please refer to Part I of the Survey for the related questions for each of the requested information below:

*Table A-1:*

POPULATION		NUMBER OF POPULATION		Remarks
Counties/Municipality	2000	2010		
<i>(Please list all counties/municipalities covered by the system)</i>				

*Table A-2:*

POPULATION		NUMBER OF ACCESS LINES						Remarks
Counties/Municipality	2005	2006	2007	2008	2009	2010		
<i>(Please list all counties/municipalities covered by the system)</i>								

*Table B:*

EMPLOYEE HEADCOUNT		NUMBER OF EMPLOYEES						Remarks
Employees	2005	2006	2007	2008	2009	2010		
<i>(Note: "911 Dispatcher" is any employee responsible for answering 911 calls)</i>								
<b>911 Dispatchers:</b>								
911 Dispatchers <i>paid entirely</i> by the 911 fund								
911 Dispatchers <i>paid partially</i> by the 911 fund								
911 Dispatchers <i>not paid</i> by the 911 fund								
FTE equivalent								
<b>Non-911 Dispatchers:</b>								
Non-911 Dispatchers <i>paid entirely</i> by the 911 fund								
Non-911 Dispatchers <i>paid partially</i> by the 911 fund								
Non-911 Dispatchers <i>not paid</i> by the 911 fund								
FTE equivalent								

*Table C:*

CALL VOLUME - <u>WIRELINE</u>							
Month	2005	2006	2007	2008	2009	2010	Remarks
January							
February							
March							
April							
May							
June							
July							
August							
Sept							
October							
November							
December							
Total							

*Table D-1:*

CALL VOLUME - <u>WIRELESS</u>							
Month	2005	2006	2007	2008	2009	2010	Remarks
January							
February							
March							
April							
May							
June							
July							
August							
Sept							
October							
November							
December							
Total							

## Attachment L - Sample System Survey (continued)

Table D-2:

CALL VOLUME - <u>VoIP, etc.</u>							
Month	2005	2006	2007	2008	2009	2010	Remarks
January							
February							
April							
June							
July							
August							
Sept							
October							
November							
December							
Total							

Table E-1:

DISPATCHES - <u>WIRELINE</u>							
Month	2005	2006	2007	2008	2009	2010	Remarks
January							
February							
March							
April							
May							
June							
July							
August							
Sept							
October							
November							
December							
Total							

Table E-2:

DISPATCHES - <u>WIRELESS</u>							
Month	2005	2006	2007	2008	2009	2010	Remarks
January							
February							
March							
April							
May							
June							
July							
August							
Sept							
October							
November							
December							
Total	-	-	-	-	-	-	

Table F-1:

TYPE OF DISPATCH:	LAW ENFORCEMENT						Remarks
	2005	2006	2007	2008	2009	2010	
Month							
January							
February							
March							
April							
May							
June							
July							
August							
Sept							
October							
November							
December							
Total							

## Attachment L - Sample System Survey (continued)

Table F-2:

TYPE OF DISPATCH:	FIRE/ RESCUE						
Month	2005	2006	2007	2008	2009	2010	Remarks
January							
February							
March							
April							
May							
June							
July							
August							
Sept							
October							
November							
December							
Total							

Table F-3:

TYPE OF DISPATCH:	EMS						
Month	2005	2006	2007	2008	2009	2010	Remarks
January							
February							
March							
April							
May							
June							
July							
August							
Sept							
October							
November							
December							
Total							

Table F-4:

TYPE OF DISPATCH:	OTHERS (Please specify: <u>NOT APPLICABLE</u> )						
Month	2005	2006	2007	2008	2009	2010	Remarks
January							
February							
March							
April							
May							
June							
July							
August							
Sept							
October							
November							
December							
Total	-	-	-	-	-	-	

Table G:

911 <u>WIRELINE</u> SURCHARGE RECEIVED							
AMOUNT OF WIRELINE SURCHARGE RECEIVED							
County/Municipality	2005	2006	2007	2008	2009	2010	Remarks
<i>(Please list down all counties/municipalities covered by the system)</i>							

Table H:

911 <u>WIRELESS</u> SURCHARGE RECEIVED							
AMOUNT OF WIRELESS SURCHARGE RECEIVED							
Received from Source	2005	2006	2007	2008	2009	2010	Remarks

## Attachment L - Sample System Survey (continued)

Table I:

REVENUES BY TYPE / FUNDING SOURCES							
REVENUES BY FUNDING SOURCE							
Type of Revenues/ Funding Source	2005	2006	2007	2008	2009	2010	Remarks

Table J:

911 SERVICE EXPENSES									
TOTAL 911 SERVICE EXPENSES									
Type of Expense	<u>Covered by Surcharge? (Y/N)</u>	<u>Recurring or Non- recurring?</u>	2005	2006	2007	2008	2009	2010	Remarks
Personnel									
Equipment (new)									
Repairs and Maintenance									
Contractual Services									
Telephone/Data/Radio Circuits									
Others (Please Specify)									
Administration & Training									
<b>Total</b>									

## Attachment M - Sample State Survey

### ICC 911 Survey Questions

The Illinois Commerce Commission has contracted with Stone Carlie, an accounting and consulting firm, to “conduct a study to determine the future technological and financial needs of (Illinois) wireless 9-1-1 systems” as required by legislation. In addition, The Illinois Commerce Commission has asked us to benchmark Illinois data against other states including yours. Your responses to the questions below will be important to understand funding and technology challenges to offer 911 services. Because of a quick due date to submit a report to the Illinois Commerce Commission and to the Illinois General Assembly, your help and quick responses are needed. Responses to the questions below are needed by May 23, 2011.

#### SURVEY QUESTIONS:

Name of State:  
 Survey Completed by:  
 Title/ Position:  
 Office Address:  
 Email Address:  
 Telephone Number:


#### Revenues

1) What methods are used for funding 911 operations? i.e. customer surcharges, taxes, other funding

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- 2) What is the surcharge amount for wireline?
- 3) What is the surcharge amount for wireless?
- 4) What is the Total State 911 revenues collected in 2009?
- 5) How much was from wireline customer surcharges?
- 6) How much was from wireless customer surcharges?
- 7) How much was from other sources?


#### Expenses

- 1) Are wireless carrier 911 expenses reimburseable?
- 2) Are PSAP or 911 system expenses reimburseable?
- 3) If 911 expenses are reimburseable, what is the process? i.e., what type of paperwork, verification, etc.
- 4) What is included in the definition of "expenses" that may be reimbursed by 911 revenues?
- 5) What were the total 911 expenses during 2009 that were reimbursed?
- 6) What were the total 911 expenses during 2009 that were not reimbursed?
- 7) Were 911 revenues sufficient to cover expenses? Please provide details below:


#### Population

- 1) What was the state population at the end of 2009?
- 2) What was the state population at the end of 2010?
- 3) How many access lines were in service at the end of 2009?
- 4) How many access lines were in service at the end of 2010?
- 5) Population covered by 911 services: either population total or percentage


#### PSAPs

- 1) What is the total number of PSAPs in the state?
- 2) Are all of these PSAPs under state oversight?
- 3) If not, how many are?


#### Reporting Structure

- 1) Please describe the reporting structure for PSAPs within your state.

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## Attachment M - Sample State Survey (continued)

PLEASE PROVIDE THE INFORMATION BELOW:

911 SERVICE EXPENSES				
TOTAL 911 SERVICE EXPENSES				
<u>Type of Expense</u>	<u>Covered by Surcharge ? (Y/N)</u>	<u>Recurring or Non- recurring?</u>	<u>2009</u>	<u>Remarks</u>
Personnel - PSAP (no); Administration (1)				
Equipment (new)				
Repairs and Maintenance				
Contractual Services				
Telephone/Data/Radio Circuits				
Others (Please Specify)				
Total			-	-

CALL VOLUME - <u>WIRELINE</u>		
<u>Month</u>	<u>2009</u>	<u>Remarks</u>
January		
February		
March		
April		
May		
June		
July		
August		
Sept		
October		
November		
December		
Total	-	

CALL VOLUME - <u>WIRELESS</u>		
<u>Month</u>	<u>2009</u>	<u>Remarks</u>
January		
February		
March		
April		
May		
June		
July		
August		
Sept		
October		
November		
December		
Total	-	

## Attachment M - Sample State Survey (continued)

<b>CALL VOLUME - <i>VoIP, etc.</i></b>		
<u>Month</u>	<u>2009</u>	<u>Remarks</u>
January		
February		
March		
April		
May		
June		
July		
August		
Sept		
October		
November		
December		
<b>Total</b>	-	

<b>DISPATCHES - <i>WIRELINE</i></b>		
<u>Month</u>	<u>2009</u>	<u>Remarks</u>
January		
February		
March		
April		
May		
June		
July		
August		
Sept		
October		
November		
December		
<b>Total</b>	-	

<b>DISPATCHES - <i>WIRELESS</i></b>		
<u>Month</u>	<u>2009</u>	<u>Remarks</u>
January		
February		
March		
April		
May		
June		
July		
August		
Sept		
October		
November		
December		
<b>Total</b>	-	

## Attachment M - Sample State Survey (continued)

TYPE OF DISPATCH:		LAW ENFORCEMENT
<u>Month</u>	<u>2009</u>	<u>Remarks</u>
January		
February		
March		
April		
May		
June		
July		
August		
Sept		
October		
November		
December		
<b>Total</b>	-	

TYPE OF DISPATCH:		FIRE/ RESCUE
<u>Month</u>	<u>2009</u>	<u>Remarks</u>
January		
February		
March		
April		
May		
June		
July		
August		
Sept		
October		
November		
December		
<b>Total</b>	-	

TYPE OF DISPATCH:		EMS
<u>Month</u>	<u>2009</u>	<u>Remarks</u>
January		
February		
March		
April		
May		
June		
July		
August		
Sept		
October		
November		
December		
<b>Total</b>	-	

## Attachment M - Sample State Survey (continued)

TYPE OF DISPATCH: (Please specify: _____)	OTHERS		
<u>Month</u>	<u>2009</u>	<u>Remarks</u>	
January			
February			
March			
April			
May			
June			
July			
August			
Sept			
October			
November			
December			
<b>Total</b>	-		

EMPLOYEE HEADCOUNT			
(Note: "911 Dispatcher" is any employee responsible for answering 911 calls)			
<u>Employees</u>	<u>2009</u>	<u>Remarks</u>	
911 Dispatchers:			
911 Dispatchers <i>paid entirely</i> by the 911 fund			
911 Dispatchers <i>paid partially</i> by the 911 fund			
911 Dispatchers <i>not paid</i> by the 911 fund			
FTE equivalent			
Non-911 Dispatchers:			
Non-911 Dispatchers <i>paid entirely</i> by the 911 fund			
Non-911 Dispatchers <i>paid partially</i> by the 911 fund			
Non-911 Dispatchers <i>not paid</i> by the 911 fund			
FTE equivalent			

## Attachment N- ICC Survey Questions

<b>Survey Questions</b>	
<b>Current Cost Recovery Mechanism</b>	
(1)	Is the current funding system created by the Illinois Wireless Emergency Reimbursement Fund fair and equitable to all wireless carriers?
(2)	Does the current funding scheme generate sufficient funds to cover the cost of emergency dispatch services?
(3)	How do the projected funds generated under the current system compare to the projected costs to meet future service requirements?
(4)	How do public assumptions about the Illinois E911 system's capabilities compare to its actual limitations?
(5)	Are you aware of any specific instances where the current process puts any wireless companies at a competitive disadvantage?
(6)	Do incumbent 911 system service providers have sufficient incentives to upgrade their technology absent regulatory change?
(7)	Are / should E911 surcharges be assessed on prepaid phone plans? If yes, does applying the fee at the wholesale level or point-of-sale better ensure end-users are equitably charged and that retailers are not charged with an unreasonable burden?
(8)	Is there a consistent statewide reporting of taxable line counts by type, residential versus business, for each emergency communications district?
(9)	What statutory limitation should be placed on pooled E911 reserve fund to ensure they will be used for their intended purpose?
(10)	How does the anticipated growth of taxable wireless lines compare to growth forecasts of other access methods such as VoIP, USB phones (i.e. magicJack), Telematics (i.e. automatic crash notification systems)?
(11)	Should a single E911 rate be consistently applied across all technologies?
(12)	In your opinion, would the potential cost savings from consolidating PSAPs outweigh the benefit of local services to the public interest?
(13)	Should the State move to a centralized collection and distribution system?

## Attachment N - ICC Survey Questions (continued)

<b>Future Funding Considerations</b>	
(14)	What organizational changes have you considered to reduce E911 costs and improve state-wide efficiency?
(15)	What incentives exist to encourage PSAP consolidation? What additional incentives have been considered?
(16)	Is a free market approach more likely to encourage development of a next generation E911 (NG911) capable network than the current cost recovery funding method?
(17)	Are disparate cost recovery mechanisms for originating 911 traffic and data costs and varying interconnection requirements impeding the transition to NG911?
(18)	Should laws, regulations, and tariffs be modified to account for the responsibility of cost distribution for the decreasing use of shared legacy resources, such as legacy selective routers?
(19)	Has consideration been given to whether the State's legacy 911 networks for wireline, wireless, and interconnected VoIP phones, and IP-enabled devices can be integrated into a combined network capable of supporting NG911?
(20)	How would the introduction of operational requirements such as reliability, scalability, and standardized technology for an IP-based NG911 system could impact various legacy E911 service providers?
(21)	What operational and funding concerns have carriers and PSAP's communicated to you with respect to their anticipated burdens from adopting IP-based NG911 architectures?
(22)	What, if any, statewide standards should be adopted to ensure compatible formats across the NG911 network? What entity should set and update these standards, or assist in their coordination? Should there be a certification process that indicates whether a device or downloadable software application is compliant with certain standards? If so, what form of certification seems to be the most suitable, e.g., self-certification or approved certification organizations?
(23)	Should timetables or deadlines should be established for all PSAPs to support a minimal set of NG911 capabilities?
(24)	Are you aware of any barriers to PSAP consolidation as far as interjurisdictional legal liability, access and retention to confidential personal information, etc.?