



National 911 Program

Review of Nationwide 911 Data Collection

Washington, DC

July, 2013



About the National 911 Program

The mission of the National 911 Program is to provide Federal leadership in supporting and promoting optimal 911 services. It was created as a point of coordination for activities among 911 stakeholders and to provide information that can be used to improve the 911 system. We do that by developing a variety of tools and resources including tools that can be used to plan and implement Next Generation (NG) 911.

The National 911 Program is housed within the Office of Emergency Medical Services at the National Highway Traffic Safety Administration – part of the U.S. Department of Transportation.

Introduction

In today's connected world, data is everywhere. In recent years, state and federal government agencies have increased efforts to collect and analyze data to increase transparency and improve the lives of citizens. As showcased on the federal government's [DATA.gov](https://data.gov) website, more than 73,000 datasets have been provided by over 170 agencies and sub-agencies in support of the Administration's "Open Government Initiative". Recent projects range from real-time nationwide air quality indices and public transportation trip planners to alternative fuel station locations and energy consumption visualizations.

The public safety community has also begun using data in innovative ways. For example, the National Highway Traffic Safety Administration's (NHTSA) Office of Emergency Medical Service (EMS) has developed and manages the National EMS Information System (NEMSIS) which provides the framework for collecting, storing, and sharing standardized EMS data to accurately assess EMS needs and performance. The U.S. Fire Administration's National Fire Incident Reporting System (NFIRS) collects data from fire departments in all 50 states and the District of Columbia on all types of fire related incidents. Within [DATA.gov](https://data.gov), a Safety Community (safety.data.gov) has been established to focus on public safety data, furthering the discussion around crime, roadway safety, and safety in the workplace. While these examples show how the public safety community is embracing "big data", one area is notably lagging behind – 911.

While there are a wealth of 911-related white papers, reports, and fact sheets, there has not been a collection of 911 data representing the national status of 911 system technology or operations. At the national level, a number of fundamental questions about 911 remain unanswered such as:

- How many public safety answering points (PSAPs) are there nationwide?
- How many 911 telecommunicators are there nationwide?
- How many 911 calls occur every year? Month? Day?
- What types of calls are made to 911?
- Which jurisdictions have Basic 911, Enhanced 911 (E911) or Next Generation 911 (NG911) systems available?
- What is the average cost per 911 call?

There have been no evidence-based answers to questions such as these for the nation. Consequently, it is difficult for state and federal governments to allocate the proper amount of funding to 911 agencies or develop appropriate governance models and oversight policy. Additionally, without an understanding of the current status of 911, it is difficult to know where to focus resources to improve service. With no baseline and no measurement tools, it has not been possible to measure progress, or identify effective, data-driven improvement strategies. These issues are magnified as state and local 911 agencies seek to justify effective and cost-efficient investments to assist with the ongoing transition to NG911.

As stated in The Partnership for Public Service's *From Data to Decisions: The Power of Analytics* research report, "The data need to be analyzed, turned into information and made accessible to staff and executives, and the data also need to meet varying needs and be understandable to different

audiences”.¹ The value of the data comes from the story it tells. The collection of meaningful data will help us ask the right questions, but it will not provide the answers. Data can be used to:

- Identify problems,
- Refine problems, and
- Define the questions that lead to solutions

Public policy makers are more likely to establish effective “decision systems” if they are supported by “data systems.” If agencies want to improve program effectiveness and efficiency, they need to manage performance, and to do so, they have to measure it. The measures they choose need to be meaningful and linked to a desired goal or result. Only by collecting and analyzing objective standardized data can actionable gaps be identified and progress measured in implementing NG911.

Data collection is extremely valuable in describing the national status of 911 service, as well as the quality of that service and the nation’s progress in migrating to NG911. Collection of 911 data is essential in helping not only to describe the current foundation of 911, but also in helping PSAPs measure performance, such as metrics to ensure 911 calls are routed properly and assessing the time taken to process calls. Collection of 911 data can be examined and analyzed to aid in multiple decision making processes. As stated in the *2011 National 911 Progress Report*², “Aggregating uniform, national data provides simple statistics, such as the number of PSAPs nationwide, as well as more complex information such as the interoperability of 911 emergency communication systems. With collection and analysis, data can be converted to an informative guide for policy makers charged with providing 911 services for their jurisdictions. Decisions are more likely to be effective and efficient when they are based on data”.

Current 911 Data Collection Efforts

Work has begun to answer these important questions on the status of 911 nationally. The National 911 Program and the National Emergency Number Association (NENA) both collect data to understand the status of 911 service across the country. The private sector, including companies such as Intrado and FirstWatch, also collect proprietary data associated with their efforts to support and serve the 911 industry.

The National 911 Program’s 911 Resource Center maintains a **National 911 Profile Database**³, containing aggregate data from states, to benchmark and show progress in an annual National 911 Progress Report. The most recent data, collected in 2011, included demographic data describing the

¹ *From Data to Decisions: The Power of Analytics*. November 2011. Partnership for Public Service. IBM Center for the Business of Government. Last accessed May 29, 2013.

<http://ourpublicservice.org/OPS/publications/viewcontentdetails.php?id=169>.

² The 2011 National 911 Progress Report can be found at <http://911.gov/pdf/National911ProgressReport2011.pdf>

³ This annual data collection effort and associated process complies with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). In accordance with that Act, the National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT), as the host federal agency for the National 911 Office, received authorization from the Office of Management and Budget (OMB) for the related information solicitation.

status of statewide 911 systems and the progress each state is making toward implementing NG911 such as planning, procurement, installation, testing, transition, and operation.

In addition to the National 911 Profile Database, NENA has been monitoring the deployment of E911 across the country since 2006. Their **Wireless Deployment Profile** has collected data at the county level to determine the status of basic 911, and Wireless Phase I⁴ and Phase II⁵ deployment. This data collection benefits 911 stakeholders at all levels of government by helping to form a more complete nationwide picture of progress to assist in identifying gaps and barriers, especially with the transition to NG911. Additionally, NENA updates a **State NG911 Progress Map**⁶, identifying progress made nationwide at the state and sub-state levels.

The purpose of this report is to combine these two data sets. While neither database is complete, combining data provides a more comprehensive picture of the status of 911 services than either data set provides alone.

NENA: Wireless Deployment Profile and Status of NG911 State Activity

NENA collects state data on 911 deployment and readiness across the nation to monitor and advance the deployment of wireless E911 technologies. These data have been compiled into a Wireless Deployment Profile in which capabilities are categorized into one of the following groups: no 911, basic 911, E911 Phase I and E911 Phase II. These data elements capture the technological status of states and are depicted in county-by-county deployment maps. The deployment maps are accessible⁷ and provide tabular data for each county. Information in the Wireless Deployment Profile is updated by NENA on an ongoing basis.

In addition to the tracking of legacy 911 and E911 deployment, NENA also tracks the status of NG911 state activity to identify states that are conducting or planning NG911 related trials, as well as where NG911 components are currently being implemented. This information helps identify “early adopter” states that have begun the transition to NG911. Indicators of early adoption include state and sub-state initiatives to establish and implement Emergency Services IP networks (ESInets) supporting future NG911 capabilities, and deployment of NG911. These data are presented on a color-coded map which summarizes the status of these activities by state. Activities are broken down by depictions of:

- IP network available at state level
- IP network available at sub-state level
- NG911 planning started
- NG911 preparation activity at state level

⁴ The FCC’s Phase I E911 rules require wireless service providers to provide the PSAP with the telephone number of the originator of a wireless 911 call and the location of the cell site or base station transmitting the call.

⁵ The FCC’s Phase II E911 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 determination technology used (i.e., handset or network).

⁶ NENA’s Status of NG9-1-1 State Activity is available at: http://www.nena.org/?NG911_StateActivity

⁷ Deployment maps can be found at: <http://nena.ddti.net/>.

- NG911 preparation activity at sub-state level
- NG911 implementation in progress at state level
- NG911 implementation in progress at sub-state level

The National Progress on IP network, ESInet and NG911 map is updated by NENA on an ongoing basis.

National 911 Program: National Profile Database

To supplement the NENA data, additional information is necessary to track the status of NG911 implementation and to provide baseline demographic information (e.g., call volume, 911 system, and fiscal information) and to answer basic questions such as the number of PSAPs, telecommunicators, and 911 calls nationwide. To collect these data, the National 911 Program established the National 911 Profile Database. Beginning in 2011, the National 911 Program's National 911 Resource Center, in cooperation with the National Association of State 911 Administrators (NASNA), developed a uniform set of data elements and definitions to be collected from states and aggregated at the national level that focus on 911 demographics and NG911 planning and transition.

The National 911 Profile Database includes:

- 911 Operational Data
 - 911 authorities and levels of service at the state and sub-state level
 - Number of primary / secondary PSAPs
 - Call volume statistics (e.g., wireline, cellular, Voice over Internet Protocol [VoIP], multi-line telephone system [MLTS], telematics, other)
 - Percentage of population served by levels of service
 - Percentage of land area served by levels of service
- 911 Fiscal Data
 - Annual revenue
 - Revenue sources
 - Annual costs
 - Projected revenues and costs

The National 911 Profile Database also includes information that can be used to measure and report on 911 authorities' progress toward implementing NG911 technology and operations. As part of the data collection process, progress benchmarks are reported to reflect the status of state efforts to implement NG911 systems and capabilities. These benchmark elements were categorized into several categories:

- **Planning** – defined as a state that has decided on an an NG911 Architecture or Concept of Operations
- **Procurement** – defined as a state that has released a request for proposals (RFP), procured NG911 components or awarded a contract
- **Installation and Testing** – defined as a state that has either tested or completed the installation and testing of NG911 components or have agreements with service providers to do so

By analyzing the demographic data provided by these states it is possible to begin to understand 911 operations across the country. Some of the key pieces of information from the report include⁸:

- 911 System Operations
 - One-third of states (9 of 27) reported having only a state-level 911 authority and no sub-state 911 authorities
 - Twenty-six states reported having a total of 2,480 primary PSAPs and 538 secondary PSAPs
 - Total call volume of the 19 states reporting data was 173,958,226 calls to 911 with responses ranging from 197,000 calls per state to 89,605,140 calls per state in 2011
- 911 Fiscal Environment
 - The fiscal reporting period for the 27 states reporting included states reporting data based on a fiscal year (16 states), states reporting data based on a calendar year (6 states), states reporting data based on a fiscal year that was coterminous with the calendar year (3 states), and two states choosing “no response”
 - Of the 16 states that provided both sets of data, eight states reported that costs exceeded revenues and eight states reported that costs were less than revenues
 - Of the 16 states responding to questions on revenue source, 15 states have a dedicated 911 surcharge and one state reported using a Universal Service Fund, which funds other programs in addition to 911

In addition to these demographic data, data were also collected on call volume by call type. As indicated in Figure 2, wireless calls resulted in the vast majority (71%) of all 911 calls for the 19 states providing data. Wireline calls still make up 28% of the total. The remaining two percent includes VoIP calls (1%) and other types of calls (1%), which includes multi-line telephone calls, telematics, and others.

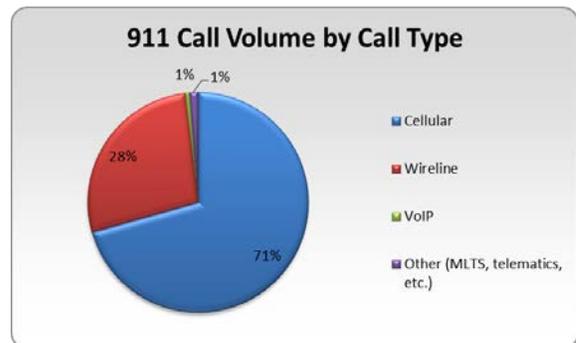


Figure 2: 911 Call Volume by Call Type

The 2011 National 911 Progress Report also collected data on levels of 911 service. Twenty-four states reported nearly 100% of Wireless Phase II E911 service implementation for their population, with 22 states reporting nearly 100% of their geography covered by Wireless Phase II E911 service. These data closely match data from NENA’s 911 Deployment Report, which can be found in Figure 3. NENA’s Wireless Deployment Profile provides a detailed assessment, down to the county level, of E911 implementation nationwide.

⁸ A complete listing of data from the 2011 National 911 Progress Report can be found in Appendix A.



United States 9-1-1 Deployment Report

April 2013

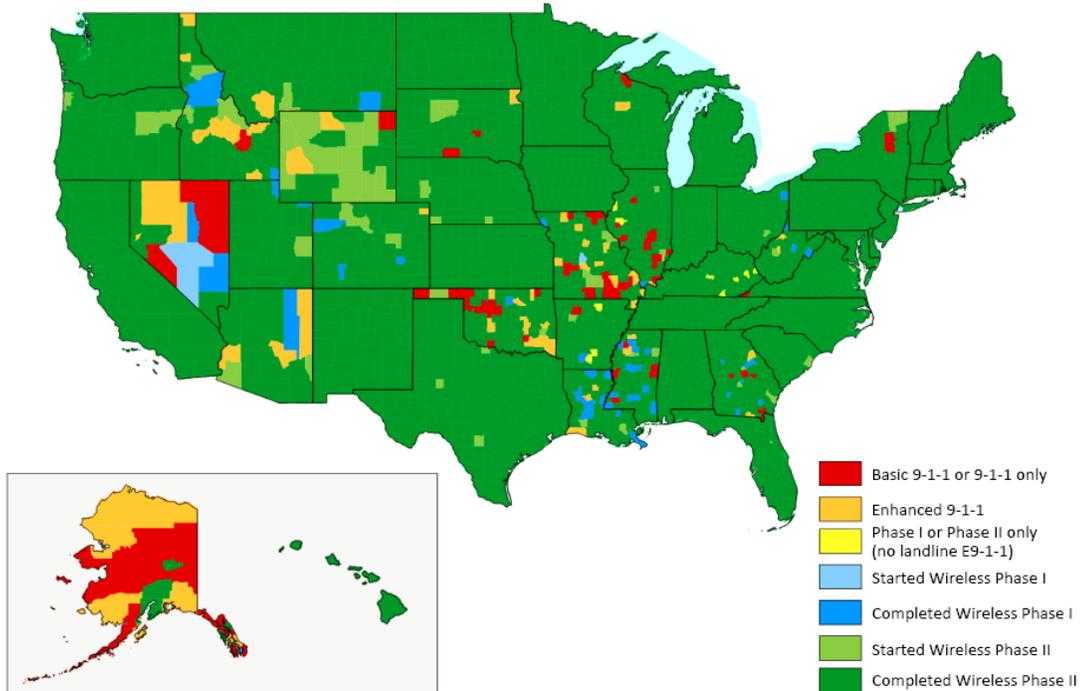


Figure 3: Wireless Deployment Profile

As Figure 3 shows, a majority of the country has implemented E911 Phase II, but some counties remain with only basic 911 service available.

Data collected by the National 911 Program and NENA tells a similar story for the deployment of NG911. These data sets are both incomplete, as only 28 states reported during the National 911 Program’s initial data call in 2011 and 41 states reported to NENA’s National Progress on IP Network, ESInet and NG911 data call. Combining these two data sources, the resulting display provides a more comprehensive understanding of the progress toward NG911 implementation. One main advantage of combining the data is that only seven states remain without any indication of their progress toward NG911. The combined, National 911 Program and NENA data are shown in Figure 4.

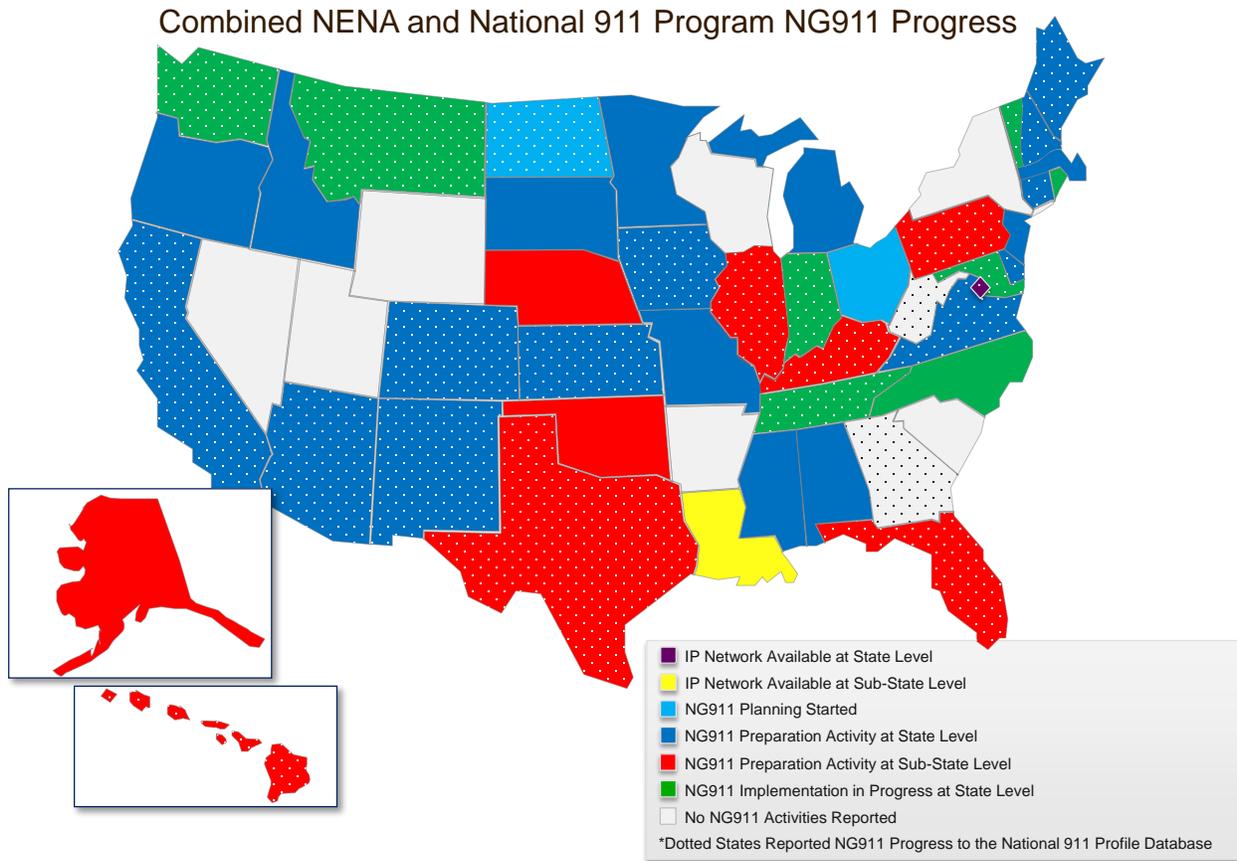


Figure 4: Combined NENA and National 911 Program NG911 Status Data

The 2011 National 911 Progress Report aggregate data relating to NG911 planning and procurement showed the following:

- 11 states had a defined NG911 Architecture
- 9 states completed a NG911 Concept of Operations
- 10 states issued an RFP for procurement of NG911 systems or components
- 7 states awarded a contract for NG911 components
- 7 states completed NG911 component installation and testing
- One state reported 100% of their population is served with NG911 infrastructure, while another state reported 45% of their population is served with NG911 infrastructure

Additionally, NENA’s NG911 status data included the following:

- The District of Columbia reported having an IP network available
- 1 state reported having an IP network available at the sub-state level
- 2 states reported NG911 planning started
- 21 states reported NG911 preparation activity at the state level

- 9 states reported NG911 preparation activity at the sub-state level
- 8 states reported NG911 implementation at the state level
- 9 states did not provide data

A table describing the data submitted for each state in regards to NG911 progress can be found in Appendix B.

Private Sector Data

In addition to the work being done by states and the federal government, private sector companies are currently collecting petabytes of information important to 911 stakeholders. Companies such as Intrado and FirstWatch work closely with local jurisdictions and PSAPs and have collected millions of individual 911 call records. With the proper analysis, these data provide PSAPs with a baseline for their current operations and allows them to identify areas for improvement. This information can also provide insights into PSAP call routing methods, ensuring the most efficient call routing logistics are in place. Should that data became available for public analysis, additional metrics and conclusions about 911 service could be identified.

As PSAPs transition to NG911, there is an opportunity to accept information from additional sources outside of traditional 911 or public safety entities, such vehicle telematics service providers, alarm systems, and other data-rich sensor information. These data, when combined with data from other sources, will provide an enhanced picture of 911 service.

One example of data being used to improve call routing comes from California. Prior to 2008, all cellular 911 calls made throughout the State of California were routed to the California Highway Patrol (CHP) based on the assumption that most people dialing 911 wirelessly were on a road reporting an incident requiring CHP response. As the volume of wireless calls to 911 increased, it overburdened CHP's ability to process calls. Many of these calls were not placed from a highway and required transfer to a local city or county PSAP. Rather than increasing CHP's call handling capacity, the state worked with a private company, Public Safety Network, to implement the "Routing on Empirical Data" (RED) project. Using data from Phase II wireless calls to plot the caller's location data on web-based geographic information system (GIS) maps, the project identified which law enforcement agencies were primarily responsible for each geographic location. Using these data, California worked with wireless service providers to update routing for cellular 911 calls from each sector. Rerouting showed drastic improvements in call processing. ***The number of 911 calls receiving a busy signal fell from 42.4% in 2007 to 4.5% in 2012 even though the overall number of wireless 911 calls increased by 2.6 million calls per year to 14.2 million***⁹. Overall 911 call handling time was reduced with less need to transfer calls to another PSAP. This project demonstrates that gathering and analyzing 911 data can have a major impact on 911 operation, which can translate to increased 911 caller satisfaction, decreased error rates, and significant cost savings for 911 authorities.

⁹ California CIO's Office RED Project press release. http://www.cio.ca.gov/pdf/RED_Press_Release%20Final.pdf

Challenges & Limitations

While access to these limited datasets has already shown benefits to develop the current status of 911, there are ongoing challenges to present a complete and accurate picture. In developing the National 911 Profile Database, the National 911 Program was able to solicit input from 28 states. While this was a major accomplishment for its first year of data collection, future data collections hold much promise for additional participation. The ability of a state to submit data depends to some extent upon the nature of their state-level 911 program's responsibility and authority - which varies widely from state to state. If the local 911 authority does not provide the data to the state, the state's ability to collect local data is limited. Some states may lack the necessary authority to collect data. Additionally, in today's current fiscal environment, dedicating staff to collect and submit information for data requests is sometimes difficult. Some states have struggled with reporting data within the requested timeframe, and not all states maintain the same reporting periods. Further, data normally collected by the state may not be consistent with data elements requested, and even with training and support, some misinterpretations of data element definitions can occur.

Harmonizing data from the different states and thousands of local jurisdictions is another challenge. The nature of the 911 governance structure makes the use of common definitions for data points such as "number of 911 call per year" difficult. The definition of a "call" may vary from jurisdiction to jurisdiction. Do "calls" include text messages? Non-emergency or administrative calls? A common data dictionary that is universally and nationally would be beneficial in implementing a unified approach to data collection, would help improve the accuracy of the data, and would enable meaningful comparison of data among states.

Finally, while there are data being collected at the federal, state, and local levels, there is little coordination or sharing of data. While there is a level of privacy associated with 911 information, until a process is developed for all 911 stakeholders to effectively share the data while protecting individual privacy, it will be difficult to collect uniform, consistent data nationwide and to provide meaningful metrics that will help improve 911 operations.

Moving Forward

As jurisdictions continue to make the transition to NG911, data has become increasingly valuable and useful. There is an ongoing and critical need to collect, analyze, and use 911 data to understand trends and to improve the delivery of the nation's 911 services. Working together, the National 911 Program and NENA, in coordination with NASNA and the states, as well as other public and private 911 data collectors, can offer a complete picture of the national "state of 911" by sharing their 911 data.

Also important is understanding the potential uses if these data. Left in its original state, data stuck in a database is just that—data. The National 911 Program plans to collect and analyze data and ultimately convert it into useful **information**. This information will offer 911 professionals, policymakers, and others the ability to advance 911 service nationwide. The collection of 911 data and its analysis are

tools that establish transparency, improve planning and decision-making, and provide a mechanism for demonstrating effective operations.

Individuals and organizations throughout the 911 community can help improve the state of 911 data collection in a variety of ways:

- Identification of the current degree of data collection within individual PSAPs, states, or organizations is a good first step.
- Raising awareness of the benefits to collecting, analyzing, and sharing data can increase its importance, and result in the provision of necessary data collection authority and resources.
- Working towards standardization of data elements and enhancing national-level data collection will result in data that has been transformed into useful information, information that tells the urgent story of how 911 is carrying out its critical mission.

With that evidence, the needs of the 911 community can be quantified and better communicated, and the progress of the 911 system can be accurately measured.

Appendix A: Complete Data Set from the National 911 Progress Report

<i>911 System Operations</i>	
Call Volume	<p>Total call volume: 173,958,226 (19 of 27 states reported a positive value)</p> <ul style="list-style-type: none"> • The state with the lowest call volume reported 197,000 calls • The state with the highest call volume reported 89,605,140 calls • 8 states chose “no response”
	<p>Total wireline call volume: 46,556,017 (16 of 27 states reported a positive value)</p> <ul style="list-style-type: none"> • The state with the lowest number of wireline calls reported 78,000 • The state with the highest number of wireline calls reported 30,604,220 • 11 states chose “no response”
	<p>Total cellular call volume: 119,330,763 (18 of 27 states reported a positive value)</p> <ul style="list-style-type: none"> • The state with the lowest number of cellular calls reported 118,200 • The state with the highest number of cellular calls reported 59,000,920
	<p>Total VoIP call volume: 1,126,398 (11 of 27 states reported a positive value)</p> <ul style="list-style-type: none"> • The state with the lowest number of VoIP calls reported 3,845 • The state with the highest number of VoIP calls reported 394,802 • 16 states chose “no response”
	<p>Total multi-line Telephone System (MLTS) call volume: 703,073 (4 of 27 states reported a positive value)</p> <ul style="list-style-type: none"> • The state with the lowest number of MLTS calls reported 1,242 • The state with the highest number of MLTS calls reported 591,576 • 23 states chose “no response”
	<p>Total telematics call volume: 18,378 (3 of 27 states reported a positive value)</p> <ul style="list-style-type: none"> • The state with the lowest number of telematics calls reported 800 • The state with the highest number of telematics calls reported 17,578 • 24 states chose “no response”
	<p>Total “other” call volume: 1,294,352 (4 of 27 states reported a positive value)</p> <ul style="list-style-type: none"> • The state with the lowest number of “other” calls had 1,841 • The state with the highest number of “other” calls had 1,286,488

<i>911 System Operations</i>	
911 Authorities and Level of Service	<ul style="list-style-type: none"> • 9 states reported having only a state-level 911 authority and no sub-state 911 authorities • The total number of sub-state 911 authorities reported was 1,749 (26 of 27 states reported a positive value) • 16 counties were reported as having no 911 authority (25 of 27 states reported a positive value) • 2 states chose “no response” • 9 sub-state 911 authorities provide only basic 911 level of service (25 of 27 states reported a positive value; 2 states chose “no response”) • 1,772 sub-state 911 authorities provide E911 level of service (26 of 27 states reported a positive value; 1 state chose “no response”) • 7 sub-state 911 authorities provide Wireless Phase I level of service, but not Wireless Phase II (23 of 27 states reported a positive value; 4 states chose “no response”) • 2,553 sub-state 911 authorities provide Wireless Phase II (25 of 27 states reported a positive value; 2 states chose “no response”) • 1,179 sub-state 911 authorities provide E911 for VoIP (22 of 27 states reported a positive value; 5 states chose “no response”)
Percentage of Population Served by Each Level of Service	<p>Percentage of the population having no 911 authority:</p> <ul style="list-style-type: none"> • 3 states reported respectively 2 percent, 1.3 percent and 3.9 percent • 18 states reported 0 percent • 6 states chose “no response” • The average of all reporting states is 0.343 percent • (27 of 27 states reported) <hr/> <p>Percent of the state’s population having only basic 9-1-1 level of service:</p> <ul style="list-style-type: none"> • 3 states reported respectively .5 percent, 1.41 percent and .1 percent. • 17 states reported 0 percent. • 7 states chose “no response” • The average of all reporting states is 0.101 percent • (27 of 27 states reported) <hr/> <p>Percentage of population having E911 level of service:</p> <ul style="list-style-type: none"> • 21 states reported 100 percent • 5 states reported respectively 98 percent, 98.7 percent, 98.6 percent, 96.1 percent and 99.9 percent • 1 state chose “no response” • The average of all reporting states is 99.665 percent • (27 of 27 states reported)

911 System Operations	
	<p>Percent of population having only Wireless Phase I level of service, but not Wireless Phase II:</p> <ul style="list-style-type: none"> • 21 states reported 0 percent • 1 state reported 0.31 percent • 1 state reported 1 percent • 4 states chose “no response” • The average of all reporting states is 0.057 percent • (27 of 27 states reported)
	<p>Percent of the state’s population with Wireless Phase II level of service:</p> <ul style="list-style-type: none"> • 20 states reported 100 percent • 5 states reported respectively 95 percent, 98.7 percent, 99 percent, 99.9 percent and 5 percent • 2 states chose “no response” • The average of all reporting states is 95.904 percent • (27 of 27 states reported)
	<p>Percent of the state’s population with VoIP E911 level of service:</p> <ul style="list-style-type: none"> • 17 states reported 100 percent • 5 states reported respectively 99.92 percent, 98.7 percent, 58.3 percent, 99 percent and 1.7 percent • 5 states chose “no response” • The average of all reporting states is 93.528 percent • (27 of 27 states reported)
Percentage of Geography Served by Each Level of Service	<p>Percent of the geography having no 911 authority:</p> <ul style="list-style-type: none"> • 17 states reported 0 percent • 2 states reported respectively 2 percent and 4.7 percent • 8 states chose “no response” • The average of all reporting states is .353 percent • (27 of 27 states reported)
	<p>Percent of geography having only basic 911 level of service:</p> <ul style="list-style-type: none"> • 17 states reported 0 percent • 2 states reported respectively 1.1 percent and 3.5 percent • 7 states chose “no response” • The average of all reporting states is 0.242 percent • (26 of 27 states reported)
	<p>Percent of geography having E911 level of service:</p> <ul style="list-style-type: none"> • 20 states reported 100 percent • 4 states reported respectively 90 percent, 96.5 percent, 95.3 percent and 98.9 percent • 2 states chose “no response” • The average of all reporting states is 99.196 percent • (26 of 27 states reported)

911 System Operations	
	<p>Percent of geography having only Wireless Phase I level of service:</p> <ul style="list-style-type: none"> • 18 states reported 0 percent • 2 states reported respectively 1.1 percent and 4.26 percent • 6 states chose “no response” • The average of all reporting states is .268 percent • (26 of 27 states reported)
	<p>Percent of geography having Wireless Phase II level of service:</p> <ul style="list-style-type: none"> • 19 states reported 100 percent • 4 states reported respectively 94.6 percent, 99 percent, 98.9 percent and 60 percent • 3 states chose “no response” • The average of all reporting states is 97.935 percent • (26 of 27 states reported)
	<p>Percent of geography having VoIP E911 level of service:</p> <ul style="list-style-type: none"> • 16 states reported 100 percent 5 states reported respectively 99.36 percent, 94.6 percent, 42.1 percent, 98 percent and 5.35 percent • 6 states chose “no response” • The average of all reporting states is 92.353 percent • (27 of 27 states reported)
State Adoption of Nationally Standardized Definitions for Each Level of Service (yes or no)	<ul style="list-style-type: none"> • Yes – 15 • No – 9 • “No response” – 2 • (26 of 27 states reported)
Nationally Standardized Service Level Definitions Utilized for Reporting Purposes	<ul style="list-style-type: none"> • Yes – 17 • No – 7 • “No response” - 2 • (26 of 27 states reported)
Total Number of Primary PSAPs within a State	<ul style="list-style-type: none"> • 25 states reported a total of 2,480 primary PSAPs • The state with the lowest number of primary PSAPs reported 1 • The state with the highest number of primary PSAPs reported 584 • 1 state chose “no response” • (26 of 27 states reported)

<i>911 System Operations</i>	
Total Number of Secondary PSAPs within a State	<ul style="list-style-type: none"> • 22 states reported a total of 538 secondary PSAPs • The state with the lowest number of secondary PSAPs reported 0 • The state with the highest number of secondary PSAPs reported 89 • Of the 22 states reporting, 7 states entered “0” • 4 states chose “no response” • (26 of 27 states reported)

<i>Fiscal Environment</i>	
Fiscal Data Reporting Period	<ul style="list-style-type: none"> • 16 states reported data based on a fiscal year • 6 states reported data based on a calendar year • 3 states reported data based on a fiscal year that was coterminous with the calendar year • 2 states chose “no response” • (27 of 27 states reported)
Annual Revenues by 911 Authority	<ul style="list-style-type: none"> • 16 states reported data based on a fiscal year • 6 states reported data based on a calendar year • 3 states reported data based on a fiscal year that was coterminous with the calendar year • 2 states chose “no response” • (27 of 27 states reported)
Annual Revenues by 911 Authority Source	<ul style="list-style-type: none"> • 16 states responded with information • Aggregated revenue from the 16 states totaled \$785,027,746.28 • The lowest aggregated revenue reported by a state was \$5,845,000 • The highest aggregated revenue reported by a state was \$86,507,188 • 7 states chose “no response” • 15 states reported having a dedicated 911 surcharge, fee or tax • 1 state reported using a Universal Service Fund surcharge, which funds other programs in addition to 911 • 14 states identified specific telecommunications technologies subject to the surcharge
Annual Costs by 911 Authority	<ul style="list-style-type: none"> • 25 states identified what financial reporting period they were using • 16 states provided cost data • The 16 states’ aggregated costs for fiscal year totaled \$1,629,885,031.76 • The lowest aggregated cost information reported was \$5,845,000 • The highest aggregated cost information reported was \$724,899,840
Comparison of Annual Revenues and Costs	<ul style="list-style-type: none"> • When comparing the costs and revenues of the 16 states that provided both sets of data, 8 states reported that costs exceeded revenues, 8 states reported that costs were less than revenues, and 1 state reported that costs were equal to revenues.

<i>Fiscal Environment</i>	
Projected Annual Revenue by 911 Authority	<ul style="list-style-type: none"> • Of the 25 states that identified the financial reporting period being used, only 8 provided revenue projections, totaling \$391,427,201.36 • Of those states that projected revenues, the lowest projection reported was \$4,504,803 and the highest projection reported was \$192,431,000 • 17 states chose “no response”
Projected Annual Costs by 911 Authority	<ul style="list-style-type: none"> • Of the 25 states that identified the financial reporting period being used, only 8 provided annual cost projections, totaling \$340,850,851.45 • Of those states that projected costs, the lowest projection reported was \$5,845,000 and the highest projection reported was \$215,281,689 • 17 states chose “no response”

<i>Progress Towards Advanced NG911 Systems and Capabilities</i>		
Planning	NG911 System Architecture Defined	<ul style="list-style-type: none"> • 11 states reported that 911 authorities have defined an NG911 architecture, with 4 of them on a statewide basis • 14 states reported they have not yet planned for NG911 • 2 states chose “no response” • (27 of 27 states reported)
	Concept of Operations Defined	<ul style="list-style-type: none"> • 9 states reported that they have completed a concept of operations document for advanced NG911 systems • Of 9 states, 3 of the concept of operations documents were on a statewide basis • 14 states reported “no” • 4 states chose “no response” • (27 of 27 states reported)
Procurement	Release of a Request for Proposal	<ul style="list-style-type: none"> • 10 states indicated that they have issued an RFP for defined state-level NG911 components. Of these, 2 states reported that the RFP was for statewide coverage • 13 states reported they had not issued an RFP • 4 states chose “no response” • (27 of 27 states reported)
	Percentage of 911 Authorities with RFP Released for NG911 Components	<ul style="list-style-type: none"> • Of these 13 states, 2 have statewide coverage • 14 states chose “no response” • (27 of 27 states reported)

Progress Towards Advanced NG911 Systems and Capabilities

Components Being Procured by State	<p>9 states responded to the list of NG911 components being procured by their respective state, with the number of states procuring selected components as follows:</p> <ul style="list-style-type: none"> • Network routers – 9 • Network firewalls – 7 • Network Domain Name Servers (DNS) – 5 • Network Dynamic Host Configuration Protocol (DHCP) servers – 4 • Network time/clock servers – 5 • Network Web Servers – 4 • ESInet Forest Guide – 0 • ESInet Emergency Call Routing Function (ECRF) – 4 • ESInet Agency Locator Functions – 3 • NG Apps – Location Validation Function – 4 • NG Apps – PSAP and agencies crediting authority – 1 • NG Apps – Entity Name/IP Address Service – 4 • NG Apps – Data/Service rights management – 3 • NG Apps – Logging Services – 4 • NG Apps – ESRPs – 5 • NG Apps – Geographic Information Systems (GIS) – 6 • NG Apps – Bridging Services – 2 • NG Apps – Authentication Service – 3 • NG Apps – Policy store/editor – 2 • NG Apps – Rest of the Border Control Function (BCF) – 2 • NG Components – Legacy Network gateway – 4 • NG Components – Legacy PSAP gateway – 3 • NG Components – Legacy Selective Router (SR) gateway – 3
Contract Awarded	<ul style="list-style-type: none"> • 7 states indicated they have awarded a contract for the NG911 components previously identified • 15 states reported “no” • 5 states chose “no response” • (27 of 27 states reported)
Percentage of 911 Authorities that have Awarded Contracts	<ul style="list-style-type: none"> • 13 states responded to this element • An average of 18 percent of 911 authorities reported that they have awarded contracts for NG911 components identified previously • 14 states chose “no response” • (27 of 27 states reported)
Installation and Testing of NG911 Components Completed	<ul style="list-style-type: none"> • 7 states indicated that installation and testing of the NG911 components procured has occurred • 13 states reported “no” • 7 states chose “no response” • (27 of 27 states reported)

<i>Progress Towards Advanced NG911 Systems and Capabilities</i>		
	Percentage of 911 Authorities that have had NG911 Components Installed and Tested	<ul style="list-style-type: none"> • 16 states responded to this element • An average of 32.6 percent of 911 authorities reported they have NG911 components installed and tested • 11 states chose “no response” • (27 of 27 states reported)
	Agreements with Service Providers	<ul style="list-style-type: none"> • 11 states reported they have executed agreements with originating service providers • 15 states chose “no response” • (26 of 27 states reported) • 8 states reported they do not have executed agreements • 18 states chose “no response” • (26 of 27 states reported)
Transition	Percentage of 911 Authorities that Can Process and Interpret Location and Caller Information within their State	<ul style="list-style-type: none"> • 3 states indicated they can process and interpret IP location and caller information within their states – an average of 12.7 percent • 13 states reported “no” • 11 states chose “no response” • (27 of 27 states reported)
	Percentage of Population Served by NG911 Call Taking	<ul style="list-style-type: none"> • 16 states responded to this element • Of these 16 states, 14 indicated no population served by NG911 call taking. • 1 state indicated that 100 percent of in-state population is served by NG911 call taking • 1 state indicated 45 percent of the population is served by NG911 call taking • 11 states chose “no response” • (27 of 27 states reported)
	Percentage of Area Served by NG911 Call Taking	<ul style="list-style-type: none"> • 17 states responded to this element • Of these 17 states, 15 reported no area served by NG911 call taking • 2 states indicated they respectively serve 100 percent and 55 percent of the state with NG911 call taking • 10 states chose “no response” • (27 of 27 states reported)
Operations	Percentage of Planned NG911 Systems that are Operational	<ul style="list-style-type: none"> • 17 states responded to this element • Of these 17 states, 2 states reported 100 percent of planned NG911 systems as operational; another state reported 45 percent as operational – an average of 14.4 percent • 10 states chose “no response” • (27 of 27 states reported)

Progress Towards Advanced NG911 Systems and Capabilities

**Percentage of
NG911 Systems
that can coordinate
with External
Organizations**

- 18 states responded to this element
- Of these 18 states, 2 reported that 100 percent of 911 systems in their state can coordinate with external organizations, and a third state reported 45 percent of 911 systems in their state can coordinate with external organizations – an average of 13.6 percent
- 9 states chose “no response”
- (27 of 27 states reported)

Appendix B: NG911 Progress Data for Each State

State	NG status on NENA map	NG status on 2011 Progress Report
Alabama	Preparation at the state level	Did not report
Alaska	Preparation at the sub-state level	Did not report
Arizona	Preparation at the state level	Reported - Progress
Arkansas	Did not report	Did not report
California	Preparation at the state level	Reported - Progress
Colorado	Preparation at the state level	Reported - Progress
Connecticut	Preparation at the state level	Reported - Progress
Delaware	Implementation at the state level	Reported - Progress
Florida	Preparation at the sub-state level	Reported - Progress
Georgia	Did not report	Reported - Progress
Hawaii	Preparation at the sub-state level	Reported - Progress
Idaho	Preparation at the state level	Did not report
Illinois	Preparation at the sub-state level	Reported - Progress
Indiana	Implementation at the state level	Reported - Progress
Iowa	Preparation at the state level	Reported - Progress
Kansas	Preparation at the state level	Reported - Progress
Kentucky	Preparation at the sub-state level	Reported - Progress
Louisiana	IP network available at the sub-state level	Did not report
Maine	Preparation at the state level	Reported - Progress
Maryland	Implementation at the state level	Reported - Progress
Massachusetts	Preparation at the state level	Did not report
Michigan	Preparation at the state level	Did not report
Minnesota	Preparation at the state level	Did not report
Mississippi	Preparation at the state level	Did not report
Missouri	Preparation at the state level	Did not report
Montana	Implementation at the state level	Reported - Progress
Nebraska	Preparation at the sub-state level	Did not report
Nevada	Did not report	Did not report
New Hampshire	Preparation at the state level	Reported - Progress
New Jersey	Preparation at the state level	Did not report
New Mexico	Preparation at the state level	Reported - Progress
New York	Did not report	Did not report
North Carolina	Implementation at the state level	Did not report
North Dakota	Planning Started	Reported - Progress
Ohio	Planning Started	Did not report
Oklahoma	Preparation at the sub-state level	Did not report
Oregon	Preparation at the state level	Reported - No Progress

National 911 Program – Nationwide 911 Data Collection

State	NG status on NENA map	NG status on 2011 Progress Report
Pennsylvania	Preparation at the sub-state level	Reported - Progress
Rhode Island	Preparation at the state level	Did not report
South Carolina	Did not report	Did not report
South Dakota	Preparation at the state level	Did not report
Tennessee	Implementation at the state level	Reported - Progress
Texas	Preparation at the sub-state level	Reported - Progress
Utah	Did not report	Did not report
Vermont	Implementation at the state level	Reported - Progress
Virginia	Preparation at the state level	Reported - Progress
Washington	Implementation at the state level	Reported - Progress
West Virginia	Did not report	Reported - Progress
Wisconsin	Did not report	Did not report
Wyoming	Did not report	Did not report
American Samoa	N/A	Did not report
Guam	N/A	Did not report
Northern Mariana Islands	N/A	Did not report
Puerto Rico	N/A	Did not report
Virgin Islands	N/A	Did not report
Washington DC	IP network available at the state level	Reported - Progress

*Highlighted rows did not respond to either the National 911 Program or NENA's data call