National 911 Progress Report: 2010 Data

The 9-1-1 Resource Center is operated by CDI-Infrastructure, LLC (a Delaware Limited Liability Company) d/b/a L.R. Kimball under cooperative agreement DTNH22-08-H-00224 with the National Highway Traffic Safety Administration (NHTSA) of the US Department of Transportation.

The goals of the 9-1-1 Resource Center are to provide technical assistance and information to PSAPs and 9-1-1 authorities, and to monitor the progress of 9-1-1 authorities across the United States in implementing more advanced 9-1-1 systems based upon next generation networks and facilities. The purpose of the 9-1-1 Resource Center can be described in the following statement:

"The 9-1-1 Resource Center is THE FIRST place to go for 9-1-1 information and technical assistance."

DISCLAIMER

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INTRODUCTION

The National 911 Program and Resource Center

The National 911 Program (Program) was created to help provide Federal leadership and coordination in supporting and promoting optimal 9-1-1 services in today's evolving world of technology. To help with this endeavor, the Program established a 911 Resource Center that supports three key initiatives: an information clearinghouse; technical and operational assistance in response to queries from state and local 9-1-1 authorities and public safety answering points (PSAPs); and a national 911 profile database (database).

The database and its associated data collection process are designed to produce a national 911 profile that can be used to help accurately measure and depict the current status and planned capabilities of 9-1-1 systems across the United States.[1] Annual evaluations based upon the data collected will help draw attention to key gaps, roadblocks and solutions in the deployment process and target possible future activities and resources consistent with the goals of the Program. Annual progress reports can be used to gauge national progress toward full implementation of the next generation of 9-1-1 emergency communications.

Annual progress reports are based upon a calendar year, with this calendar year of 2011 being the second year reported. The initial 2010 data collection and report process was considered a trial or "beta" effort designed to help reporting states become familiar with the process and to help identify areas that may need clarification or enhancement to ensure consistent reporting. Annual progress reports will be published on the 911 Resource Center's information clearinghouse Website[2] and made available to stakeholders by the National 911 Program.

911 Profile Database

The 911 Profile Database contains information that can be used to measure and report on 9-1-1 authorities' progress towards implementing more advanced 9-1-1 systems based upon next generation technology and operations. Having such information is critical to the development of effective program policies and implementation strategies at all levels of government. Other 9-1-1 stakeholders will also find these data useful in helping develop products and services for the 9-1-1 community.

Enhanced 9-1-1 (E9-1-1) is a North American telecommunications-based public safety service that automatically associates the location of a calling party requesting emergency assistance with the most appropriate PSAP for that location, and selectively routes the call to that PSAP. Phase I and Phase II of E9-1-1 service, as defined by the Federal Communications Commission (FCC) further requires 9-1-1 calls to be delivered with the phone number of the caller and their location, and specifies increased levels of accuracy for the location information provided. E9-1-1 service has proven to be tremendously valuable, resulting in the saving of both lives and property on a daily basis.

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[1] 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.

[2] https://www.911resourcecenter.org/code/InformationClearinghouse.aspx

However, E9-1-1 service is not provided consistently throughout the country. In addition, people communicate today in ways that the designers of the original 9-1-1 system could not have envisioned: wireless phones, text messages, smartphones, video chat and Internet Protocol (IP)-enabled devices and methods. The basic 9-1-1 infrastructure must be upgraded before it can receive or process 9-1-1 calls from digital, IP-enabled communication devices. The National 9-1-1 Profile Database provides an ongoing measurement of the progress of the states in deploying an updated, digital, IP-enabled infrastructure.

Data Dictionary

As part of the data collection process, "data elements" were identified by the National Association of State 9-1-1 Administrators (NASNA) that reflect information of value to 9-1-1 stakeholders and support the purposes and function of the Program. These data elements are grouped around two major categories – "Baseline Data," and "Progress Benchmarks."

- Baseline Data reflect the current status and nature of 9-1-1 operations from state to state. These data elements are largely descriptive in nature, are intended to provide a general demographic view of existing 9-1-1 services across the country, and are grouped into three categories:
    - Administrative,
    - System, and
    - Fiscal.
- Progress Benchmarks reflect the status of state efforts to implement advanced Next Generation 9-1-1 (NG9-1-1) systems and capabilities. These data elements are largely implementation or deployment benchmarks against which progress can be measured. The elements involved are grouped in a logical order of:
    - Planning,
    - Procurement,
    - Installation and testing,
    - Transition, and
    - Operations.

  Planning through testing elements reflect activities at both the state and sub-state level. Transitional and operational elements specifically represent activities at the sub-state level.

To help ensure accurate and consistent data reporting and collection, a data dictionary was developed based upon the data elements described above. The data dictionary provides a clear definition of the data elements and the parameters for filling out and submitting the Web form, which was used by reporting entities to submit their data.[3]

It is recognized that data element definitions should be as clear as possible, and focused on the substantive intent of each element. Element definitions will be reviewed each year, based upon experiences gained through the annual data reporting process, as well as recommendations provided by state reporting entities. As part of this process, new elements may be added, and/or old elements dropped for the overall utility of this data collection.

[3] Subject Dictionary may be found at: https://www.911resourcecenter.org/NPR/2011/DataDictionary.pdf.

Data Collection and Related Reporting Process

Data referenced in this report was collected and submitted by State 9-1-1 entities or state level "points-of-contact."[4] Some of the data reflect state level activity, while other data summarize efforts of regional and local 9-1-1 authorities. States were asked to aggregate their data and enter it into the Resource Center's national 911 profile database utilizing a Web-based tool and form.[5]

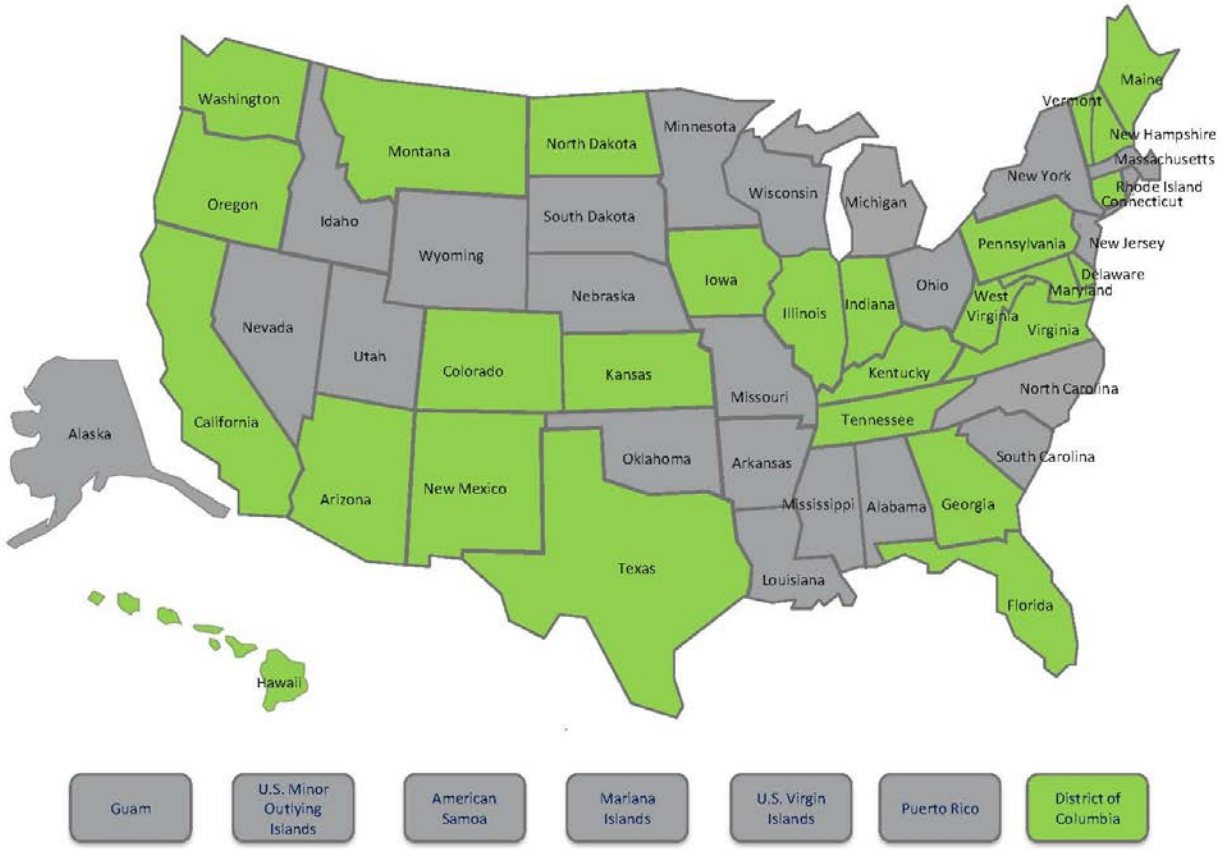
[4] PL 106-81 (Wireless Communications and Public Safety Act of 1999) made "9-1-1" the country's "Universal Emergency Telephone Number." Sec. 3(b) of the Act required that "[t]he The Commission shall encourage each State to develop and implement coordinated statewide deployment plans, through an entity designated by the governor, and to include representatives of the foregoing organizations and entities in development and implementation of such plans." The FCC's implementing rules also required states to help identify appropriate "local emergency authorities" to route 9-1-1 calls to in those areas where 9-1-1 does not formally exist. "Points-of-contact" are those entities designated by each state governor for such purposes.

[5] https://www.911resourcecenter.org/code/9-1-1ProfileDatabase.aspx

National 9-1-1 Progress Report

The 50 states, District of Columbia, Puerto Rico and the four Territories of the United States were invited to submit data for this 2011 report. Twenty-eight states[6] (depicted in green below) submitted data,[7] although in some cases, not all data elements were submitted. Twenty-two states (depicted in gray) and the six Territories did not report.

Map of Reporting States: 2011



The 2011 data reported by 28 states represented:

- 60.5 percent of the total national population, and
- 44.8 percent of the total land area of the U.S.

[6] The 50 States, District of Columbia, Puerto Rico and the US Territories are collectively referred to as "states."
[7] Twenty-seven (27) states officially completed data submission, while one state entered data but did not officially identify completion of data submission.

Table 1—Reporting Years Comparison

State Data Submission	Pilot Year Reporting Period	Year 2011 Reporting Period
Number of States Reporting	23	28
Number of States Reporting Partial Data	7	1
Number of States Completing Data Entry	16	27
Number of States Not Reporting	27 + 6 Territories	22 + 6 Territories

Data submission by 28 states was an increase compared with the 23 states that entered data as part of the initial pilot year of 2010. Table 1 compares the two reporting years.

This report is based upon the data submitted. The analyses of these data do have some limitations. The ability of state reporting entities to submit data depends to some extent upon the nature of their program responsibility and authority, which vary widely from state to state. If 9-1-1 authority is local, the state's ability to collect local data may be limited. This presented a significant challenge to collecting, aggregating and reporting the data.[8]

An additional challenge was presented by the fact that the National 9-1-1 Profile Database represented the first attempt to standardize 9-1-1 data definitions at the national level. While many states collect data and maintain data systems for their own purposes, data elements and data systems vary widely from state to state, with resultant challenges to adapting these data for submission to a nationally uniform database. It will take time and several years of refinement before the National 9-1-1 Profile Database can be truly comprehensive and serve as a definitive resource. Observations are included and associated with the data reported when such data appear to be inconsistent with the intent of the data elements involved (labeled as "observations").

Reporting entities agreed to submit data with the condition that individual states would not be identified. As a result, this report contains only aggregate data submitted by the 28 states. The decision not to identify individual states or their data makes it impossible to provide meaningful comparative interpretation as part of this 2011 progress report.

[8] There is no standard state institutional environment necessary to collect and report the data necessary for the National Progress Report. While some environments may facilitate such collection and reporting, there are many different ways to accomplish that task, and the twenty-eight states that reported in 2011 reflect that diversity.

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PROGRESS REPORT

Current Status and Nature of 9-1-1 Operations

This section reports the aggregate of data elements submitted by states that reflect the current status and nature of 9-1-1 system administration, including operational and fiscal data. These elements are largely descriptive in nature and are intended to provide a general view of existing 9-1-1 service across the country. Observations are provided to either help clarify the data reported and/or to identify an apparent inconsistencies in data.

9-1-1 System Operations

Call Volume

This category has one primary data element - the total 9-1-1 call volume for a state, and six subcategories sorting the data on the basis of call type:

1. Wireline,
2. Wireless,
3. Voice over IP (VoIP)
4. Multiline Telephone System (MLTS)
5. Telematics, and
6. Other.[9]

The following summarizes the data reported.

- Total call volume: 173,958,226 (19 of 27 states reported a positive value)
  - The state with the lowest call volume reported 197,000 calls and the state with the highest call volume reported 89,605,140 calls.
  - 8 states chose "no response."[10]
- Total wireline call volume: 46,556,017 (16 of 27 states reported a positive value)
  - The state with the lowest number of wireline calls had 78,000 and the state with the highest number had 30,604,220.
  - 11 states chose "no response."
- Total cellular call volume: 119,330,763 (18 of 27 states reported a positive value)
  - The state with the lowest number of cellular calls had 118,200 and the state with the highest number had 59,000,920.
  - 9 states chose "no response."
- Total VoIP call volume: 1,126,398 (11 of 27 states reported a positive value)
  - The state with the lowest number of VoIP calls had 3,845 and the state with the highest number had 394,802.
  - 16 states chose "no response."

[9] The values provided for the subcategories should equal the total 9-1-1 call volume reported.
[10] The option to specifically identify "no response" for any particular data element is new to the 2011 reporting process. The intent was to avoid confusing "0" or blank responses.

- Total MLTS[11] call volume: 703,073 (4 of 27 states reported a positive value)
  - The state with the lowest number of MLTS calls had 1,242 and the state with the highest number had 591,576.
  - 23 states chose "no response."

- Total telematics call volume: 18,378 (3 of 27 states reported a positive value)
  - The state with the lowest number of telematics calls had 800 and the state with the highest number had 17,578.
  - 24 states chose "no response."

- Total "other" call volume: 1,294,352 (4 of 27 states reported a positive value)
  - The state with the lowest number of "other" calls had 1,841 and the state with the highest number had 1,286,488.
  - 23 states chose "no response."

Observation: Some states were not able to provide a numerical value for all categories of calls; where information was not available to the state, the state selected "no response" for that data element. As a result, the values those states provided for the subcategories did not always equal the total 9-1-1 call volume reported.

9-1-1 Authorities and Level of Service

This category has one primary data element, the total number of sub-state 9-1-1 authorities in a state, along with sub data elements sorting the data by level of service, e.g., remote call forwarding, wireline E9-1-1, wireless Phase I.

(The data dictionary defines 9-1-1 Authorities as entities having responsibility for planning, coordinating, funding, and supporting 9-1-1 in their respective jurisdictions. Sub-state 9-1-1 authorities are typically a county/parish, municipality, Council of Government, or special 9-1-1 or emergency communications district.)

- 9 states reported having only a state-level 9-1-1 authority and no sub-state 9-1-1 authorities.[12]
- The total number of sub-state 9-1-1 authorities reported was 1,749.[13] (26 of 27 states reported a positive value)

Observation: The number of states that provided information for the associated sub data elements varied for each element and is so noted in parentheses following each reported data element.

[11] Multi-line telephone system

[12] Based upon experience gained during the 2010 Pilot, states were provided an opportunity to indicate that the state-level 9-1-1 entity was the only 9-1-1 authority in the state. Hence, data elements associated with data correlated against sub-state 9-1-1 authorities were not relevant.

[13] 9-1-1 authorities generally have responsibility for planning, coordinating, funding, and supporting 9-1-1 in their respective jurisdictions. 9-1-1 authorities are typically a county/parish, municipality, Council of Government, or special 9-1-1 or emergency communications district. A state-level 9-1-1 entity (usually, but not always, a subdivision of state government) is a type of 9-1-1 authority. As noted above, in some states such entities represent the only 9-1-1 authority in the state.

- 16 counties were reported as having no 9-1-1 authority.[14] (25 of 27 states reported a positive value)
- 2 states chose "no response."

Observation: The 16 counties reported as having no 9-1-1 authority came from a single state.

- 9 sub-state 9-1-1 authorities provide only basic 9-1-1 level of service. (25 of 27 states reported a positive value; 2 states chose "no response")
- 1,772 sub-state 9-1-1 authorities provide E9-1-1 level of service. (26 of 27 states reported a positive value; 1 state chose "no response")
- 7 sub-state 9-1-1 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 9-1-1 authorities provide Wireless Phase II. (25 of 27 states reported a positive value; 2 states chose "no response")
- 1,179 sub-state 9-1-1 authorities provide E9-1-1 for VoIP. (22 of 27 states reported a positive value; 5 states chose "no response")

Observation: States provided various reasons for selecting "no response." For the most part, the reasons include the states' ability and/or authority to obtain necessary information from sub-state entities (e.g., sub-state 9-1-1 authorities and PSAPs, and/or their capability or willingness to provide the information involved). Limiting factors may be statutory or technological in nature or may reflect an unwillingness of local stakeholders to provide information to the state.

Percentage of Population Served by Each Level of Service

This category denotes the percentage of the state's population served by each level of service, beginning with the percentage of the population that does not have a 9-1-1 authority, i.e., does not have any 9-1-1 service except as provided in compliance with the Federal Communications Commission's (FCC's) Fifth Report and Order.

(The data dictionary defines "no 9-1-1 authority" as a county where the telecommunications service providers, in compliance with the FCC's Fifth Report & Order, direct 9-1-1 calls to a PSAP in areas where one has been designated or, in areas where a PSAP has not been designated, to an existing statewide default answering point or another appropriate local emergency authority. The intent of this Order was to ensure that all 9-1-1 calls would get answered. These types of arrangements do not use dedicated 9-1-1 trunks. Carriers comply by using remote call forwarding. Remote call forwarding simply forwards a 9-1-1 call to a 10-digit telephone number, usually an existing emergency telephone number for the local or county law enforcement agency. This arrangement does not constitute 9-1-1 "service.")

- Percent of the population having no 9-1-1 authority:
  - 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)

[14] This data element reflects areas where there is no 9-1-1 service, although 9-1-1 calls are routed to a logical answering point as required by the FCC's Fifth Report and Order.

- Percent of the state's population having only basic 9-1-1 level of service:
  - 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)

- Percent of population having E9-1-1 level of service:
  - 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)

- Percent of population having only Wireless Phase I level of service, but not Wireless Phase II:
  - 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)

Observation: Some of the reporting states reported 100 percent of the state's population with only Wireless Phase I level of service, an apparent misinterpretation of the data element, which the Data Dictionary defines as relating to populations that have only Wireless Phase I and not Wireless Phase II. This was corrected for the purpose of obtaining more accurate statistics for this report.

- Percent of the state's population with Wireless Phase II level of service:
  - 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)

- Percent of the state's population with VoIP E9-1-1 level of service:
  - 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

This category denotes the percentage of the state's geography served by each level of service, beginning with the percentage of the geography that does not have a 9-1-1 authority, i.e., does not have any 9-1-1 service except as provided in compliance with the FCC's Fifth Report and Order.

- Percent of the geography having no 9-1-1 authority:
  - 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)

- Percent of geography having only basic 9-1-1 level of service:
  - 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)

- Percent of geography having E9-1-1 level of service:
  - 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)

- Percent of geography having only Wireless Phase I level of service:
  - 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)

Observation: Some states continue to misinterpret this data element, which has to do with areas where there is only Phase I, but not Phase II (see above).

- Percent of geography having Wireless Phase II level of service:
  - 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)

- Percent of geography having VoIP E9-1-1 level of service:
  - 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

This data element is designed to document states that have adopted nationally standardized definitions of 9-1-1 levels of service. The data element required a response of either "yes" or "no."

- Yes – 15
- No – 9
- "No response" – 2
- (26 of 27 states reported)

Nationally Standardized Service Level Definitions Utilized for Reporting Purposes

Similar to the above element, this element recognizes that some states may not have "adopted" nationally standardized service level definitions, but may use them in reporting to the National Progress Report. Similarly, the data element required a response of either "yes" or "no."

- Yes – 17
- No – 7
- "No response" – 2
- (26 of 27 states reported)

Total Number of Primary PSAPs within a State

(The data dictionary defines "primary PSAP" as, "A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office.")

- 25 states reported a total of 2,480 primary PSAPs.
- The state with the lowest number of primary PSAPs has 1.
- The state with the highest number of primary PSAPs has 584.
- 1 state chose "no response."
- (26 of 27 states reported)

Total Number of Secondary PSAPs within a State

(The data dictionary defines "secondary PSAP" as, "A PSAP to which 9-1-1 calls are transferred from a Primary PSAP.")

- 22 states reported a total of 538 secondary PSAPs.
- The state with the lowest number of secondary PSAPs has 0.
- The state with the highest number of secondary PSAPs has 89.
- Of the 22 states reporting, 7 states entered "0."
- 4 states chose "no response."
- (26 of 27 states reported)

Fiscal Environment

The fiscal data category is designed to capture baseline information regarding 9-1-1 authorities' current annual revenues, the sources of those revenues, annual costs, and near-term projections of both costs and revenues.

Fiscal Data Reporting Period

This data element enables states to identify the reporting period for which their subsequent fiscal data applies, i.e., calendar year, fiscal year, or the calendar year was the fiscal year. The data reported is for the prior fiscal year.

- 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 9-1-1 Authority

This data element is intended to reflect an aggregation of annual 9-1-1 revenues from all sources, including, but not limited to, 9-1-1 surcharges, general funds or service fees; and to aggregate that information for all 9-1-1 authorities in a state (local, county, regional and state) for the 16 states providing data on a fiscal year basis.

- 16 states provided annual revenue information.
- These 16 states reported a total $785,027,746.28 in revenue for the prior fiscal year.
- The lowest aggregated revenue reported by a state was $5,845,000.
- The highest aggregated revenue reported by a state was $86,507,188.
- For those states where there are no sub-state 9-1-1 authorities, there was no aggregation.

Annual Revenues by 9-1-1 Authority Source

This data element requests reporting states identify in text form the basic revenue sources that support "the annual 9 1-1 revenues from all sources" – the previous data element.

- 16 states responded with information.
- These 16 states' aggregated revenue totaled $785,027,746.28.
- The lowest aggregated revenue information reported by a state was $5,845,000.
- The highest aggregated revenue information reported by a state was $86,507,188.
- 7 states chose "no response."
- 15 states reported having a dedicated 9-1-1 surcharge, fee or tax.
- 1 state reported using a Universal Service Fund surcharge, which funds other programs in addition to 9-1-1.
- 14 states identified specific telecommunications technologies subject to the surcharge.

Annual Costs by 9-1-1 Authority

This data element is intended to total the annual 9-1-1 costs for all 9-1-1 authorities (local, regional, county and state) in a state and to aggregate that information to the state level.

- 25 states identified what financial reporting period they were using.
- 16 states provided cost data.
- These 16 states' aggregated costs for fiscal year totaled $1,629,885,031.76.
- The lowest aggregated cost information reported by a state was $5,845,000.
- The highest aggregated cost information reported was $724,899,840.

Comparison of Annual Revenues and Costs

In the aggregate, reported annual costs exceeded the reported annual revenues. 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.

Projected Annual Revenues by 9-1-1 Authority

This data element attempts to total the revenue projections for all 9-1-1 authorities in a state (as with the other data elements, this was for local, county, regional and state 9-1-1 authorities) and to aggregate that information to the state level.

- 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."

Observation: It would appear that the majority of states do not project revenues, are not able to project revenues, are not able to report projected revenues, or are not willing to report projected revenues.

Projected Annual Costs by 9-1-1 Authority

This data element is intended to project annual costs for all the 9-1-1 authorities in a state and to aggregate it to the state level.

- 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."

Observation: It would appear that the majority of states do not or are not able to project costs.

Analysis of Annual Projected Revenues and Costs

In the aggregate, projected revenues slightly exceeded projected costs. Eight states provided revenue projections and eight states provided cost projections; seven states provided both sets of data. When comparing the projected costs and projected revenues of the seven states that provided both sets of data, two states reported that projected revenues were lower than projected costs; three states reported that projected revenues were higher than projected costs and two states reported that projected revenues equaled projected costs.

Observation: Since the majority of reporting states chose "no response," it is difficult to interpret the significance of the above data (e.g., national trends, etc.).

Progress towards Advanced NG9-1-1 Systems and Capabilities

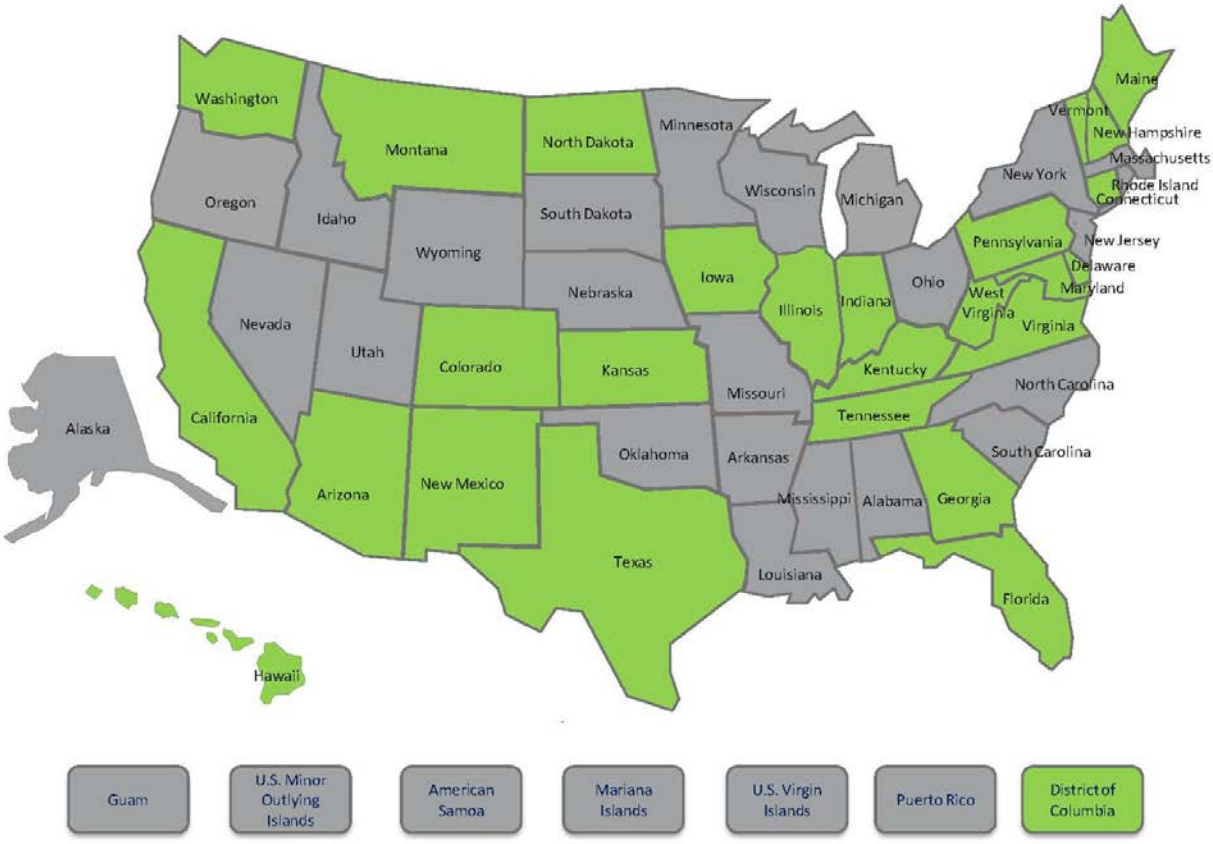
Progress Benchmarks reflect the status of state efforts to implement advanced Next Generation 9-1-1 (NG9 1 1) systems and capabilities. These data elements are largely implementation or deployment benchmarks against which progress can be measured. The elements involved are grouped in a logical order of:

- Planning,
- Procurement,
- Installation and testing,
- Transition, and
- Operations.

Planning through testing elements reflect activities at both the state and sub-state level. Transitional and operational elements specifically represent activities at the sub-state level.

This section reports on progress towards advanced NG9-1-1 systems and capabilities. A total of 27 states (depicted in green) provided data, as indicated in the following map.

Map of States Reporting Progress towards Advanced NG9-1-1 Systems: 2011



Planning

Planning includes the development of a system architecture for NG9-1-1 and a document, usually called a "concept of operations," that provides a detailed description of the characteristics of a proposed system from the viewpoint of an individual who will use that system. It is used to communicate the quantitative and qualitative system characteristics to all stakeholders.

NG9-1-1 System Architecture Defined

Eleven states indicated that they have defined an NG9-1-1 system architecture.[15] Fourteen states indicated that they have not yet begun to plan for NG9-1-1, which implies that the later steps of procurement, installation and testing for advanced NG9-1-1 systems have yet to be accomplished as well.

- 11 states reported that 9-1-1 authorities have defined an NG9-1-1 architecture, 4 of them on a statewide basis.
- 14 states have not yet begun to plan for NG9-1-1.
- 2 states chose "no response."
- (27 of 27 states reported)

Concept of Operations Defined

Nine states (Connecticut, Iowa, Kansas, Maine, Montana, Tennessee, Texas, Vermont and Washington) responded that they have completed a concept of operations document for advanced NG9-1-1 systems.

- Of these 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

Procurement activities range from the request for information (RFI) or request for proposal (RFP) through contract award. Typically a 9-1-1 authority or state 9-1-1 program will request assistance from a consultant, contractor or service provider to assist in the development and implementation of a statewide or regional NG9-1-1 plan. The subtasks that follow comprise the procurement process.

Release of a Request for Proposal

This element is designed to help identify whether a state has released an RFP for defined state-level components, such as an Emergency Services IP network (ESInet), state entry Emergency Services Routing Proxy (ESRP) capability, or state-level NG9-1-1 system. The element is not predicated on the procurement of a "complete" NG9-1-1 system. Instead, it tests any level or component of NG9-1-1 procurement.

[15] Meaning that a state-level definition has been established for NG9-1-1 system architecture, including IP network, Emergency Services IP network (ESInet), NG9-1-1 software services, security architecture, user identity management, database architecture, and PSAP configurations.

- 10 states indicated that they have issued an RFP for defined state-level NG9-1-1 components. Of these, 2 states reported that the RFP was for statewide coverage.
- 13 states reported that they had not issued an RFP.
- 4 states chose "no response."
- (27 of 27 states reported)

Percentage of 9-1-1 Authorities with RFP Released for NG9-1-1 Components

Thirteen states responded to this data element.

- Of these 13 states, 2 have statewide coverage.
- 14 states chose "no response."
- (27 of 27 states reported)

Components Being Procured by State

For the states which have released an RFP, this element provides detail on what NG9-1-1 parts, functions, or components are being procured.

Nine states responded to the list of NG9-1-1 components being procured by their respective state. The number of states procuring selected components is as follows:

- 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

9-1-1 Authority Components Being Procured

Within some states, regional entities or 9-1-1 authorities are procuring NG9-1-1 components. For the most part, network, ESInet and legacy gateway components are being procured, and fewer responding states are procuring specific NG9-1-1 applications or components.

Contract Awarded

- 7 states indicated that they have awarded a contract for the NG9-1-1 components previously identified.
- 15 states reported "no."
- 5 states chose "no response."
- (27 of 27 states reported)

Percentage of 9-1-1 Authorities that have awarded Contracts

A milestone in the procurement process, this data element follows on the above element of "Percentage of 9-1-1 Authorities with RFP Released for NG9-1-1 Components," and solicits a "yes" or "no" response. From that, a list of states that reported they have met this milestone can be generated.

(The data dictionary states that, "The percentage involved is calculated against the total number of 9-1-1 authorities in a state, reported as the "Total Number of Sub-state 9-1-1 Authorities in a State.")

- 13 states responded to this element. An average of 18 percent of 9-1-1 authorities reported that they have awarded contracts for NG9-1-1 components identified previously.
- 14 states chose "no response."
- (27 of 27 states reported)

Installation and Testing of NG9-1-1 Components Completed

These data elements are intended to identify whether the NG9-1-1 part, function, and/or component procured has been installed or deployed and tested. What is being deployed may vary from a simple NG9-1-1 component or function to full NG9-1-1 services provided by a third-party service provider.

- 7 states indicated that installation and testing of the NG9-1-1 components procured has occurred.
- 13 states reported "no."
- 7 states chose "no response."
- (27 of 27 states reported)

Percentage of 9-1-1 Authorities that have had NG9-1-1 Components Installed and Tested

(The data dictionary states that, "The percentage involved is calculated against the total number of 9-1-1 authorities in a state, reported as the "Total Number of Sub-state 9-1-1 Authorities in a State.")

- 16 states responded to this element. An average of 32.6 percent of 9-1-1 authorities reported that they have NG9-1-1 components installed and tested.
- 11 states chose "no response."
- (27 of 27 states reported)

Agreements with Service Providers

This data element asks reporting states to provide a list of originating service providers with whom signed agreements have been reached, where such agreements are necessary to insure consistent and reliable 9-1-1 service, as well as those originating service providers with whom no agreements have been executed. Agreements include those for each state or appropriate jurisdiction.

- 11 states reported that they have executed agreements with originating service providers.
- 15 states chose "no response."
- (26 of 27 states reported)

- 8 states reported that they do not have executed agreements.
- 18 states chose "no response."
- (26 of 27 states reported)

Some larger states have agreements with many originating service providers in their states, but not with all service providers.

Transition

These data elements reflect the extent to which NG9-1-1 systems have been fully deployed in a state, i.e., the implementation of full function NG9-1-1. An NG9-1-1 system would not be considered in "Full function" if issues exist in obtaining location information, caller information, or being able to control certain features (including call-back capabilities), as well as being able to interpret the location (map on a GIS system) and invoke the necessary features (e.g., call back if disconnected) for each mode of incoming call.

Observation: The original intent of the following data elements was to identify the full implementation of NG9-1-1. While several states replied positively to the questions, it is believed that those responses are a misinterpretation of the questions. Because the standards for full functioning NG9-1-1 are still being developed, it is unlikely that any part of the country is providing full NG9-1-1 service.

Percentage of 9-1-1 Authorities That Can Process and Interpret Location and Caller Information within Their State

This data element reflects the percentage of 9-1-1 authority systems in each state that can process an NG9-1-1 emergency call on a service-by-service basis for all service types.

- 3 states indicated that 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 NG9-1-1 Call Taking

This element reflects the percentage of the population for a reporting state served by IP-capable services meeting industry-accepted definitions for NG9-1-1.

- 16 states responded to this element.
- Of these 16 states, 14 indicated no population served by NG9-1-1 call taking. One state indicated that 100 percent of in-state population is served by NG9-1-1 call taking, while another state indicated that 45 percent of the population is served by NG9-1-1 call taking – an average of 9.2 percent.
- 11 states chose "no response."
- (27 of 27 states reported)

Percentage of Area Served by NG9-1-1 Call Taking

This data element specifically reflects the percentage of geographic area served (as opposed to population) by NG9-1-1 services. Data from this will help differentiate progress for those jurisdictions that have dense urban populations, and reflect IP-capable services meeting industry-accepted definitions for NG9-1-1. A large percentage of the population may be served, but the population served may live in a very small geographic portion of the state. This metric could indirectly help gauge progress for rural areas.

- 17 states responded to this element.
- Of these 17 states, 15 reported no area served by NG9-1-1 call taking. Two states indicated they respectively serve 100 percent and 55 percent of the state with NG9-1-1 call taking – an average of 9.7 percent.
- 10 states chose "no response."
- (27 of 27 states reported)

Operations

These data elements test the operational readiness of Planned NG9-1-1 Systems (as identified in the State's Architecture).

Percentage of Planned NG9-1-1 Systems that are Operational

The relative state/jurisdiction's architecture should show how many 9-1-1 authority systems are planned for processing all the IP-based emergency requests (over the entire jurisdiction/population) within an NG9-1-1 environment. This element identifies the percentage of those operational.

(The data dictionary defines the "Percentage of Planned NG9-1-1 Systems that are Operational" as those that are functioning, compared with how many 9-1-1 authority systems are planned by the state, for processing all the IP-based emergency requests (over the entire jurisdiction/population) within a NG9-1-1 environment. The percentage is relative to the total number of planned 9-1-1 systems in the state.)

- 17 states responded to this element.
- Of these 17 states, 2 states reported 100 percent of planned NG9-1-1 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)

Observation: While some states are moving toward NG9-1-1, it is generally accepted that no state is fully NG9-1-1-compliant as of the date of this report; and identifies a need to clarify this question in the survey.

Percentage of NG9-1-1 Systems that can coordinate with External Organizations

The interoperability of the above systems is a critical component of NG9-1-1. This element identifies the percentage of 9-1-1 systems in the state that can utilize their NG9-1-1 system to coordinate with external organizations (e.g., first responders, third-party organizations, poison control, etc.) directly over the IP-based network.

- 18 states responded to this element.
- Of these 18 states, two reported that 100 percent of 9-1-1 systems in their state can coordinate with external organizations, while a third state reported that 45 percent of 9-1-1 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)

Conclusions and Final Observations

Two goals of the National 911 Program are to support and promote coordinated and standardized performance measures for 9-1-1 and to measure the technological progress of 9-1-1 at the state level and nationwide. Achieving these goals will benefit many stakeholders, including:

- Federal Partners
- State 9-1-1 offices
- Regional 9-1-1 authorities, PSAPs, and other local public safety entities
- Other stakeholders and data users

Federal partners include stakeholders with an interest in public safety and emergency communications, e.g., Congress, the USDOT, the FCC, the U.S. Department of Homeland Security, the U.S. Department of Justice, the U.S. Department of Health and Human Services, and others. State 9-1-1 offices will want the data to adequately measure progress towards NG9-1-1 in their respective state, and to help compare their progress with other states. Sub-state 9-1-1 entities will have a similar interest. Other stakeholders may use the information for research, marketing, and other purposes, where national and state-specific data is important to investment decisions. Having accurate and timely data will be essential to effective public policy and decisions supporting growth and provision of 9-1-1 emergency communications.

Ultimately, the value of the data reported will depend upon factors such as:

- Completeness (i.e., represents enough of the country upon which to base evaluations and observations)
- Timeliness (i.e., how recent is the data)
- Accuracy (i.e., are the data measuring that which it is intended to measure)
- Cost (i.e., is there cost associated with data collection, and if so, is it worth it)
- Utility (i.e., usefulness to end user)

Completeness

As noted in the Introduction, the 50 states, District of Columbia, Puerto Rico and the four Territories of the United States were invited to submit data for this 2011 Report. Twenty-eight states submitted data, which is five more "states" than submitted to the pilot in 2010. Twenty-two states, Puerto Rico and the four Territories did not report.

Of the above 28 states, 27 states also reported some data on "Progress towards Advanced NG9-1-1 Systems," which is 8 more states than 2010, and appears to reflect both progress in states' ability to report, along with movement towards NG9-1-1.

Appendix B provides response counts by Data Element, i.e., how many reporting states responded to each Data Element for both parts of this report.

Most states that reported were able to provide some system data, like call volume, numbers of sub-state 9-1-1 authorities, service level by 9-1-1 authority, percentage of population by service level, state adoption of nationally standardized definitions, and some fiscal data. On progress towards more advanced systems, most states that reported responded to the data elements involved, and reflected slow but steady progress in procuring NG9-1-1-type products and services, with an emphasis on basic ESInet network infrastructure.

Non-reporting or submission of incomplete data appear to be a result of varying factors, such as:

- Lack of or limited authority to collect data
- State 9-1-1 authority (ranging from no state-level 9-1-1 entity or coordination mechanism, to strong local government focus)
- Resources (both workforce and fiscal)
- Data normally collected not consistent with reporting data elements requested
- Time required to aggregate and report data in the form requested

It will take time for states to develop their data collection and aggregation process consistent with those of the National Progress Report, and report at a level that will allow substantive analysis and comparison of data from reporting year to reporting year. Although fine tuning the national data reporting process itself to foster accurate and consistent data will help, ultimately reporting completeness will depend upon states developing the capacity to collect, aggregate and report their data. That may take several years, and may include developing alternative mechanisms to collect and report data in states without state-level 9-1-1 organizations.

Timeliness

These 2011 data form a baseline from which progress will be measured in future data collection cycles. Some states struggled with completing the reporting process within the requested timeframe – largely due to the newness of the program and the other issues described above.[16] However, that was not as much of an issue this year as it was in 2010.

[16] The FCC requires states to submit their Annual report on 9-1-1 fees and surcharges by April 15 each year. This may suggest that the schedule for program reporting for the purposes of this report be aligned with process.

Accuracy

In several instances accuracy was impacted by misinterpretations of the data being requested (i.e., data element definitions), and/or data entry on the Web-based data collection tool. Increased training coupled with the continued refinement of data element definitions should help alleviate this problem.

Cost

Some reporting entities cited available resources as an issue (manpower, and thus cost). That may well have been an issue for non-reporting states as well.

Utility

The National 9-1-1 Profile Database represents the first attempt to collect uniform, standardized 9-1-1 data at the national level. It was developed by the National 911 Program as a direct result of an identified need to objectively measure and characterize the status of 9-1-1 services in terms of both technology and operation. Up to this point, the 9-1-1 community has not been able to quantify its collective progress in achieving the next generation of 9-1-1 service. Without the ability to collect and analyze data, it has been very difficult for policy makers to understand, support, or provide the necessary resources to ensure that progress continues to be made in upgrading 9-1-1 technology and operation to meet the needs of the people it serves.

The potential value of these data is clear. 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 9-1-1 emergency communication systems. With collection and analysis, data can be converted to an informative guide for policy makers charged providing 9-1-1 services for their jurisdictions. Decisions are more likely to be effective and efficient when they are based on data.

Data help us ask the right questions…they do 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 be measured in implementing NG9-1-1.

As stated in *"From Data to Decisions: The Power of Analytics,""*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. The value of the data comes from the story it tells.[17]

[17] From Data to Decisions: The Power of Analytics. November 2011. Partnership for Public Service. IBM Center for the Business of Government. Last accessed November 23, 2012. http://ourpublicservice.org/OPS/publications/viewcontentdetails.php?id=169.

This report is based upon the data submitted by the 28 states that participated in data collection. As previously stated, the analyses of these data do have some limitations. The ability of state reporting entities to submit data depends to some extent upon the nature of their program responsibility and authority, which vary widely from state to state. If 9-1-1 authority is local, the state's ability to collect local data may be limited. This presented a significant challenge to collecting, aggregating and reporting the data.

An additional challenge was presented by the fact that the National 9-1-1 Profile Database represented the first attempt to standardize 9-1-1 data definitions at the national level. While many states collect data and maintain data systems for their own purposes, data elements and data systems vary widely from state to state, with resultant challenges to adapting these data for submission to a nationally uniform database. It will take time and several years of refinement before the National 9-1-1 Profile Database can be truly comprehensive and serve as a definitive resource. Observations are included and associated with the data reported when such data appear to be inconsistent with the intent of the data elements involved (labeled as "observations").

Reporting entities agreed to submit data with the condition that individual states would not be identified. As a result, this report contains only aggregate data submitted by the 28 states. The decision not to identify individual states or their data makes it impossible to provide meaningful comparative interpretation as part of this 2011 progress report.

At this point, the data reported can be utilized to identify characteristics and general national 9-1-1 trends, related to the progress that the country collectively is making towards more advanced 9-1-1 systems. Moving forward, this data collection system has great potential in supporting the continued implementation of a seamless, national system of 9-1-1 service. Subsequent data collection could be used to gauge progress. Repeated use, refinement of data definitions, and sharing of data could offer states the ability to exchange information with comparable states, and work together to identify the most effective strategies to move their 9-1-1 systems forward.

The National 911 Program gratefully acknowledges the participation of the NASNA in the development and implementation of this national 9-1-1 data system. Without the experience and expertise shared by its members, the National 9-1-1 Profile Database would not be possible.

APPENDIX A—APPARENT DATA ELEMENT ERRORS

The following table identifies apparent reporting interpretation errors by data element. As such, the errors help identify the focus for additional training and/or revisions to the Data Dictionary's element definitions. The Data Element Number and Field Name are consistent with the Data Dictionary.[18]

Data Element	Description
4.1.2.3 StateAuthOnly	A few states entered "1" when they're not traditionally understood to be the sole 9-1-1 authority within a state. Another state entered "0" when it should have been "1." Upon explanation, it is clear that individual state circumstances are more nuanced than the Data Dictionary provides for.
4.1.2.4.1 TotalCountiesNo911Auth	Some states entered "no response" when a more accurate response would have been "0" because there are no counties in those states that fit the data element definition. One state entered the number of counties in that state, which was a misinterpretation of the data element. What this data element is actually looking for is the number of counties where there is no 9-1-1 service except as required by the FCC's Fifth Report and Order, i.e., "remote call forwarding."
4.1.2.4.3 LOSAuthEnhanced	Several states entered the number of PSAPs or the number of counties rather than the number of sub-state 9-1-1 authorities. This error occurred even with states in which the only 9-1-1 authority is the state itself. This error also occurred in the 2010 report.
4.1.2.4.4 LOSAuthWPH1	Several states entered either the total number of PSAPs in that state or the number of counties, which was a misinterpretation of the data element. What this data element is actually looking for is the number of sub-state 9-1-1 authorities that have only wireless Phase I and not wireless Phase II. This error also occurred in the 2010 report.
4.1.2.4.5 LOSAuthWPH2	A few states entered either the total number of PSAPs in that state or the number of counties, which was a misinterpretation of the data element for those states in which the state is the only 9-1-1 authority. This error also occurred in the 2010 report.
4.1.2.4.6 LOSAuthVoIP	A few states entered either the total number of PSAPs in that state or the number of counties, which was a misinterpretation of the data element for those states in which the state is the only 9-1-1 authority.
4.1.2.5.1 LOSPopNo911Auth	Several states entered "no response" when a more accurate response would have been "0" because there are no counties in those states that fit the data element definition. What this data element is actually looking for is the percentage of the state's population living in counties where there is no 9-1-1 service except as required by the FCC's Fifth Report and Order, i.e., "remote call forwarding."
4.1.2.5.2 LOSPopBasIc	Several states entered "no response" when a more accurate response would have been "0" because there are no counties in those states that fit the data element definition. One state entered "100%," which was a misinterpretation of the data element. What this data element is actually looking for is the percentage of the state's population that has only basic 9-1-1 level of service.
4.1.2.5.4 LOSPopWPH1	The majority of states provided either the number of PSAPs or the number of counties, thus misinterpreting this data element. A few states provided "no response" even though the state is entirely Phase II. What this data element is looking for is the percentage of the state's population that has only wireless Phase I, and not wireless Phase II.

[18] Ibid.

Data Element	Description
4.1.2.5.7 PercentLandNo911Auth	Several states provided "no response." Of those, a number are entirely Enhanced and Phase II, indicating a misinterpretation of the data element. What this data element is looking for is the percentage of the state's geography where there is no 9-1-1 service except that required by the FCC's Fifth Report and Order.
4.1.2.5.8 LOSLandBasIc	Several states provided "no response," including some states that are entirely Enhanced and Phase II. Two states reported 100%, which was a misinterpretation of the data element. This data element seeks information about the percentage of the state's geography where there is only Basic 9-1-1 and nothing more.
4.1.2.5.10 LOSLandWPH1	A significant number of states entered "100%," a misinterpretation of the data element. Several other states entered "no response," including some states that are entirely Enhanced and Phase II. This data element seeks information about the percentage of the state's geography that has only wireless Phase I and not wireless Phase II.

APPENDIX B—RESPONSES BY DATA ELEMENT

The following table identifies State responses (i.e., data input) by Data Element. The Data Element Number and Field Name are consistent with the Data Dictionary.[19] The "No Response" column indicates an element for which a state has specifically selected a "no response" option.[20]

Data Element Number	Field Name	Response	No Response	Total
4.1.2.1	TotalCalls	19	8	27
4.1.2.2.1	TotalCallsWireline	16	11	27
4.1.2.2.2	TotalCallsCellular	18	9	27
4.1.2.2.3	TotalCallsVoIP	11	16	27
4.1.2.2.4	TotalCallsMLTS	4	23	27
4.1.2.2.5	TotalCallsTelematics	3	24	27
4.1.2.2.6	TotalCallsOther	4	23	27
4.1.2.3	StateAuthOnly	26	0	26
4.1.2.3.1	TotalAuth	26	1	27
4.1.2.3.2	StateAuthOnly	0	4	4
4.1.2.4.1	TotalCountiesNo911Auth	25	2	27
4.1.2.4.2	LOSAuthBasic	25	2	27
4.1.2.4.3	LOSAuthEnhanced	26	1	27
4.1.2.4.4	LOSAuthWPH1	24	2	26
4.1.2.4.5	LOSAuthWPH2	25	2	27
4.1.2.4.6	LOSAuthVoIP	22	5	27
4.1.2.5.1	LOSPopNo911Auth	21	6	27
4.1.2.5.2	LOSPopBasic	20	7	27
4.1.2.5.3	LOSPopEnhanced	26	1	27
4.1.2.5.4	LOSPopWPH1	23	4	27
4.1.2.5.5	LOSPopWPH2	25	2	27
4.1.2.5.6	LOSPopVoIP	22	5	27
4.1.2.5.7	LOSLandNo911Auth	19	8	27
4.1.2.5.8	LOSLandBasic	19	7	26
4.1.2.5.9	LOSLandEnhanced	24	2	26
4.1.2.5.10	LOSLandWPH1	20	6	26
4.1.2.5.11	LOSLandWPH2	23	3	26
4.1.2.5.12	LOSLandVoIP	21	6	27
4.1.2.6	LOSNatStand	24	2	26
4.1.2.7	LOSLandBasic	24	2	26

[19] Ibid.
[20] The option to specifically identify "no response" for any particular data element is new to the 2011 reporting process. The intent was to avoid confusing "0" or blank responses.

Data Element Number	Field Name	Response	No Response	Total
4.1.2.8.1	PrimaryPSAPs	25	1	26
4.1.2.8.2	SecondaryPSAPs	22	4	26
4.1.3.1	FiscalDataPeriodType	25	2	27
4.1.3.2	AnnualRevenues	16	7	23
4.1.3.2.1	AnnualRevenueSources	23	4	27
4.1.3.3	AnnualCosts	9	11	20
4.1.3.4	ProjectedRevenues	8	18	26
4.1.3.5	ProjectedCosts	0	19	19
4.2.1.1	SystemArchitecture	25	2	27
4.2.1.2	SystemArchitecturePercent	15	12	27
4.2.1.3	ConceptOfOperations	23	4	27
4.2.1.4	ConceptOfOperationsPercent	13	14	27
4.2.2.1	RequestForProposal	23	4	27
4.2.2.2	RequestForProposalPercent	13	14	27
4.2.2.3	ProcuredComponents	10	17	27
4.2.2.4	ProcuredComponentsAuth	7	20	7
4.2.2.5	ContractAwarded	22	5	27
4.2.2.6	ContractAwardedPercent	13	14	27
4.2.2.7	InstallTest	20	7	27
4.2.2.8	InstallTestPercent	16	11	27
4.2.2.9.1	ProviderAgreements	11	15	26
4.2.2.9.2	ProviderNoAgreements	8	18	26
4.2.3.1	IPProcessInfoPercent	16	11	27
4.2.3.2	PopServedByIPPercent	16	11	27
4.2.3.3	AreaServedByIPPercent	17	10	27
4.2.4.1	IPOperationalPercent	17	10	27
4.2.4.2	IPExternalPercent	18	9	27

APPENDIX C—GLOBAL OBSERVATIONS

A number of overall observations were identified to help guide improvements in the process. Following is a list of those observations.

- Many states and territories continue to find it difficult to submit data to the national database. Some do not have a clearly identified central source for collecting the desired information. Some lack the authority for data collection. Some are understaffed, some have difficulty in accessing the information, and others have no budget to pay for the amount of staff time needed to collect the data.
- Data for the national 9-1-1 database that feeds into the National Progress Report is provided on a voluntary basis. Without some additional statutory requirement or major incentive, there will always be states/territories that do not report on a consistent basis. That limits the utility of the National Progress Report.
- Some data element definitions still are not clear, and would benefit from further refinement; e.g., the concept of "9-1-1 Authority" continues to confuse some states in light of 9-1-1 institutional diversity across the country.
- Additional training to complete the survey appears to be required. Because of staff turnover and changing responsibilities, it appears that different individuals will likely be asked to complete the survey in their respective state from year to year, so consistency in understanding and practice will be difficult, if not impossible, to achieve. This need can be partially addressed with clearly written definitions and instructions.
- The decision to not name individual states in the Report makes it impossible to provide meaningful comparative interpretation of the data. Consideration should be given to listing progress towards NG9-1-1 on a state-by-state basis, since the data are generally available as public information in most states. "Confidentiality" is therefore not an issue in terms of being able to report individual state progress towards NG9-1-1.
- The decision not to report individual state data makes it impossible to identify specific technical or operational functions that could benefit from the allocation of additional resources. 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 be measured in implementing NG9-1-1.
- The direct participation of state 9-1-1 program staff is essential to the data collection process at the national level. It will always be beneficial for someone with depth of knowledge of the state 9-1-1 programs to analyze the data. A person unfamiliar with the technology or operation of statewide 9-1-1 systems would have difficulty understanding what is meant by certain data entries, would not know when something was an error or reflected a misunderstanding on the user's part, and the result would skew the interpretation of the data.