Department of
MANAGEMENT
SERVICES

A PROPOSED PLAN TO UPGRADE

# FLORIDA'S PUBLIC SAFETY ANSWERING POINTS (PSAPs)

Ron DeSantis, Governor, State of Florida
Pedro Allende, Secretary, Department of Management Services

# CONTENTS

# APPROVAL AND IMPLEMENTATION

The Department of Management Services (DMS) provides the following plan for upgrading all 9-1-1 Public Safety Answering Points (PSAPs) within Florida to allow emergency calls and associated data to be transferred between 9-1-1 systems as required by Chapter 2023-55, Laws of Florida (Florida Statute 365.177(1)).

This plan will be reviewed annually and updated as necessary to report progress on the upgrades across Florida over the next ten years or until they are complete.

_____

Denise Adkins, Date: 12/30/2023

Director of DMS, Division of Telecommunications

# RECORD OF CHANGES

| DATE | REASON FOR CHANGE | CHANGE MADE BY |
|---|---|---|
| 12/30/2023 | Implementation of New Plan | DMS |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# RECORD OF DISTRIBUTION

| OFFICE/DEPARTMENT | REPRESENTATIVE | DATE PROVIDED |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# 1. EXECUTIVE SUMMARY

Florida's 9-1-1 system relies on outdated technology across the state. Recognizing this challenge, DMS and the E911 Board began providing funding to support county text-to-9-1-1 capabilities. However, as of the January 2022 deadline, seven counties[1] still lacked this essential capability. Since the deadline, four of those counties have implemented text-to-9-1-1, and the remaining counties are scheduled to go live January 2024.

In late 2019, the State secured a federal grant to initiate the implementation of Next Generation 9-1-1 (NG9-1-1) regionally across Florida. The inaugural regional project began in 2021 with a Regional Geographic Information System (GIS) grant benefiting 12 Panhandle counties. The grant established a regional repository, and it improved the 9-1-1 data across the Panhandle. Building on this success, an additional three regional projects have been awarded, another region has requested a grant, and other regions are expected to seek grants as early as spring 2024. Section 5.2 explores regional projects in more detail.

Transitioning Public Safety Answering Points (PSAPs) to internet protocol (IP)-based NG9-1-1 systems introduces heightened cybersecurity risks due to increased interconnectivity. Consequently, addressing this vulnerability is imperative. A critical aspect of ensuring the sustainability of 9-1-1 services involves regular review of the funding model. The current funding model requires local authorities to support 9-1-1 costs, which are offset through monthly disbursements and the state grant program through the 9-1-1 Trust Fund. In July 2023, statutes relating to the funding of 9-1-1 (Chapter 2023-55, Laws of Florida) were updated to include costs related to the dissemination of information obtained by 9-1-1 to responders.

The updated statutes mandate a comprehensive plan for PSAP updates, underscoring the need for strategic planning. This plan provides an overview of the current county-level implementation status. Because there are 42 counties under contract with Next Generation Core Services (NGCS) providers, it is essential to ensure a mandated, universal state standard to successfully implement NG9-1-1. Through the use of comprehensive surveys detailed in Section 6 and a thorough analysis of county-provided data, DMS has determined there are a variety of funding options ranging from $1.6 million to $31.6 million depending on the types of costs for PSAP upgrades and NG9-1-1 implementation the state determines are appropriate to be funded. Those options include one or all of the following: (A) fund the counties that have not begun implementation of NG9-1-1, which is estimated to be $7.7 million; (B) fund only Fiscally Constrained Counties (FCCs) that have not begun implementation of NG9-1-1, which is estimated to be $1.6 million; (C) as funds are available, reimburse all counties that have self-funded the implementation of NG9-1-1, which is estimated to be $17.8 million; or (D) as funds are available, only reimburse FCCs that have self-funded the implementation of NG9-1-1, which is estimated to be $318,000. These costs and the county's ongoing operating and maintenance costs are detailed in Section 9.

[1] Statewide Textto911 Initiative / Emergency Communications Board / Public Safety Communications / Telecommunications / Business Operations / Florida Department of Management Services - DMS (myflorida.com)

# 2. TIMELINE

## 2.1. TIMELINE OVERVIEW

| ACTIVITY | START | DURATION |
|---|---|---|
| **Standardization and Planning:** | | |
| **Preparation** | 1 | 4 |
| **Standardization and Planning** | 3 | 4 |
| NGCS Standards and Best Practices | 3 | 4 |
| Next Gen GIS Standards and Best Practices | 3 | 4 |
| Cybersecurity Standards and Best Practices | 3 | 4 |
| **Phased Approach for Implementation:** | | |
| **Implementation** | 7 | 4 |
| NG911 System Design and Architecture for Statewide Interconnection | 10 | 4 |
| **Phased Approach and Deployment** | 12 | 22 |
| Regions 7 and 4 Finalize Procurement Pathway for NGCS, ESInet, GIS and Cybersecurity | 12 | 2 |
| Regions 7 and 4 NG911 Implementation | 14 | 4 |
| Region 5 Finalize Procurement Pathway for NGCS, ESInet, GIS and Cybersecurity | 16 | 2 |
| Region 5 NG911 Implementation | 18 | 4 |
| Region 6 Finalize Procurement Pathway for NGCS, ESInet, GIS and Cybersecurity | 20 | 2 |
| Region 6 NG911 Implementation | 22 | 4 |
| Region 3 Finalize Procurement Pathway for NGCS, ESInet, GIS and Cybersecurity | 24 | 2 |
| Region 3 NG911 Implementation | 26 | 4 |
| Regions 1 and 2 Finalize Procurement Pathway for NGCS, ESInet, GIS and Cybersecurity | 28 | 2 |
| Regions 1 and 2 NG911 Implementation | 30 | 4 |

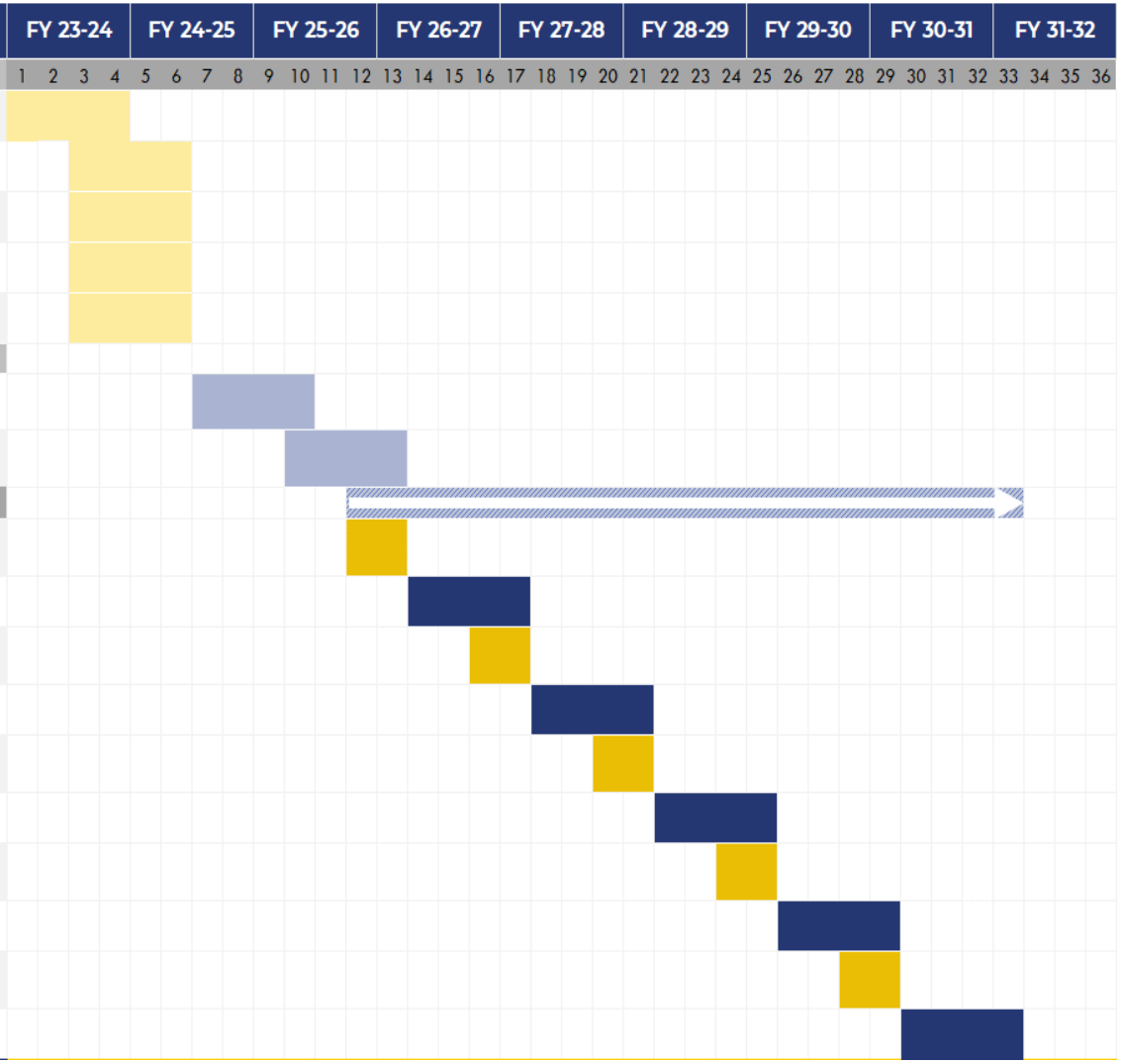



**Table 1: Project Timeline**

## 2.2. PREPARATION AND PLANNING PHASE: JANUARY 2024-DECEMBER 2024

To successfully upgrade all 911 PSAPs within Florida by December 30, 2033, initial planning and preparation is essential. During the months after providing the plan, DMS recommends the following actions begin:

**Develop and Implement a Funding Strategy to Prepare Counties for NG-9-1-1:** A new funding strategy may need to be developed and implemented based on the selected funding option(s) to support the operating budget and increased implementation costs of NG9-1-1. According to the survey conducted for this plan, there are some counties across Florida that have budget deficits that would need to be addressed during the preparation phase.

**Review Applicable Statutes and Rules:** In preparation of the 2025 Legislative Session, a thorough review of all applicable statutes, Florida Administrative Code, and other authoritative documentation would be beneficial, especially after successful implementation of Chapter 2023-55, Laws of Florida, by clearly defining the roles, responsibilities, and authority of the governing entities, specifically the Emergency Communications Board (ECB), the DMS Division of Telecommunications, and the county 9-1-1 coordinators.

**Establish and Implement NG9-1-1 Standards Unique to Florida**. The State has historically relied on the NENA i3 Standard to guide the counties, regions, and State, due to its universal acceptance as the definitive standard for NG9-1-1, but standards specific to Florida would increase cooperation, understanding, and interoperability within the state. The standards should, at minimum, incorporate the established NENA standards listed in Appendix B, with particular attention to defining security requirements. Comprehensive policy and procedure documents are needed to ensure a structured and standardized approach to implement and operate 9-1-1 systems within the state.

Standardization is important for interoperability between so many different systems across the state. Standardization is also important during emergencies or in situations spanning state lines. Specifically, the standardization of GIS information will ensure a common schema of geospatial data to use for communicating seamlessly with other jurisdictions, both within and outside Florida.

NG9-1-1 standards should be developed with key stakeholders. Stakeholders should include the State Geographic Information Office; Department of Defense, specifically military installations within Florida; regulatory bodies; PSAP leadership; Florida chapters of industry associations, such as the Florida chapters of the National Emergency Number Association (NENA), the Association of Public-Safety Communications Officials (APCO), and the Florida 9-1-1 Coordinators Association; public safety entities; and technology partners. Public meetings should facilitate policy development, during which roles, architecture, infrastructure requirements, and operating procedures (including interoperability mandates) are meticulously defined. This plan identifies specific resources essential for standardizing the NENA GIS Data Model.

The Preparation and Planning phase will focus on the intricate process of ESI deployment and will identify the requisite resources for successful implementation, including network equipment, software, and technical expertise, especially in cybersecurity. A statewide system design should emphasize scalability, interoperability, and redundancy to fortify the NG9-1-1 framework against potential risks. A detailed budget for ESInet implementation and GIS standardization is presented in Section 9, encompassing expenses related to network infrastructure, software licenses, and comprehensive training programs.

## 2.3. ASSESSMENT AND IMPLEMENTATION PHASE

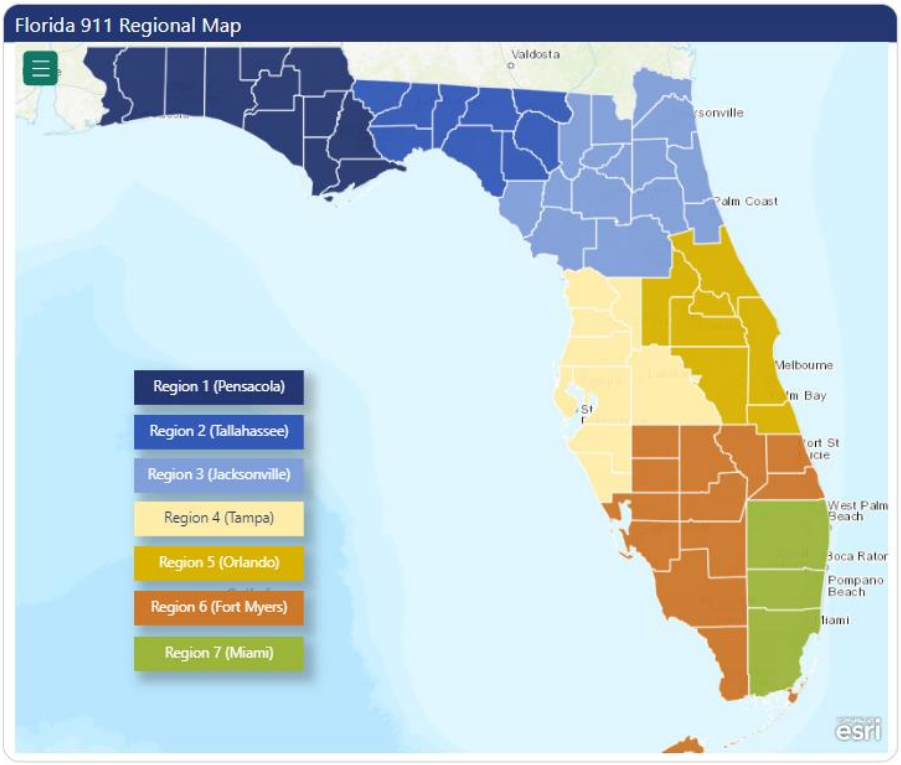
The assessment phase marks a detailed review of the current 9-1-1 infrastructure, technology, and capabilities of every PSAP within the state as compared to the standards that were developed in the previous phases. This extensive evaluation will identify gaps and any areas requiring updates, enabling tailored implementation plans based on the needs and challenges of each county and PSAP.

This phase should focus on the County Readiness Assessment, including further evaluation of each county's NG9-1-1 adoption preparedness in terms of required infrastructure and personnel. It is crucial to assign PSAPs priority based on both needs assessments and readiness, and procurement of NG9-1-1 equipment and services should commence as counties demonstrate their readiness. The NG9-1-1 System Design and Architecture phase will be initiated at the same time as the County Readiness Assessment, planning for integration with existing county systems where necessary.

### 2.3.1. Choosing an Approach

Implementation of NG9-1-1 will require a meticulously orchestrated sequence, encompassing the establishment of connections with telecommunications providers for seamless routing of NG9-1-1 calls and choosing a path to follow. DMS recommends using a regional implementation method with a phased approach. The following order of implementation is suggested based on each region’s population:

The first Regions are 4 and 7, followed by Region 5 the following year, Region 6 the following year, Region 3 the following year, and Regions 1 and 2 last.




The operational costs to implement NG9-1-1 should be analyzed every three years. Analysis will ensure the sustainability of operational costs after implementation and through any cost increases.

If the regional approach is not desirable, it is recommended that counties are selected for upgrade based on population to achieve the maximum benefit from this new technology. It is recommended that as counties plan to implement NG9-1-1, key public safety stakeholders are given the chance to provide input to ensure all needs are addressed. Stakeholders may include leadership from regional communication centers, military installations, and public safety at state universities within the county.

The first regions will test equipment and systems and the implementation of data integration solutions for real-time information sharing with first responders. Quality assurance is the main priority, defining standards for all systems and focusing on reliability, network performance, and data security. Rigorous testing and validation processes will ensure the robustness of emerging NG9-1-1 infrastructure as the technology is implemented. A yearly review of the NG9-1-1 system quality should occur.

A monitoring and evaluation framework should be established, defining key performance indicators for assessing the success of NG9-1-1 systems' implementation. Regular evaluations of network performance, security measures, and data protection protocols should be conducted, complemented by compliance audits based on policy and procedures regulations.

### 2.3.2. Deployment

Once an approach has been determined, the official initiation of statewide deployment of NG9-1-1 systems, prioritized based on readiness demonstrated during the Preparation and Planning phase. Integration and training should be the primary goal during this phase, marked by the launch of a public awareness campaign within the implementation area to educate citizens about the capabilities and proper use of NG9-1-1. To ensure a seamless transition and optimal utilization of the new infrastructure, training programs will need to be developed and conducted for PSAP personnel, first responders, and IT personnel.

### 2.3.3. Optimization and Evaluation

Based on user feedback and emerging technologies, optimization and evaluation are characterized by continuous refinement of NG9-1-1 systems. A thorough evaluation of the NG9-1-1 system's performance and effectiveness should be conducted during this period, addressing any identified issues. Funding and sustainability should also be examined to develop and plan for long-term financial resources to support NG9-1-1 operations and maintenance for the future.

The successful implementation and completion of this plan should be marked by a Statewide NG9-1-1 celebration of the effort towards the successful statewide transition to NG9-1-1, expressing gratitude for stakeholders' collaborative efforts and the positive impact such efforts will have for Floridians.

# 3. BACKGROUND AND HISTORY OF 9-1-1 SYSTEMS


**Figure 1: Evolution of 9-1-1 from a National Perspective**

## 3.1. EVOLUTION OF THE 9-1-1 SYSTEM

The **Legacy 9-1-1** system dates to the 1960s and 1970s. This system introduced an emergency telephone number, 9-1-1, which allowed the public to connect with local emergency services. The Legacy 9-1-1 system, traditionally analog, relied on landline phones to route emergency calls to the nearest dispatch center. Legacy 911 laid the foundation for modern emergency communication systems.

The 1980s and 1990s brought the implementation of **Enhanced 9-1-1 (E9-1-1)**. E9-1-1 enabled the automatic display of caller phone numbers and location details to emergency operators. E9-1-1 helped streamline the response process, significantly improving the efficiency and effectiveness of emergency services for landline calls. In response to the growing popularity of mobile phones in the late 1990s, **Wireless 9-1-1** was designed to address the need for accurate location information on a caller's mobile device. This system relied on cell tower triangulation but had limitations and often led to inaccurate location data.

**Voice over Internet Protocol (VoIP) 9-1-1** services became available at the turn of the 21st century. As internet-based communication became more widespread, so did the need for accurate location determination for VoIP emergency calls. Because of this, regulations were implemented for VoIP service providers to enhance the precision of location information.

**Next Generation 9-1-1 (NG9-1-1)** emerged in the 2010s and continues to shape the landscape of emergency response systems. NG9-1-1 systems leverage digital technologies to support diverse communication forms, including voice calls, text messages, images, videos, and multimedia data. The NG9-1-1 system is designed to seamlessly manage communication from various devices and platforms and to offer precise location determination, even in indoor settings. NG9-1-1 systems promote data sharing and interoperability among emergency agencies, fostering a collaborative and efficient response network.

## 3.2. WHAT IS NG9-1-1?

NG9-1-1 is the most modern emergency communications infrastructure and is intended to replace the analog 9-1-1 infrastructure used for decades. NG9-1-1 is an Internet Protocol (IP) based system that enables the secure transmission of communication data over the internet. This provides 9-1-1 callers with the ability to share non-voice multimedia, such as text and video, with a PSAP and it allows 9-1-1 calls to be geospatially routed to the correct PSAP by using data gathered from the caller's mobile device. The IP-based architecture of NG9-1-1 makes it adaptable to evolving technologies, which ensures the system can support future communication trends and integrate with additional data sources related to call routing and handling.[2]

### 3.2.1. Critical Components of an NG9-1-1 System

As decisions are made to implement NG9-1-1 and upgrade Florida PSAPs, all stakeholders should understand the architecture of this modern emergency communications system and its pivotal role in achieving interoperability at local, state, and national levels. The NG9-1-1 system can be broken down into four main components: the Emergency Services IP Network (ESInet), Next-Generation Core Services (NGCS), NG9-1-1 Call Handling System (CHS), and Geographic Information Systems (GIS).[3]

**1. Emergency Services IP Network (ESInet)**

The ESInet is the foundation of the NG9-1-1 system. It is a network that provides IP transport infrastructure solely for 9-1-1 emergency response communications. This allows for the secure transfer of information between a citizen calling 9-1-1, call takers, dispatchers, and responders. An ESInet is designed with important levels of redundancy and reliability to ensure the network's continued operation, even in the event of a circuit or endpoint failure. It can also be designed and deployed at a local, regional, state, or national level. An ESInet is often referred to as "a network of networks" because it is intended to interconnect with neighboring networks.

It is essential to note that the technology and standards of interconnecting an ESInet to a Public Safety Broadband Network (PSBN) are still in the development phase. Therefore, the success of interconnecting systems depends on how the ESInet was deployed and if the connecting networks meet the same standards.[4] Establishing a uniform approach toward interconnecting

---

[2] "NG9-1-1 Definition Final," Website, accessed October 12th, 2023, https://cdn.ymaws.com/www.nena.org/resource/resmgr/ng9-1-1_project/whatisng9-1-1.pdf

[3] "NG9-1-1 for Telecommunicators," Website, accessed October 10th, 2023, https://www.9-1-1.gov/assets/Next_Generation_9-1-1_for_Telecommunicators_2.pdf

[4] "NENA Standard for Interconnecting Emergency Services IP Networks and Public Safety Broadband Networks" Website, accessed October 10th, 2023. Website https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/nena-sta-031.1-2021_esinet-p.pdf

an ESInet to a PSBN remains ongoing. Figure 2 below illustrates the conceptual design for the interconnection between an ESInet and a PSBN.

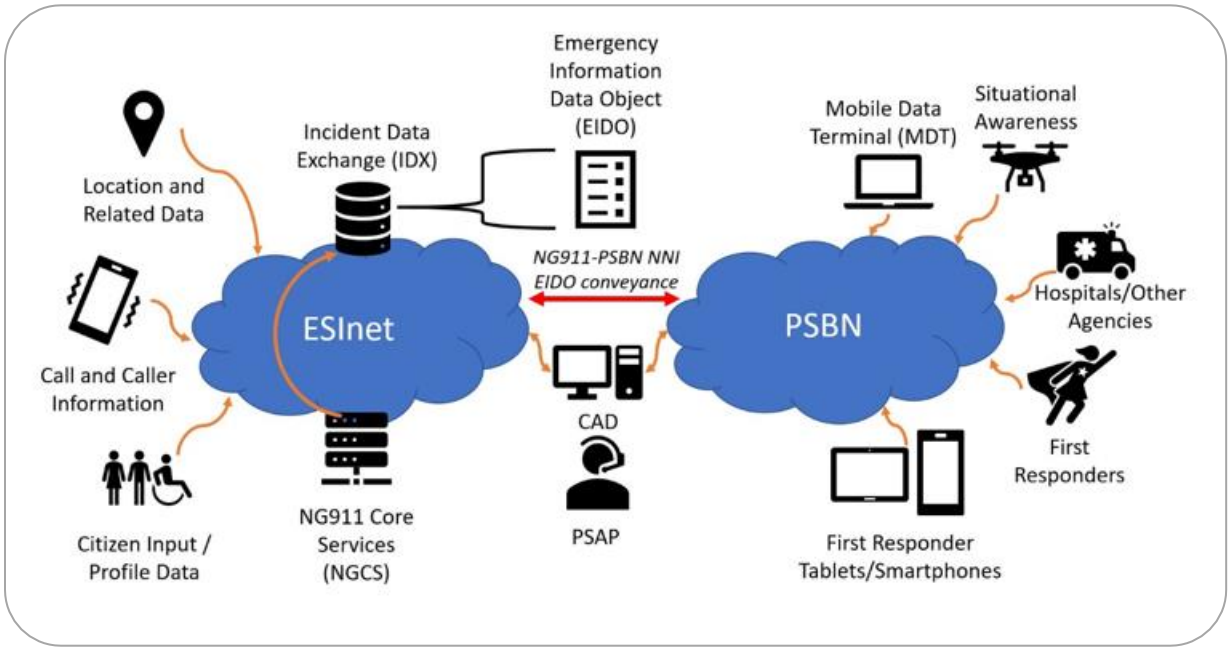



**Figure 2: Overview of the interconnection between the ESInet and a PSBN**

## 2. Next-Generation Core Services (NGCS)

While the ESInet is the network that provides the transport architecture needed to facilitate emergency response communications, NGCS refers to the software, hardware, and database services within an NG9-1-1 system. NGCS is made up of functional elements, or technical components, which work together to perform essential tasks required to route and manage a 9-1-1 call. While NGCS vendors or providers have their unique solutions, they should each meet the functional elements of an NG9-1-1 system, as required by NENA. Some of these functions include:

- Location Validation Function (LVF)
- Emergency Services Routing Proxy (ESRP)
- Emergency Call Routing Function (ECRF)
- Location Database (LDB)
- Border Control Function (BCF)
- Legacy Network Gateway (LNG)
- Legacy Selective Router Gateway (LSRG)
- Legacy PSAP Gateway (LPG)

### 3. Call Handling System (CHS)

Another component of NG9-1-1 is the CHS. An NG9-1-1-compatible CHS can receive and deliver session initiation protocol (SIP) messages to PSAPs that are connected to an ESInet. This allows call takers to receive not only voice data but also text, image, and video, in addition to the legacy caller identification, location information, and other standards-based 9-1-1 call information.

To ensure they meet the necessary criteria to function effectively within the larger NG9-1-1 infrastructure, all CHSs in Florida must comply with NENA's i3 standards for NG9-1-1 implementation. An essential feature of an NG9-1-1 compliant CHS is its ability to integrate with other systems and platforms. This includes compatibility with CAD systems, tactical mapping solutions, and other data sources. This integration facilitates exchanging critical information between different emergency response platforms and streamlines emergency response processes and workflows, allowing for modern multimedia to be utilized and disseminated for situational awareness as appropriate.

### 4. Geographic Information System (GIS)

The implementation of NG9-1-1 requires integrating diverse systems that have traditionally been siloed. Geographic Information Systems (GIS) form an integral part of the NG9-1-1 framework and are essential in accurately determining the location of a 9-1-1 caller. GIS uses hardware, software, and data to visualize and understand location-based information on multi-dimensional maps.

Historically, older 9-1-1 systems heavily relied on the Master Street Address Guide (MSAG) for determining the location of a caller. However, NG9-1-1 systems leverage data sourced from mobile devices such as GPS, Wi-Fi, cellular towers, and other technologies to gather the caller's precise X, Y, and Z coordinates (longitude, latitude, and elevation). When NG9-1-1 systems have access to accurate IP-formatted location information for an emergency call, that information can be used to support geospatial routing to the appropriate PSAP. This advanced technology is crucial to emergency communication due to the majority of 9-1-1 calls originating from wireless devices.

---

*"Although GIS data and analytics are one part of the NG9-1-1 solution, geospatial technology is found throughout the public safety communications ecosystem and is supported by a wide array of stakeholders. NG9-1-1 requires seven foundational GIS datasets within the NGCS and a higher level of attribution and positional and topological accuracy for NG9-1-1 operations (defined in the NENA Standard for NG9-1-1 GIS Data Model)."*

**Geographic Information Systems Technologies Partner Agencies and Organizations March 2023**

---

The geospatial routing process is dependent on up-to-date GIS databases containing detailed mapping information, including PSAP service boundaries, road centerlines, site and structure address points, and other geographic data. NENA's i3 standard and NENA GIS Data Model for NG9-1-1 require specific GIS data layers to be used for NGCS to function correctly and process a 9-1-1 call on an ESInet. For example, a central part of NGCS is a functional element known as the location validation function (LVF), which involves validating and cross-referencing the civic location information with the authoritative GIS database and other mapping resources. This verification step ensures accuracy in determining the caller's location before directing the call to a PSAP. Other functional elements interact with the data layers outlined in NENA's Standard for NG9-1-1 GIS Data Model.

The effective creation, maintenance, and implementation of GIS data for NG9-1-1 relies on collaborative efforts between neighboring PSAPs and counties. By prioritizing and engaging with partners within their jurisdictions, regions can plan their GIS goals, collaborate in data sharing, and ensure they use shared resources effectively. Collaboration helps establish common standards and protocols for data collection and maintenance, ensuring consistency and standardization in formatting and structures. This consistency can help prevent data discrepancies or errors. It also ensures that service boundaries are accurately represented, preventing gaps in coverage or overlaps in responsibilities between different agencies.

### 3.2.2. Benefits of NG9-1-1[5]

**Enhanced Accessibility**
Besides voice calls, an NG9-1-1 system can manage other forms of communication, such as text messages, photos, and videos. Enhanced accessibility allows individuals to seek help using methods that best suit their emergency circumstances.

**Location Accuracy**
An NG9-1-1 system uses GIS data collected from modern technologies like GPS, Wi-Fi, and cellular data. These technologies work in tandem, providing callers' X, Y, and Z coordinates, which in turn can ensure precise identification of a caller's location and help drastically reduce response times, even in challenging environments.

**Interoperability**
Interoperability refers to the seamless exchange of information and collaboration between different 9-1-1 systems, technologies, or entities working together effectively and efficiently. A cornerstone of NG9-1-1, interoperability is essential for ensuring a cohesive and coordinated emergency response across various agencies and jurisdictions.

**Ability to Integrate Data**
NG9-1-1 systems have the potential to integrate with various data sources, which could provide PSAPs, dispatchers, and responders with additional information or newer technology that helps streamline their internal processes.

**Continuity**
NG9-1-1 systems are designed with backup or duplicate components, systems, or pathways intentionally built into the network to ensure high availability and minimized downtime in the event of a component failure. Continuity incorporates high-level best practices involving both “blue sky” scenarios (normal operations) and “grey sky” scenarios (exceptional circumstances).

**A Long-Term Solution**
The IP-based infrastructure offers a technical foundation that can be adapted and upgraded over time. The system can incorporate emerging features such as Internet of Things (IoT) device alerts and video streaming, which allows emergency services to keep pace with evolving communication technologies and emerging platforms.

**Costs Savings**
While the initial implementation of NG9-1-1 may require investment, the long-term benefits can lead to cost savings through improved efficiency, reduced response times, and service-based maintenance.

[5] “NG9-1-1 for Leaders in Law Enforcement,” Website. Accessed October 31st, 2023. https://www.ok.gov/9-1-1/documents/NG9-1-1%20for%20Law%20Enfourcement%20Booklet.pdf

# 4. FLORIDA'S POPULATION AND PSAP LANDSCAPE

## 4.1. FLORIDA POPULATION (2023):

With a population surpassing 22 million, Florida is the third most populous state in the U.S. The state's population growth is due to economic opportunity, favorable climate, and a thriving tourism industry. The influx of residents and visitors presents both opportunities and challenges for emergency services, requiring a balance between catering to the needs of a dynamic population and ensuring the safety and security of all residents. Figure 3 provides an overview of Florida's population.

Throughout this plan, county size (rural, medium, large) is used to help organize and interpret data. Florida Statute 365.172 defines county sizes as the following:

- **Rural County:** Any county that has a population of fewer than 75,000.
- **Medium County:** Any county that has a population of 75,000 or more but less than 750,000.
- **Large County**: Any county that has a population of more than 750,000.

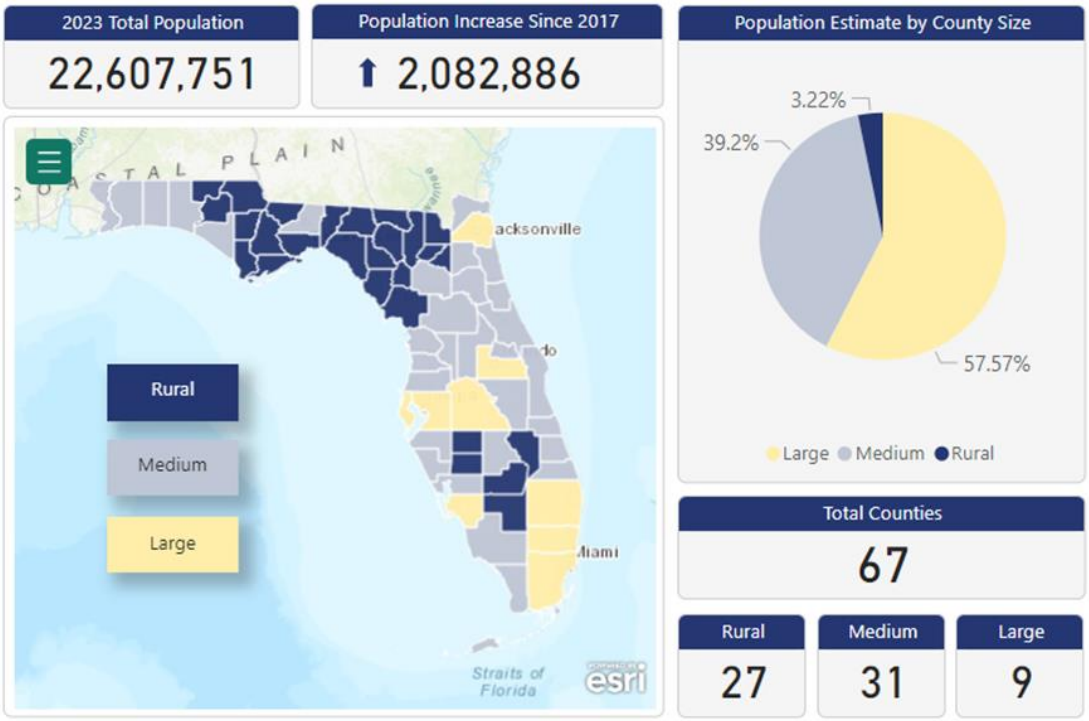



**Figure 3: 2023 Florida Population Overview**

## 4.2. CHANGE IN FLORIDA'S POPULATION

From 2017 to 2023, Florida's population significantly increased. With an average annual growth rate of approximately 1.69%, the population increased by more than 2,082,000. The Florida Association of Counties (FAC) estimates the average annual growth rate between 2023 and 2030 will be approximately 1.25%.[6] Population growth must be considered when counties plan for the future of public safety and emergency communications. As population grows, the demand for public safety services increases as does the cost of implementation and recurring costs of operation, which are related to the county's population. To ensure public safety agencies can respond effectively to emergencies, they need to anticipate and plan for increased demand. This involves securing the necessary funding to implement NG9-1-1 and support ongoing operations. Figure 4 shows past and projected population growth trends.

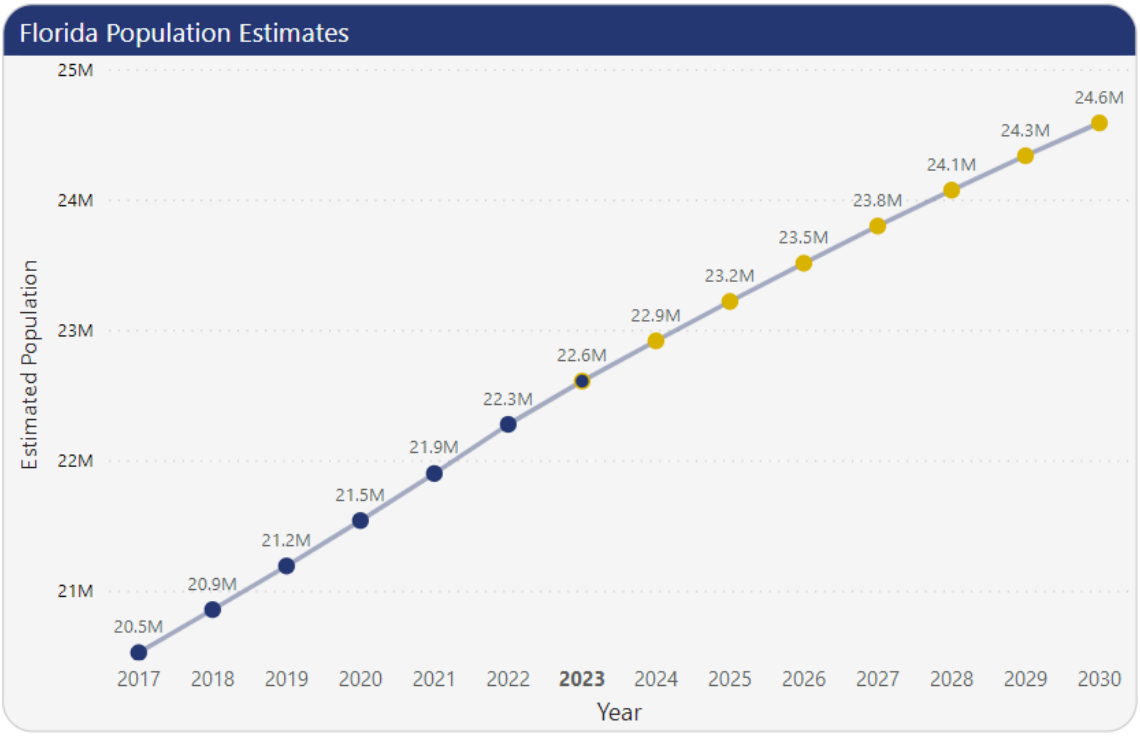



**Figure 4: Florida Population Estimates PSAP Landscape**

In Florida, local governments have the authority to establish and manage their emergency communication centers and PSAPs. This approach fosters a diverse range of PSAP setups across the state as well as variations in the number of PSAPs per county. This also means that local governments decide when and how they deploy an NG9-1-1 system. Figure 5 is an overview of the total number of PSAPs in Florida. The following definitions help classify the PSAPs by service, how they receive a 9-1-1 call, and who funds their operations.

[6] "Population and Demographic Data - Florida Products," Website, accessed October 16th, 2023. http://www.edr.state.fl.us/Content/population-demographics/data/index-floridaproducts.cfm

- **Primary PSAP**: A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. Primary PSAPs are funded by the county.
- **Secondary PSAP**: A PSAP to which 9-1-1 calls are transferred from a primary PSAP. Secondary PSAPs are funded by the county.
- **Backup PSAP:** A disaster-recovery PSAP, not located at the primary PSAP, that serves as a backup to a primary PSAP. Backup PSAPs are funded by the county.
- **Department of Defense (DOD) PSAPs:** A PSAP that is managed by the Department of Defense and is under the jurisdiction of the federal government. DOD PSAPs do not receive funding from the State, although some counties supply equipment for these PSAPs.
- **State/Universities PSAPs:** State and university PSAPS, which are under the jurisdiction of the State, need to engage with local PSAPs across the state. These PSAPs are funded by the State and are not eligible to receive funding from 9-1-1 fees or from the 9-1-1 trust fund.

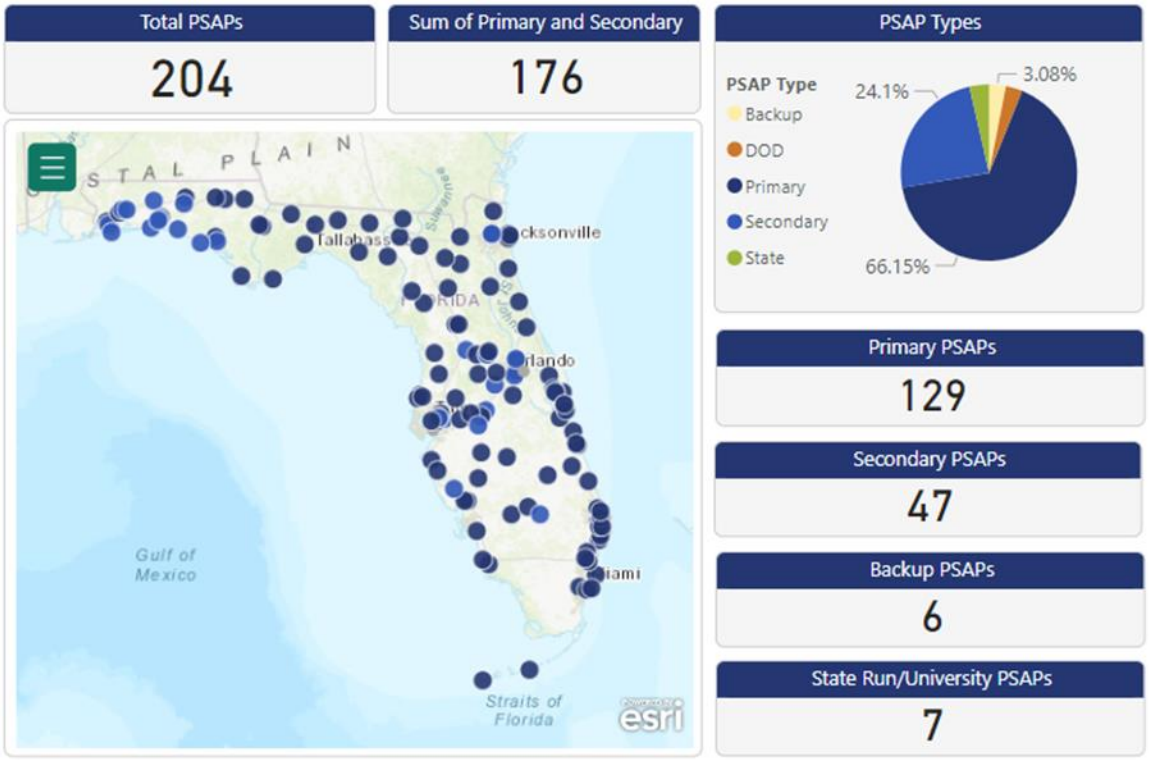



**Figure 5: Florida PSAPs by Type**

# 5. FLORIDA REGIONAL PROJECTS

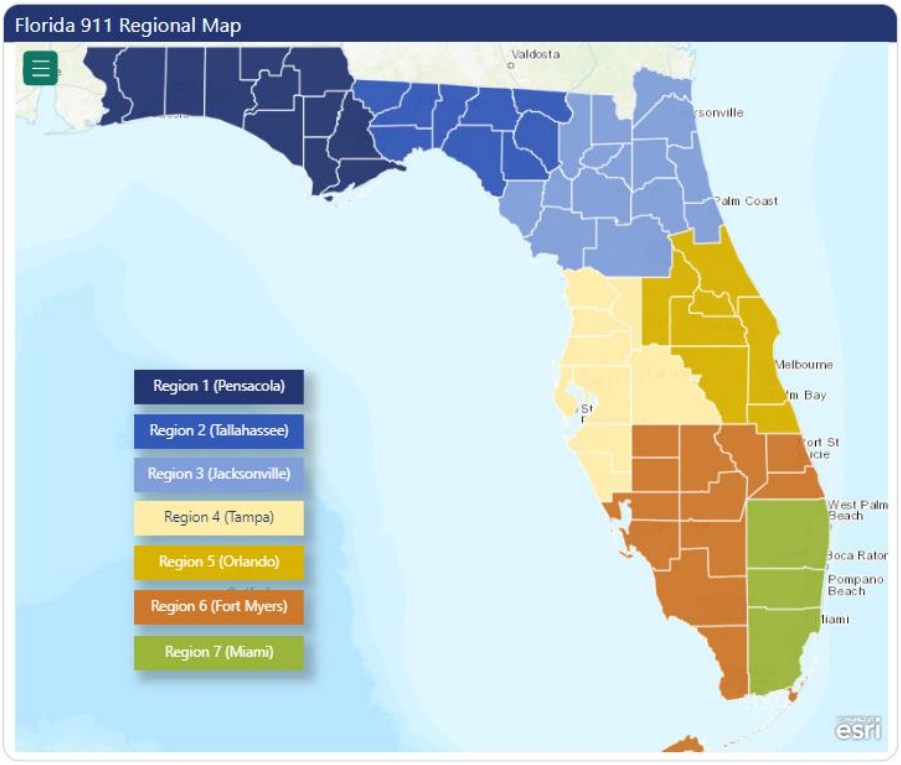



**Figure 6: Florida 9-1-1 Regional Map**

## 5.1. BACKGROUND OF REGIONAL PROJECTS

In 2019, Florida was awarded a federal grant to help implement NG9-1-1 across the state. The project plan was structured to align with legislative budget requests (LBRs) that targeted statewide enhancements by region. Florida counties self-identified into seven regions across the state. Approval of the designated regions occurred through a formal vote by the E9-1-1 Board.

In June 2020, Region 1 was selected as the pilot program for the state's first regional project. The pilot region was selected in response to a statewide survey completed by all counties. A portion of the survey focused on the willingness and ability to be a part of the initial region. Due to time constraints imposed by a federal grant, the focus within this region was directed toward enhancing GIS data to meet the stringent NENA GIS standard.

To assist counties with regional projects, the state grant application was amended to include the option of a regional project. A regional project allowed for up to five years of funding as approved by the E9-1-1 Board. If a region wanted to move forward with a regional grant, a Memorandum of Understanding (MOU) was required to ensure a majority of counties were willing to be a part of the region. A five-year regional grant was the longest grant available to counties and was intended to provide enough time for contract execution and project implementation (which historically has taken at least 18 months).

## 5.2. CURRENT STATUS OF REGIONAL PROJECTS

**Region 1**
Region 1 signed an MOU focused on enhancing GIS data and establishing a regional GIS repository. This repository, currently operational and actively utilized throughout the area, is supported by the vendor DATAMARK.

Subsequently, the MOU was amended to include NGCS and cybersecurity, facilitating the region's progression towards a secondary regional project. The active MOU covers three fundamental components and serves as a foundational agreement outlining cooperation and collaboration among regional entities for these critical components.

Region 1 applied for a second regional grant to implement NGCS as well as an ESInet. The region currently has three separate NGCS vendors: Motorola, NGA9-1-1, and INdigital. The three vendors agreed to become interoperable by entering into interconnection agreements amongst themselves, demonstrating an initiative-taking and cooperative approach to enhancing the region's emergency communication and data management capabilities.

**Region 2**
In 2023, Region 2 initiated drafting a regional MOU. There is a recommendation moving forward to provide guidance on drafting MOUs. Among the nine counties in Region 2, five have contracted with INdigital for NGCS and ESInet. Each of these counties has pursued these services through independent procurement methods. If a regional project were undertaken, the four remaining counties might face challenges aligning with the progress of the counties that have already established such services.

**Region 3**
Region 3 maintains an active MOU that encompasses NGCS, GIS, and cybersecurity. This MOU serves as a foundational agreement outlining the cooperation and collaboration among regional entities for these critical components. The region currently has a regional GIS repository grant that supports improvement of county data. DATAMARK provides this repository and GIS support.

The region currently has two contracted vendors for NGCS: INdigital and AT&T.

**Region 4**
Region 4 completed an MOU that encompasses NGCS, GIS, and cybersecurity. Most of the region is in the process of applying for a regional GIS repository. The submission of regional grant documents is scheduled for year-end 2023 and will include repository maintenance only. If a county requires additional services, they have been instructed to seek individual funding sources. DATAMARK has been chosen as the vendor for the regional repository.

The region currently has four contracted NGCS vendors: Motorola, INdigital, NGA911, and Lumen.

**Region 5**
Region 5 drafted an MOU covering NGCS, GIS, and cybersecurity, but a regional project has not yet been accomplished. Interconnection poses a challenge in the region, as the vendors being considered lack interconnection agreements with each other. This should be considered by all regions and counties as they select and contract with vendors.

The region currently has two contracted vendors for NGCS: Lumen and AT&T.

**Region 6**
Region 6 signed an MOU that encompasses NGCS, GIS, and cybersecurity. The region was also awarded a state regional grant for a regional GIS data repository. Although this grant did not provide additional funding to ensure the counties' data aligned with the NENA Standard for GIS Data Model, it did facilitate the funding of a location for data sharing. Previously, such data sharing was not customary practice unless the counties were bordering each other.

The region currently has two contracted vendors for NGCS: Motorola and NGA9-1-1.

**Region 7**
Region 7 is working on a formal regional MOU. Each county has chosen to move forward individually but is committed to supporting interoperable communications between the three counties. The finalized MOU will formalize this process.

The region currently has one contracted vendor that provides NGCS: AT&T.

# 6. THE PSAP DATA COLLECTION PROJECT

## 6.1. DATA GATHERING PROCESS

Before developing a comprehensive plan to upgrade all Florida PSAPs, it was imperative to collect data that would provide insight into the current state of emergency communication systems, not only at the county level but also at a granular PSAP level.

To achieve this, the DMS Division of Telecommunications partnered with Inspired Technologies, Inc., to conduct a data collection project. This project was disseminated to the county 9-1-1 coordinators July 6, 2023. All counties were directed to participate in collecting county and PSAP data.

The first part of the data collection project requested each county to complete one response to the Safer America through Effective Public-safety Communications (SAFECOM NG9-1-1 Self-Assessment Tool).[7] This tool identifies the status of each county's progress in transitioning to NG9-1-1.

The second part of the data collection requested all county primary and secondary PSAPs to complete an online survey created by Inspired Technologies. This survey, the 2023 Florida PSAP Data Collection, asked each PSAP to report on the status of their technical systems, current vendors, operational procedures, and fiscal information.

Due to the time constraints to facilitate a survey and provide ample time for a thorough analysis, a brief turnaround time was enforced. The data collected allowed the plan to leverage existing infrastructure and services, optimize resources, and build upon strengths and investments already made by each county.

## 6.2. SAFECOM'S NG9-1-1 SELF-ASSESSMENT

The NG9-1-1 Self-Assessment Tool is a resource designed to assist Public Safety Answering Point (PSAP) and county personnel in evaluating readiness of their 9-1-1 systems. This tool was adopted because it is a nationally recognized survey created by SAFECOM, a communications program of the Department of Homeland Security. This tool uses a well-defined framework and methodology, which allows for benchmarking and comparative analysis from state and national perspectives. Using a nationally recognized survey also enables consistent terminology regarding the NG9-1-1 maturity state of each county.

The NG9-1-1 Self-Assessment Tool provides a detailed assessment of an organization's NG9-1-1 maturity state based on a compliance checklist. Users of the tool answer questions regarding the functions and capabilities of their current 9-1-1 system. The self-assessment tool uses a framework that breaks down the questions into three critical domains: governance, architecture, and security.

[7] "NG9-1-1 Self-Assessment Tool", Website, Accessed October 1st, 2023, https://www.9-1-1.gov/projects/ng9-1-1-self-assessment-tool/

Based on the user's responses, the tool translates the answers into one of six maturity states: legacy, foundational, transitional, intermediate, jurisdictional end state, or national end state. This categorization helps organizations understand their current NG9-1-1 readiness and identify the necessary steps to progress in NG9-1-1 deployment. See Page 30 for a more detailed explanation of each phase.

County maturity state considers not only technical infrastructure but also administrative framework and cybersecurity measures. Those considerations are insightful for assessing each county's readiness for NG9-1-1. The overall maturity state is determined by using the lowest level of maturity extracted from the assessment. For instance, if a county receives a transitional maturity state in governance, a legacy maturity state in architecture, and a foundational state in security, the overall maturity state will be legacy.

### 6.2.1. Participation

Each of Florida's counties successfully submitted a SAFECOM NG9-1-1 Self-Assessment during the data collection phase, although some of those submissions were incomplete.

## 6.3. 2023 FLORIDA PSAP SURVEY

The 2023 Florida PSAP Survey is a detailed survey designed to gather vital insights and data on PSAP operations. While some data was available from the mandatory 6A and 6B annual reports that each county must complete, it became evident that to adequately plan for upgrading each PSAP in Florida, more granular and detailed information was needed.

The DMS Division of Telecommunications requested each county 9-1-1 coordinator submit a survey response for every primary and secondary PSAP in their county. For example, a county with four PSAPs should have submitted four separate survey responses. At their discretion, county 9-1-1 coordinators enlisted PSAP managers or operational personnel to complete the survey. Requesting the same information from each PSAP was meant to capture a holistic view of the 9-1-1 landscape, facilitating targeted improvements and enhanced emergency services statewide.

The survey asked PSAPs about their technical systems, current vendors, fiscal information, and additional operational information. The survey covered:

- PSAP Information (Agency Name, Address, etc.)
- PSAP Budget
- PSAP Staffing
- Next-Generation 9-1-1 (NG9-1-1) Status
- Current Network Infrastructure
- Call Handling System
- Logging Recorder
- Computer Aided Dispatch
- Geographic Information Systems
- Text-to-9-1-1

- Household Profiles
- Service Outages
- Sharing Equipment
- Cybersecurity
- Areas for Improvement

### 6.3.1. Participation

As indicated under section 4, “PSAP Landscape,” there are a total of 176 primary and secondary PSAPs in Florida. Of this total, 138 PSAPs participated in the 2023 Florida PSAP Survey, constituting 78.4% of all primary and secondary PSAPs. Unfortunately, not all survey questions were answered by every participating PSAP. Section 7, “Current Status of NG9-1-1 in Florida,” details participation using the metric located in the lower right corner of the visuals, which refers to the number of responses to the specific question from the 138 participating PSAPs.

# 7. CURRENT STATUS OF NG9-1-1 IN FLORIDA

**Note**: The visuals below are based on data collected in July 2023, therefore, some of the results may be outdated at the time of publication.

## 7.1. NG9-1-1 SELF-ASSESSMENT RESULTS

Each of Florida's counties successfully submitted a SAFECOM NG9-1-1 Self-Assessment during the data collection phase. Figure 9 shows the overall maturity state for each county. These findings reveal that a substantial 77.61% of Florida's counties remain in a Legacy maturity state, while the remaining 22.39% have advanced to a Foundational maturity state.

As previously explained, these maturity states consider the response across three key domains: governance, architecture, and security. For a more detailed breakdown of each county's maturity state within these domains, refer to figures 10-12. The diverse results observed across counties highlight their varying progress in implementing NG9-1-1. Particularly in the domains of governance and security, there are varying levels of readiness and preparedness within Florida's counties.

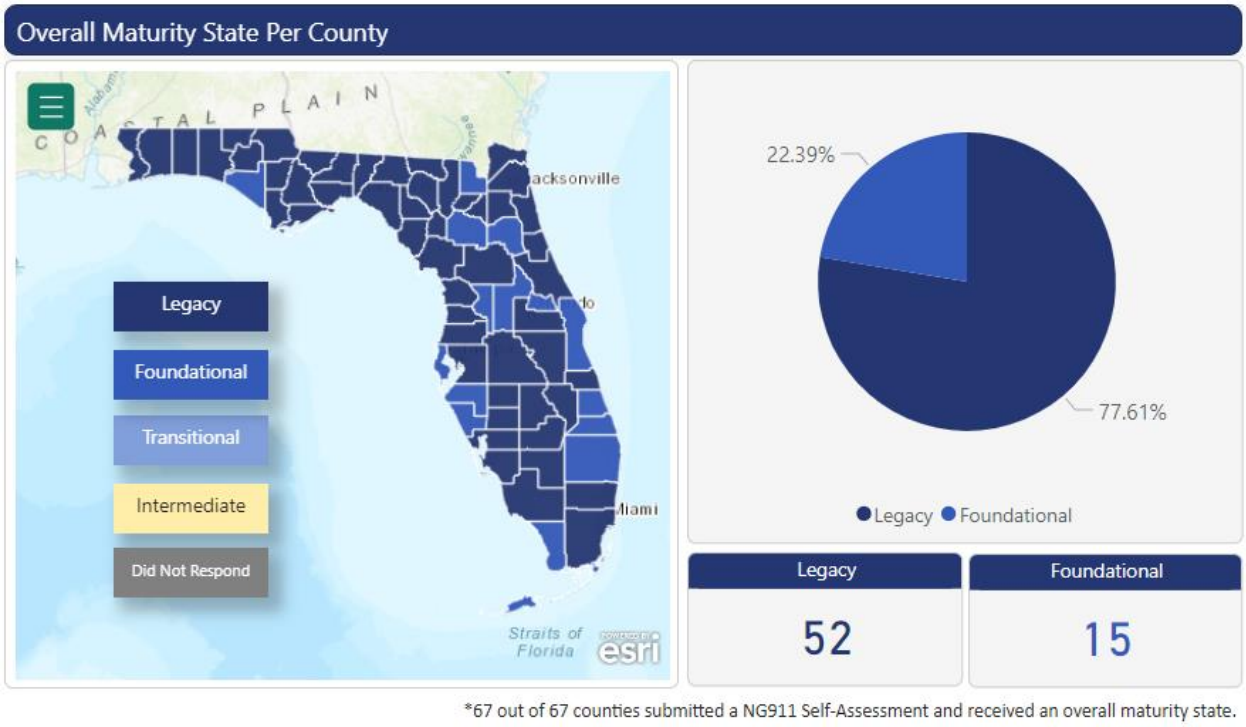



**Figure 7: The overall maturity state received by each county according to the NG9-1-1 Self-Assessment completed in July 2023**

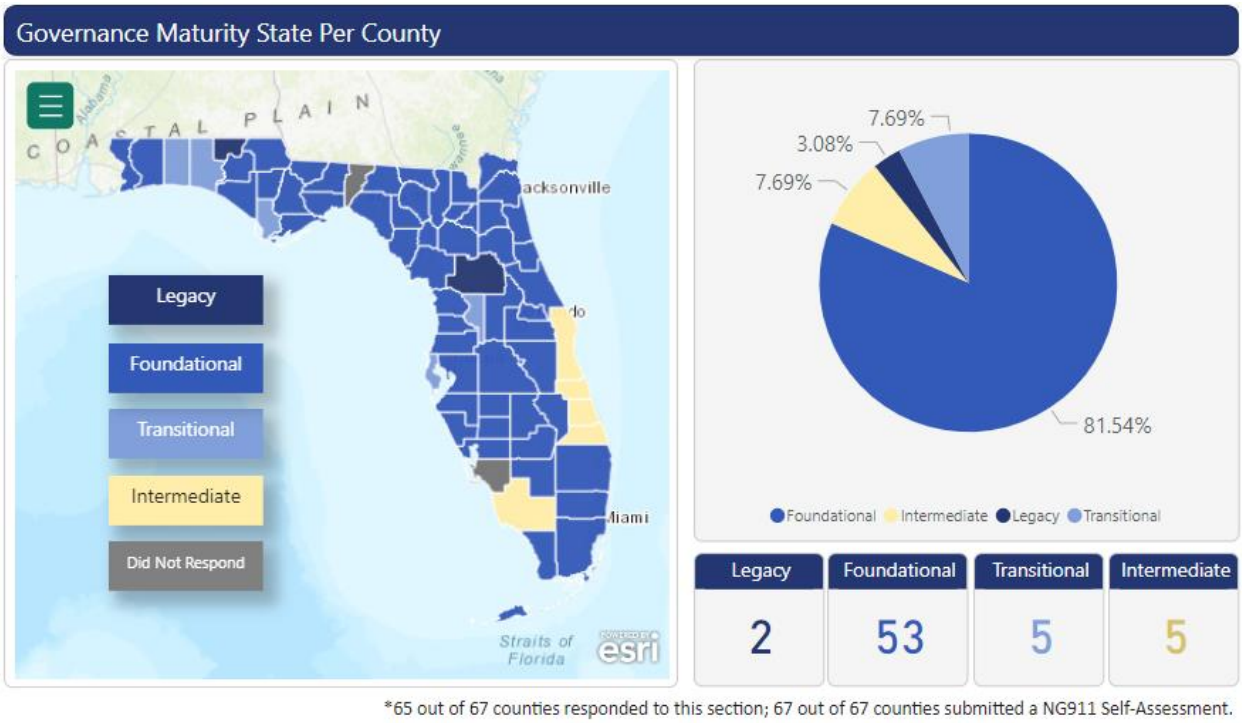



**Figure 8: The governance maturity state received by each county according to the NG9-1-1 Self-Assessment completed in July 2023**

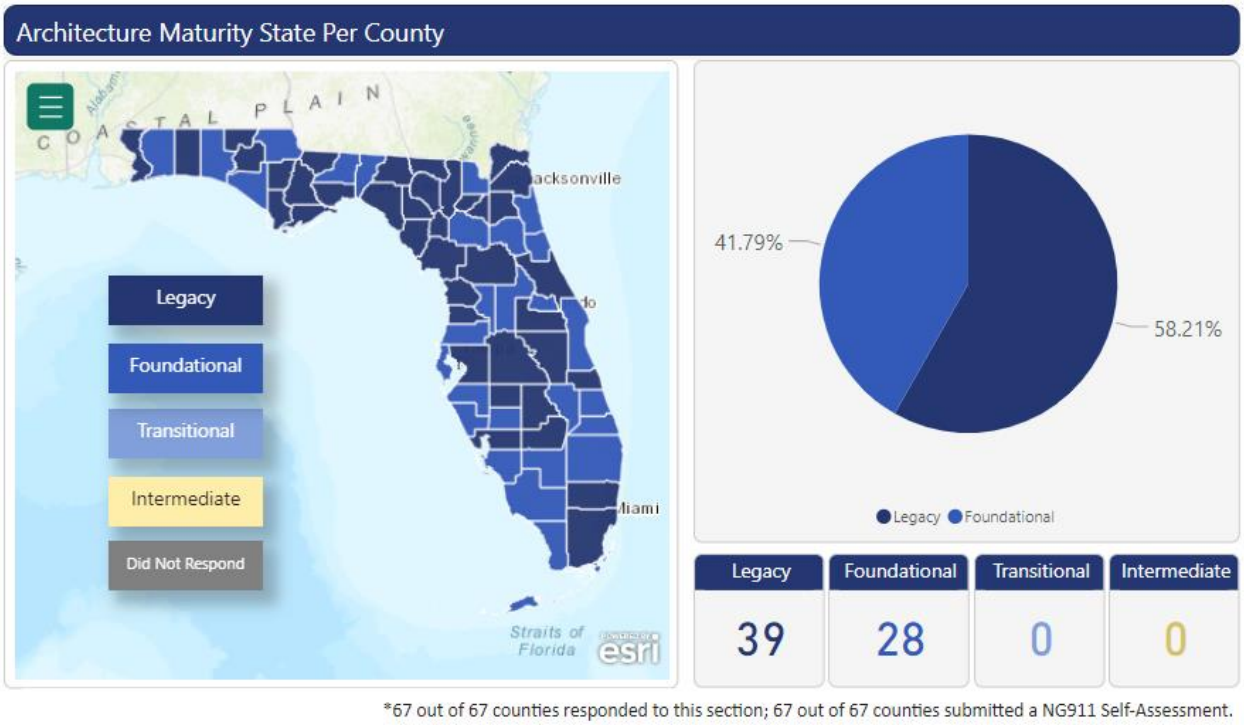



**Figure 9: The architecture maturity state received by each county according to the NG9-1-1 Self-Assessment completed in July 2023**

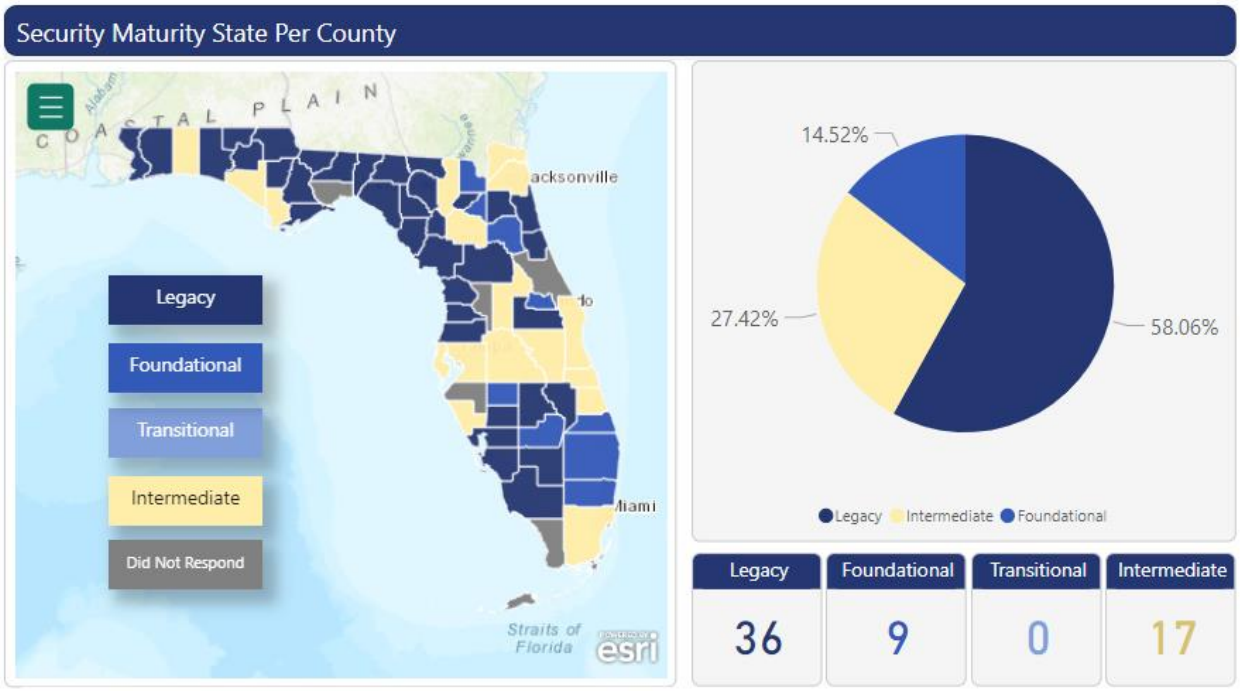



**Figure 10: The security maturity state received by each county according to the NG9-1-1 Self-Assessment completed in July 2023**

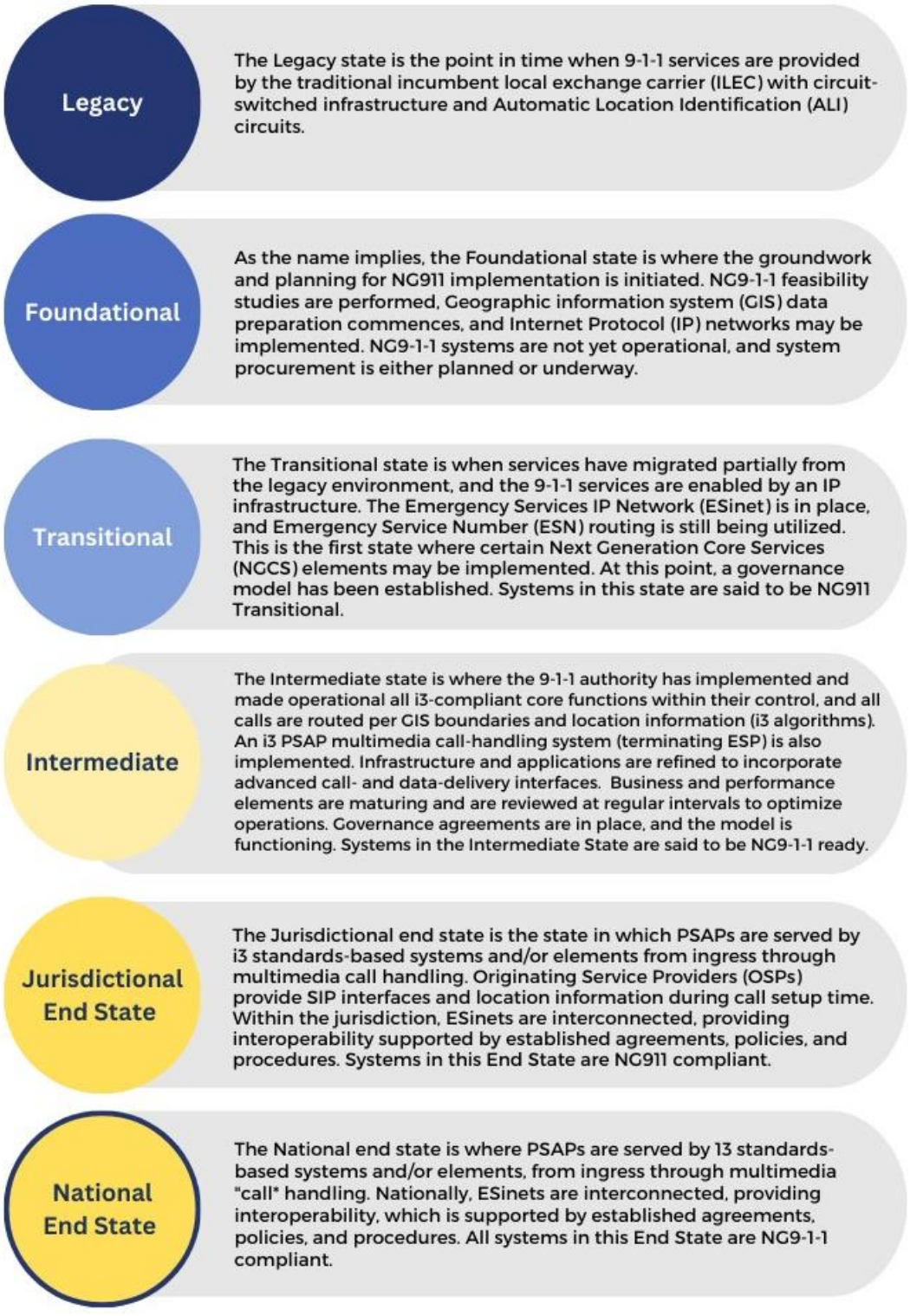



**Figure 11: Key steps in the NG9-1-1 Implementation Model[8]**

[8] "National 9-1-1 Program NG9-1-1 Interstate Playbook Chapter 2," Website, Accessed October 17, 2023, https://www.9-1-1.gov/assets/National_9-1-1_Program_NG9-1-1_Interstate_Playbook_Chapter-2.pdf

## 7.2. FLORIDA PSAP DATA COLLECTION SURVEY RESULTS

### 7.2.1. Next-Generation Core Services (NGCS)

As previously explained, NGCS is a crucial component of NG9-1-1. Therefore, one of the foundational steps in implementation involves establishing contractual agreements with vendors for NGCS. Within the survey, PSAPs were asked if their respective county had a signed contract with a vendor to provide NGCS.

The survey findings show that 82 PSAPs reported their county has successfully executed contractual agreements with vendors for NGCS deployment. 14 PSAPs reported their county is actively engaged in the process of securing contractual arrangements. An additional 26 PSAPs reported their county has not yet formalized contractual agreements for NGCS services.

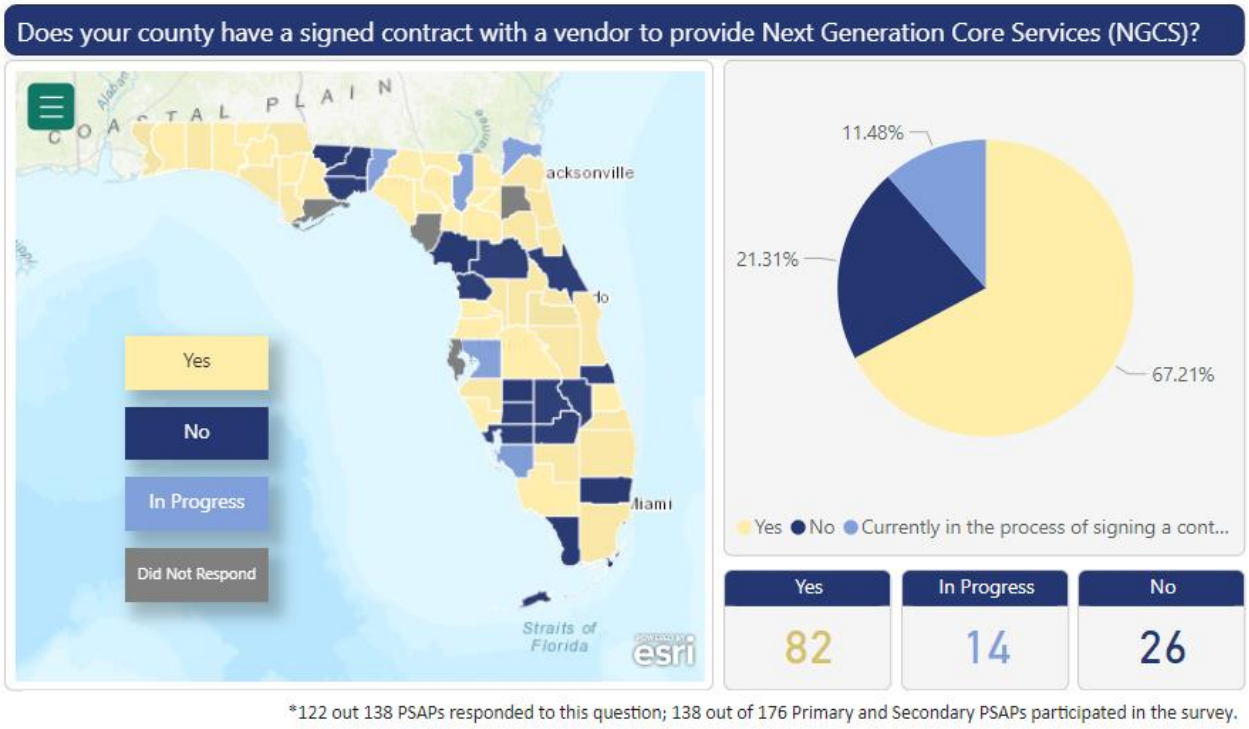
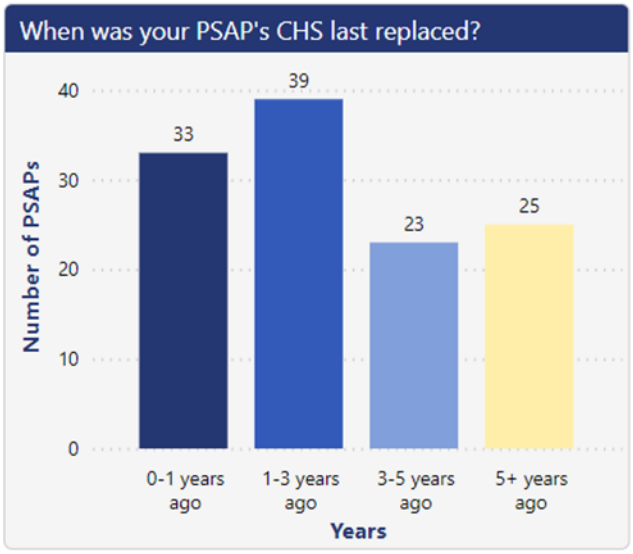



**Figure 12: Number of counties that have a contract with a vendor to provide NGCS as of July 2023**

### 7.2.2. Call Handling System (CHS)

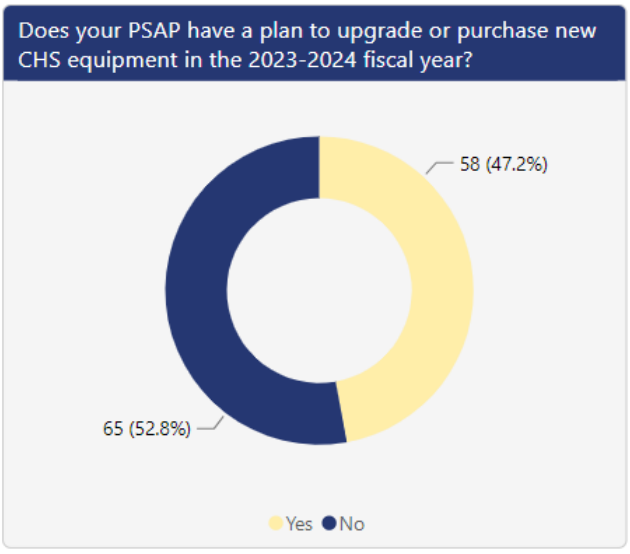
More than 40% of the primary and secondary PSAPs in Florida are using CHS installed over five years ago.




*120 out 138 PSAPs responded to this question;
138 out of 176 Primary and Secondary PSAPs participated in the survey.

**Figure 13: PSAPs' Reported most-recent CHS replacement**

When asked whether they had plans to procure new CHS equipment or initiate upgrades during Fiscal Year 2023-2024, 47% of PSAPs indicated that they did have plans to do so.




*123 out 138 PSAPs responded to this question;
138 out of 176 Primary and Secondary PSAPs participated in the survey.

**Figure 14: Number of PSAPs with plans to update or purchase CHS equipment in the 2023-2024 Fiscal Year**

### 7.2.3. Geographic Information System (GIS)

When asked if their 9-1-1 calls are geospatially routed, 32.23% of PSAPs responded "Yes," 55.37% answered "No," and 12.4% responded “Unsure.”

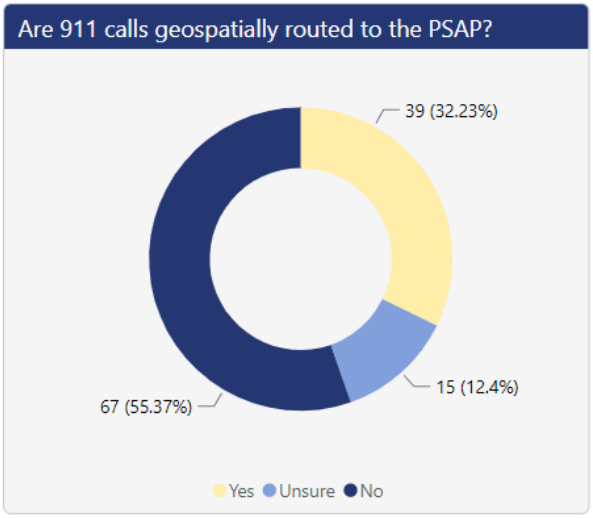



**Figure 15: Percentage of PSAPs using geospatial routing for 9-1-1 calls**

When asked if the PSAPs’ GIS datasets align with the NG9-1-1 Data Model, 62.18% of PSAPs reported “Yes,” 19.33% reported “No,” and 18.49% reported “Unsure.”

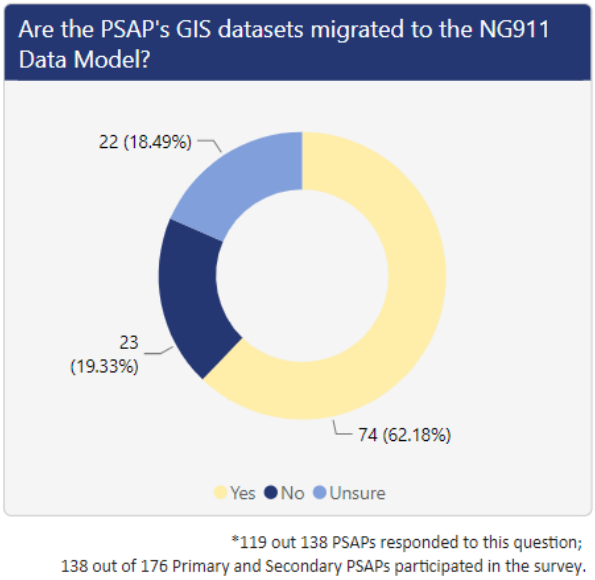



**Figure 16: Percentage of PSAPs who have migrated their GIS datasets to the NG9-1-1 GIS data model**

The majority of PSAPs reported “Yes” to having staff available to resolve GIS data errors in three days or less. This is a positive sign since it suggests the majority of PSAPs are well-prepared to promptly address data inaccuracies. 29 PSAPs have reported that they do not have staff

dedicated to GIS data resolution, which could result in delayed error correction and potentially affect data quality and the reliability of location-based emergency services.

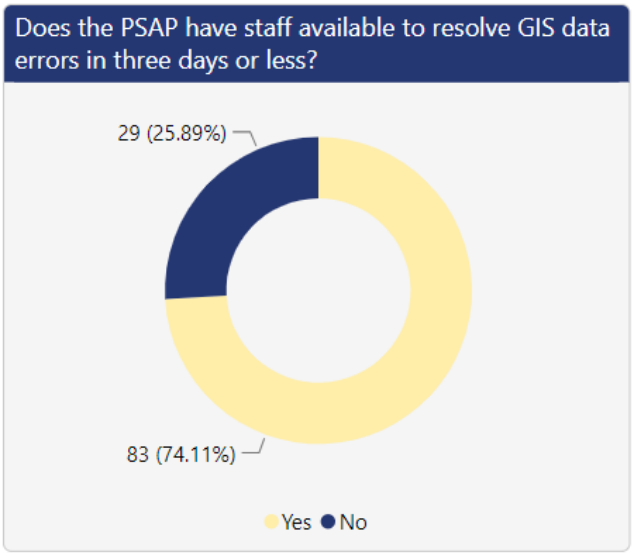



**Figure 17: Percentage of PSAPs who have staff available to resolve GIS data errors in three days or less**

The survey results on the frequency of updating GIS data shows the differences in how frequently PSAPs update GIS data.

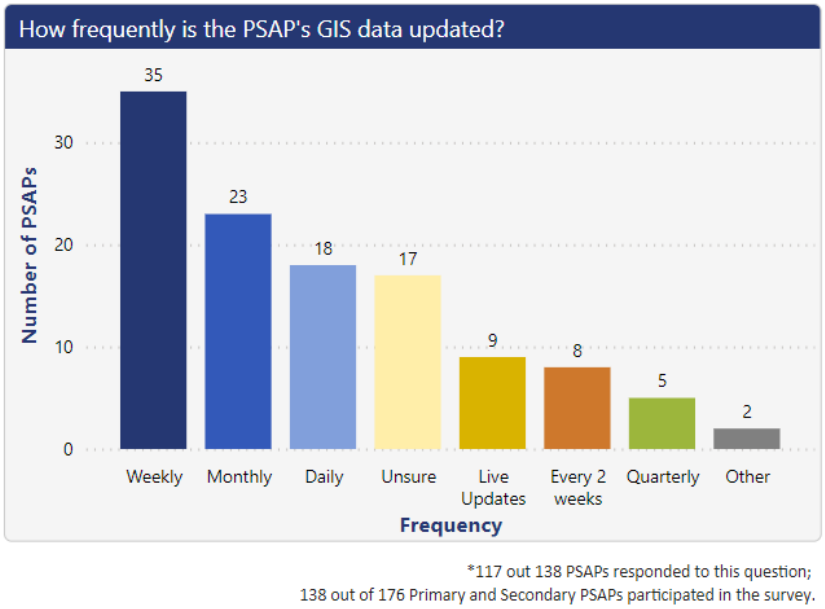



**Figure 18: Count of PSAPs GIS data update frequencies**

### 7.2.4. Text-to-9-1-1

When asked whether they receive text-to-9-1-1 via Short Message Service (SMS), 91.7% of PSAPs reported “Yes,” and 8.3% reported “No.” It is important to note that the 8.3% fell within only 4 counties.

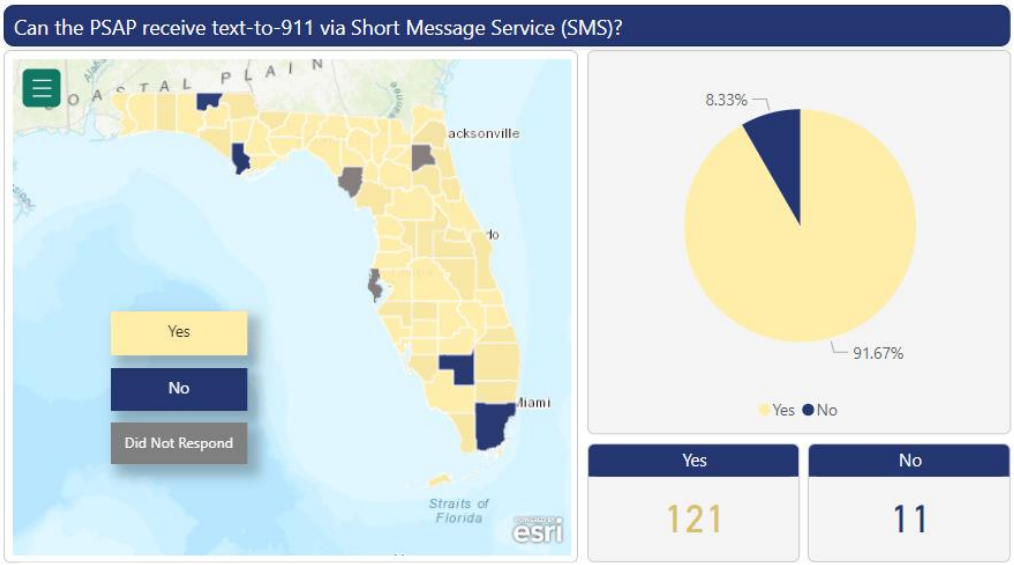



**Figure 19: Number of PSAPs able to receive text-to-9-1-1 via SMS**

Additionally, PSAPs were asked if they receive text-to-9-1-1 via Real-Time Text (RTT). The results showed that 62% of PSAPs do not have the capability of RTT, and 38% of PSAPs do have the capability.

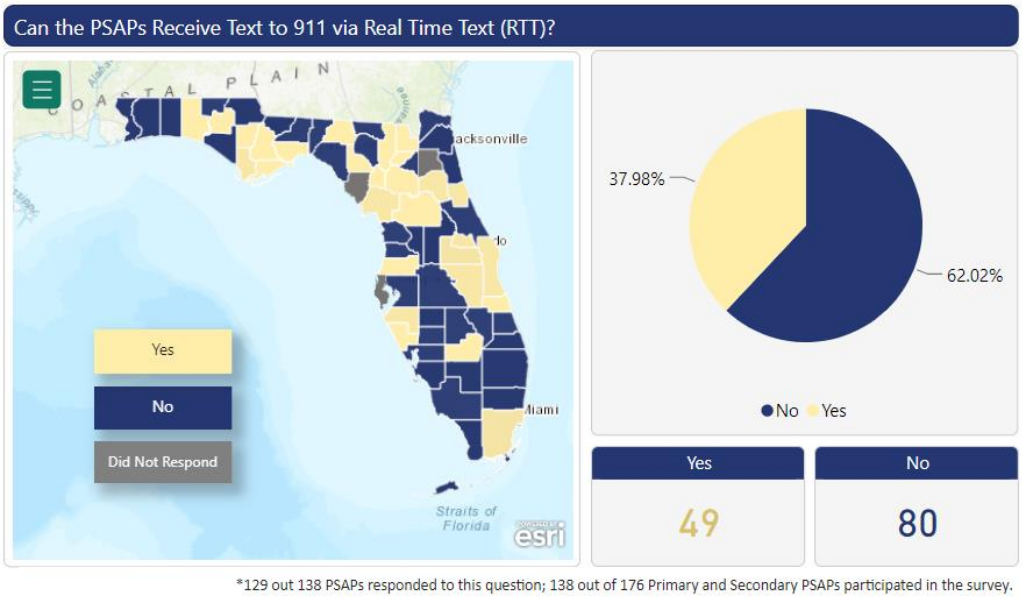
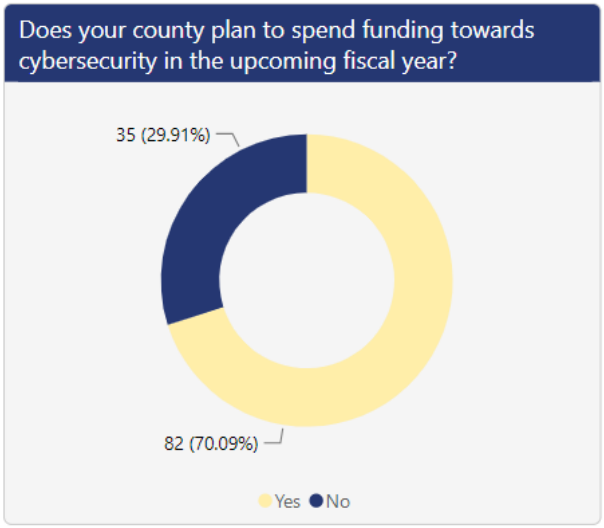



**Figure 20: Number of PSAPs able to receive text-to-9-1-1 via RTT**

### 7.2.5. Cybersecurity

When asked if their respective counties plan on funding cybersecurity in the upcoming Fiscal Years, 70.09% of PSAPs reported “Yes,” and 29.91% reported “No.”

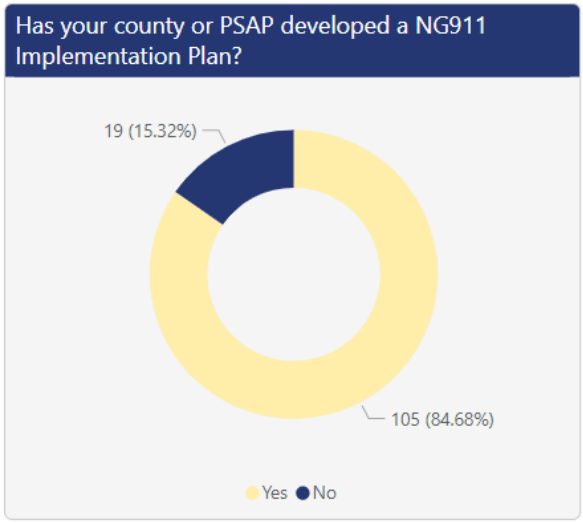



*117 out 138 PSAPs responded to this question;
138 out of 176 Primary and Secondary PSAPs participated in the survey.

**Figure 21: Percentage of PSAPs planning to invest in cybersecurity initiatives in the upcoming Fiscal Years**

### 7.2.6. NG9-1-1 Implementation Plan

When asked if their respective county or agency has an NG9-1-1 Implementation Plan, 84.68% of PSAPs reported “Yes,” and 15.32% reported “No.”




*124 out 138 PSAPs responded to this question;
138 out of 176 Primary and Secondary PSAPs participated in the survey.

**Figure 22: Number of PSAPs that have a NG9-1-1 Implementation Plan**

### 7.2.7. Telecommunicator Staffing

The survey requested each PSAP report their budgeted full-time and part-time telecommunicator positions for the Fiscal Year. Figure 23 displays the average telecommunicators per PSAP, categorized by county size (population).

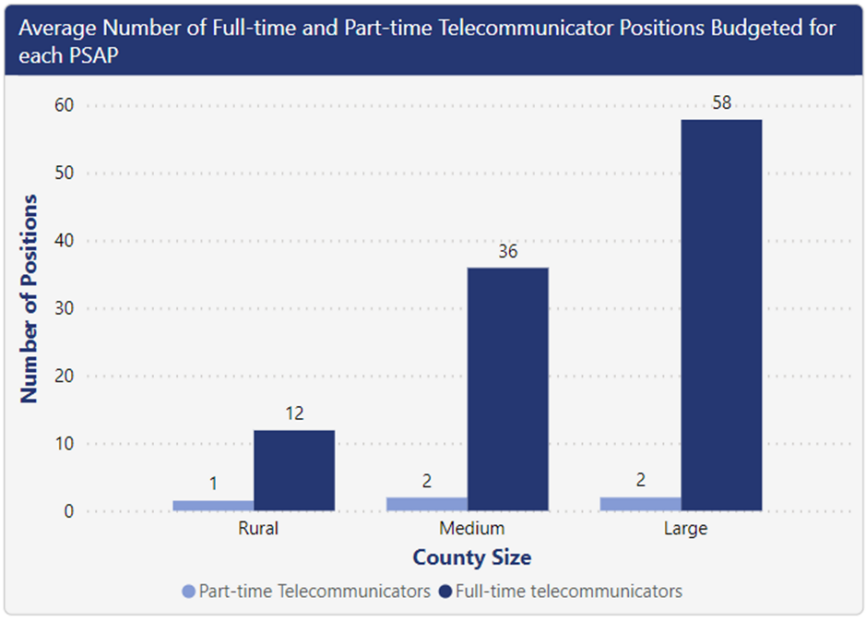



**Figure 23: Average number of telecommunicator positions budgeted per PSAP**

When asked if they had all their telecommunicator positions staffed, 25.55% of PSAPs responded “Yes,” and 74.45% answered “No.” If a PSAP selected “No,” they were prompted to enter their current number of vacant telecommunicator positions. Figure 24 displays the average reported number of vacant positions per PSAP as well as the total number of vacant positions for all the PSAPs that participated in the survey.

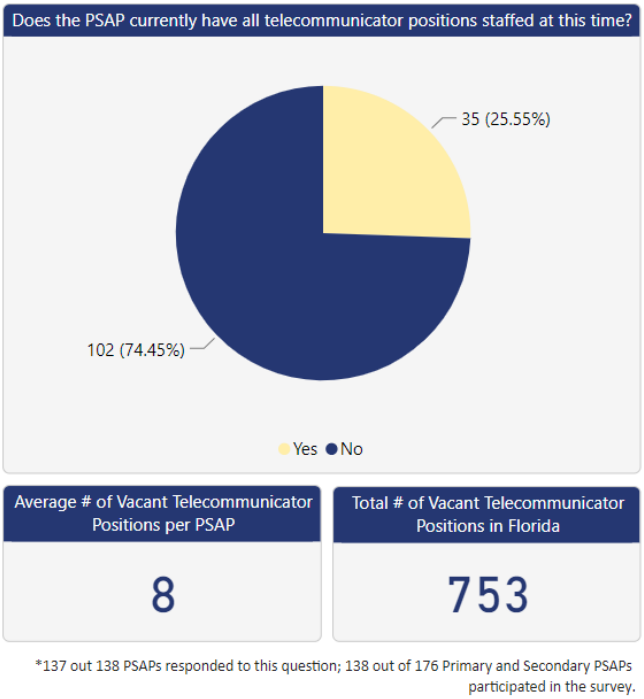



**Figure 24: Percentage of PSAPs with vacant telecommunicator positions**

The survey included a section that collected data on the overall budget allocated for telecommunicator salaries for full-time and part-time PSAP employees. The amount was then averaged by their total number of positions, which included full-time, part-time, and vacant positions. The underlying assumption was these positions were potentially fillable at any given time, and their associated salaries were accounted for in the budget. Figure 25 shows the average telecommunicator salary, categorized by county size (population).

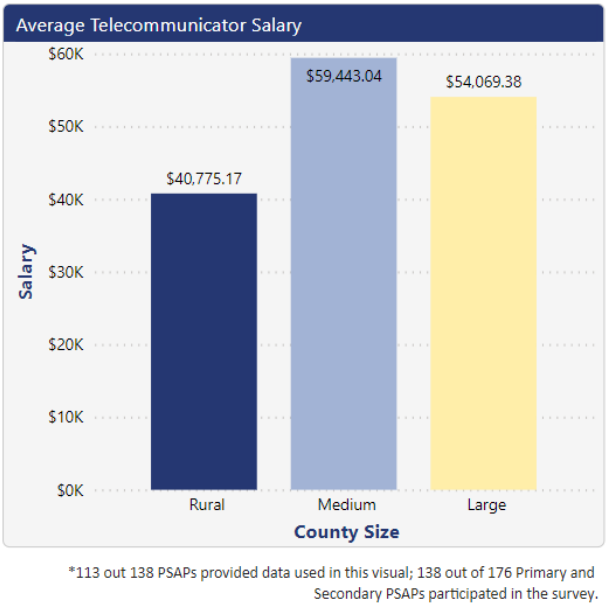



**Figure 25: Average salary for a telecommunicator position**

### 7.2.8. Redundancy and Failover

In Fiscal Year 2022-2023, 30.47% of PSAPs had a 9-1-1 service outage. It is important to note that this does not necessarily reflect an issue within a PSAP's control.

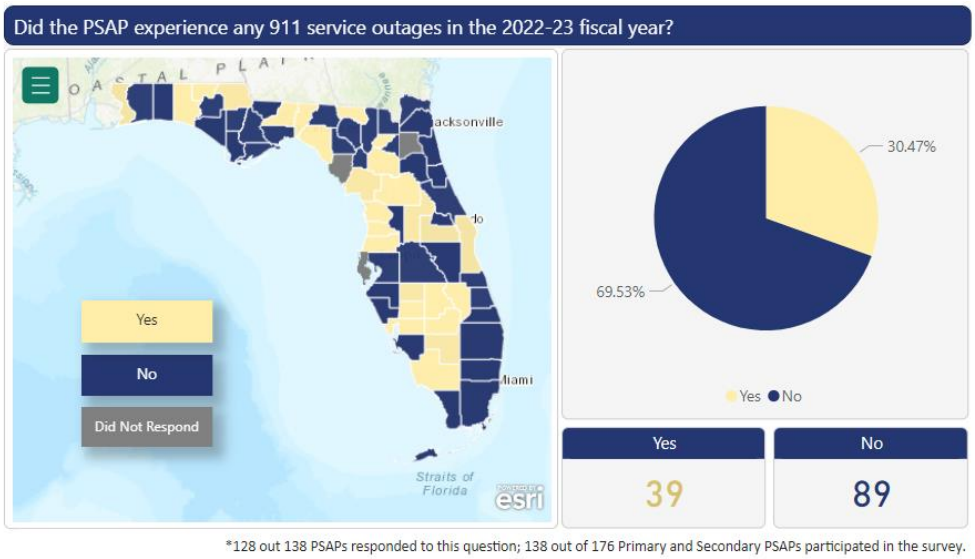



**Figure 26: Number of PSAPs who reported having a 9-1-1 service outage in the 2022-23 Fiscal Year**

PSAPs were asked if their network included multiple independent means of connecting to the internet. The survey results indicated that 72.36% of PSAPs have redundant connections to the internet, while 27.64% do not have multiple means of connecting to the internet.

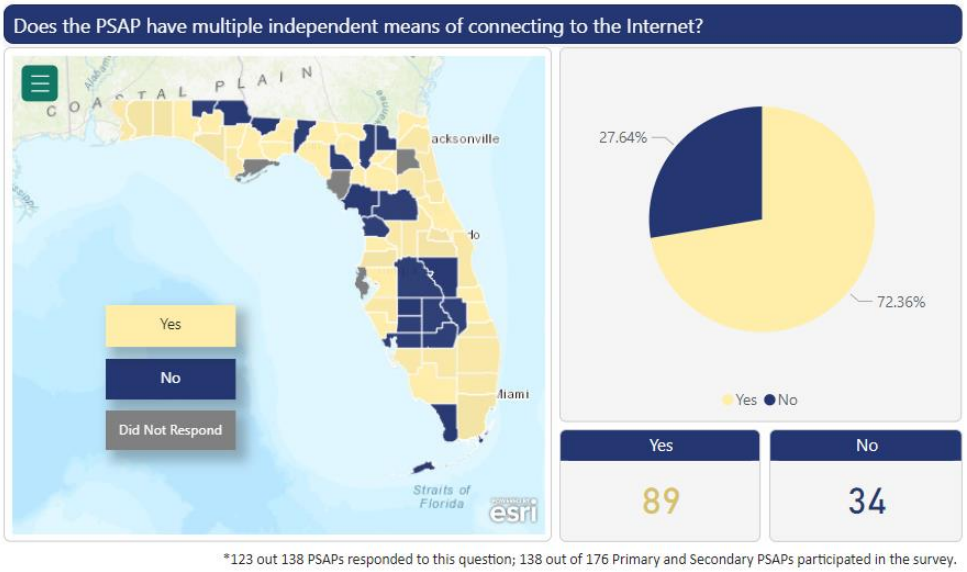



**Figure 27: Number of PSAPs reporting multiple means of connecting to the internet**

If the PSAP selected yes to having independent means to connect to the internet, they were asked to complete a follow-up question on if those connections route data and communications *without* sharing common cable pathways, equipment, and entry points. Their answers provide greater understanding of the redundancy and diversity of these connections and each 9-1-1 system's capacity to withstand various forms of disruptions.

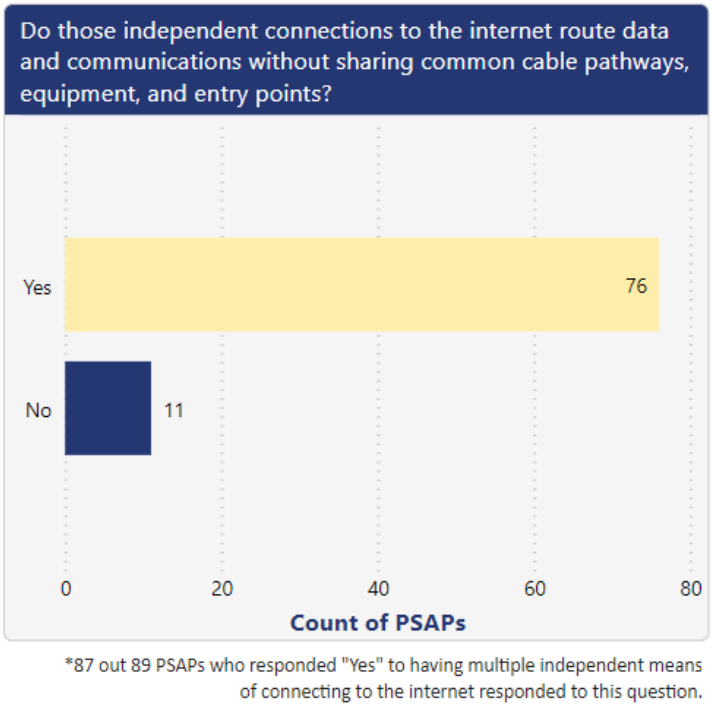



**Figure 28: Number of PSAPs with multiple connections to the internet and diverse pathways**

### 7.2.9. Sharing Equipment

When asked if they share equipment with another PSAP, 52.6% of PSAPs reported "Yes," and 47.4% said "No." These survey results highlight the varying approaches of PSAPs in terms of sharing equipment and resources.

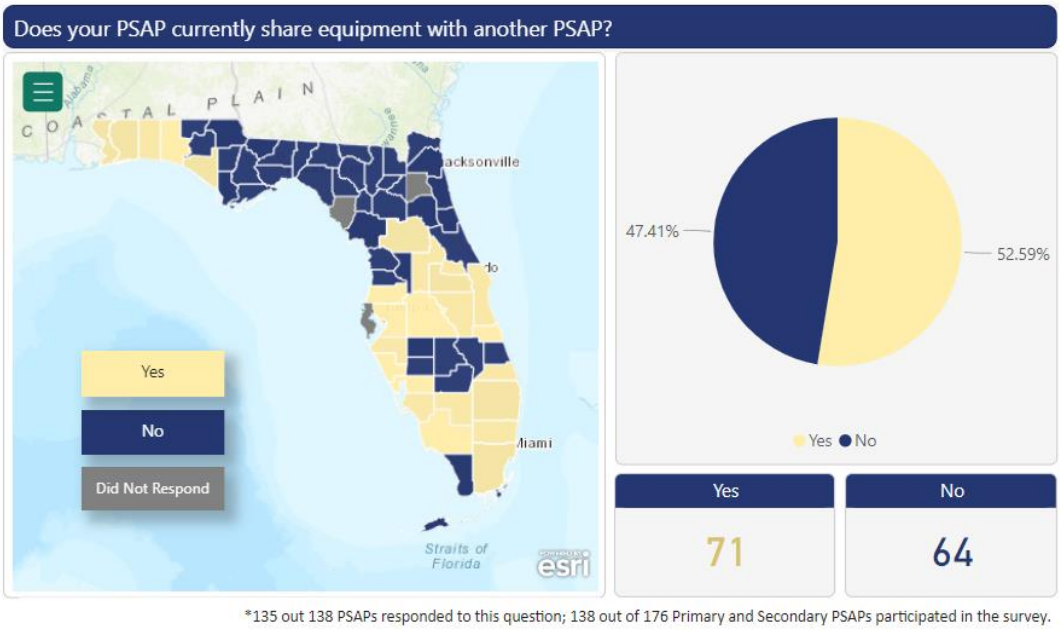



**Figure 29: Number of PSAPS that currently share equipment with another PSAP**

### 7.2.10. PSAP Operating Costs

9-1-1 fee revenue historically has accounted for an estimated 40% of allowable non-salary costs and a very small percentage of salary costs, but changes to 365.173(10), Florida Statute, in 2023 make virtually all PSAP operational costs allowable, including dispatcher salaries.

The survey requested each PSAP to provide information on their annual expenses for numerous services, including NGCS, CAD, CHS, GIS, logging recorder, network circuits, text-to-9-1-1, household profile creation, cybersecurity, and telecommunicator salaries, which have not previously been tracked as 9-1-1 expenses. These were then added together to calculate the PSAPs' total operating budget. Figure 23 illustrates the average of these total operating costs per PSAP.

PSAPs with outlier total operating costs within the dataset or those that did not provide information on their total operating budget or one of the required cost components were excluded from the calculation of the average.

The survey results indicated the following average total operating costs (including salaries).

- **Rural County PSAPs**: $842,305
- **Medium County PSAPs**: $3,505,535
- **Large County PSAPs**: $6,253,476

The survey results indicated the following average total operating costs (excluding salaries).

- **Rural County PSAPs**: $244,248
- **Medium County PSAPs**: $818,248
- **Large County PSAPs**: $2,160,106

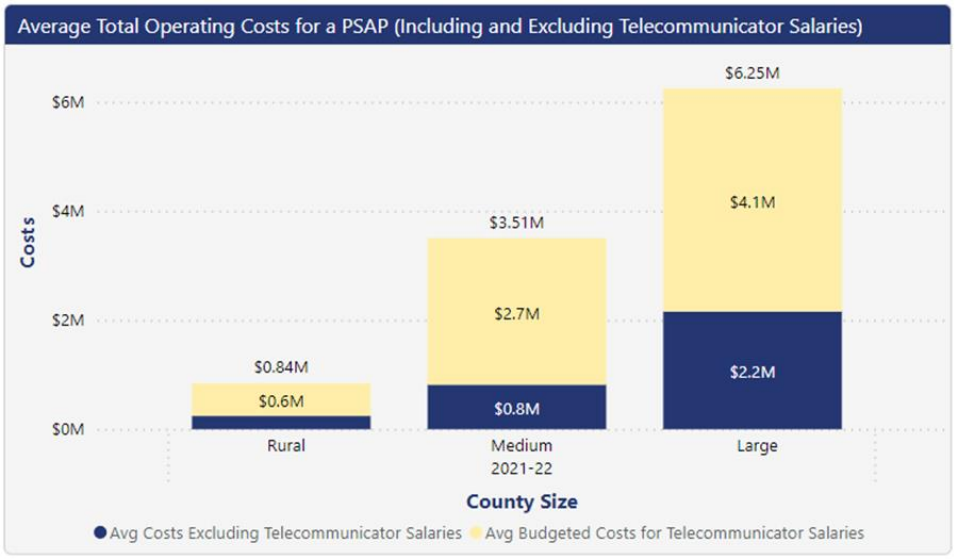



**Figure 30: Average total operating costs per PSAP, categorized by county size**

In Figure 31, the total operating costs for all the PSAPs who participated in the survey are summed to represent the total operational costs statewide. These numbers represent state and locally funded operational costs, to include costs previously unallowable 9-1-1 fee expenditures.

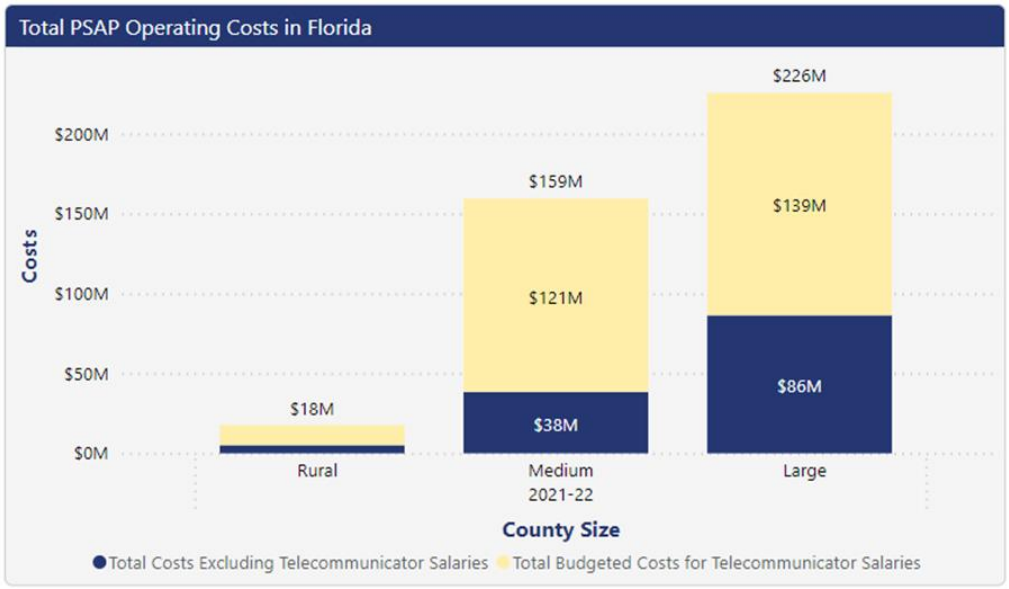



**Figure 31: Total PSAP operating costs, categorized by county size**

# 8. GAP ANALYSIS.

The gap analysis has been structured to model the same framework as the SAFECOM NG9-1-1 Self-Assessment.

## 8.1. GOVERNANCE DOMAIN

In reviewing the Governance Maturity State of Florida counties, it is essential to note that just over 84% of the counties that completed the self-assessment are in a Foundational or Legacy state. The other 16% of counties received a maturity state of either Transitional or Intermediate. While this indicates an awareness of the need to be ready for NG9-1-1, a major portion of the state requires varying degrees of guidance and support strategic planning and implementation.

**Policy and Procedure**

**Findings:**

While conducting the NG9-1-1 Self-Assessment, many of the counties vocalized that the Governance section was challenging to interpret due to an unclear division of responsibilities between local and state government. This has resulted in some counties being designated at a lower maturity state because they lack local standards.

The results of this assessment also highlighted a lack of standardized policies and procedures at the state level to which counties should adhere. The policies and procedures that do exist are unenforceable because they lack repercussions against counties who fail to comply, and as a result, have delayed implementation of past initiatives. Although the ECB has adopted several regulations for the grant application process, there are no standardized policies and procedures for NG9-1-1, contributing to confusion for industry stakeholders and a lack of regulation between PSAPs.

While the absence of established guidelines for implementing NG9-1-1 provides flexibility for the counties to adopt NG9-1-1 at their own pace, it hinders state-wide adoption. Without standardization and guidelines, some counties may delay NG9-1-1 adoption, which can compromise the effectiveness of emergency response.

This limits all organizations involved (DMS, ECB, the 9-1-1 coordinators, the boards of each county, and public safety organizations) from operating from a uniform standard when upgrading local PSAP systems. Many of the findings and recommendations throughout this gap analysis support the need for updated policies and procedures, such as requirements for system compliance and GIS data formatting.

Another issue noted was that if county decisionmakers do not support county 9-1-1 coordinator decisions and recommendations, those county 9-1-1 coordinators have no authority to meet some of their statutory responsibilities. Statutory responsibilities of

county 911 coordinators include ensuring their counties comply with all state and federal laws and rules affecting 9-1-1, ensuring 9-1-1 systems meet or exceed technical and operational standards, and ensuring that the 9-1-1 systems perform in concert with statewide emergency communication objectives.

**Recommendations:**

1. **The ECB and DMS should have the necessary authority to ensure compliance with uniform standards for a functional and effective interoperable NG9-1-1 system.** This can be completed by updating current statutes and rules to clarify roles, responsibilities, and authority for NG9-1-1 implementation at a local, state, and regional level.

2. To address a gap in uniform standards, the ECB and/or DMS shall establish NG9-1-1 system minimum standards. The national NENA i3 standard should be adopted as a baseline, but the standards should consider the unique needs of Florida counties.

   These minimum standards shall enable the sharing of critical information in a consistent and compatible way. This interoperability is essential for effective communication and coordination among emergency response entities, including call centers, first responders, and relevant agencies.

3. To ensure interoperability and a seamless transition to NG-911, a quality control program that evaluates the PSAPs' compliance with the standards should be implemented. This program would allow the DMS Bureau of Public Safety, within the Division of Telecommunications, staff to meet with local 9-1-1 coordinators and PSAP management to understand any planning issues and to conduct any inspections required to ensure compliance.

## County NG9-1-1 Plan

**Findings:**

When asked if their county or PSAP has developed an NG9-1-1 implementation plan, 102 of the 176 primary and secondary PSAPs reported “Yes,” and 19 PSAPs reported “No.” Although most PSAPs have begun proactively planning for NG9-1-1, all counties must possess a standardized plan to ensure a consistent pace of implementation. Several factors can account for the absence of a well-defined county implementation plan. Often, the implementation of NG9-1-1 is a multi-faceted, multi-year endeavor that necessitates cooperation among numerous stakeholders, including local governments, PSAP personnel, and telecommunications providers. Counties and PSAPs might lack the necessary resources, expertise, or financial support required to formulate comprehensive plans. Furthermore, there could be uncertainty about the timing of federal or of state assistance, both of which can deter counties from initiating the planning phase.

**Recommendations:**

1. To address this lack of formal planning, the Bureau of Public Safety should update the State 9-1-1 Plan to require all counties establish a formal plan for reaching end-state maturity of NG9-1-1 Implementation. Counties should tailor their plans to their unique needs. This plan must comply with the overarching dates provided in the timeline.
2. In tandem with the above recommendation, the Bureau of Public Safety should support counties creating the plan by providing guidance and coordination in the form of a NG9-1-1 county plan template.
3. Moreover, a process should be established, beyond regional meetings, requiring counties to regularly report their implementation status to DMS. A quarterly update of the SAFECOM NG9-1-1 Self-Assessment to coincide with regional meetings is recommended to allow implementation status to be a regular agenda item at these meetings.

## Telecommunicator Staffing

**Findings:**

When PSAPs were asked if they currently had their telecommunicator positions staffed, 25.55% of PSAPs responded "Yes," and 75.45% responded "No." While staffing is not directly related to implementing an NG9-1-1 system, it is essential to consider because they could have severe implications for the operations of a 9-1-1 system and the efficiency of emergency response coordination. Implementing an NG9-1-1 system will require a workforce with advanced technical abilities and skills to operate modern systems. Financial constraints at both local and state levels could restrict the recruitment of new personnel or the training of current staff. Insufficient staffing can result in delays in the deployment and operation of NG9-1-1 systems, potentially affecting the speed of emergency response.

**Recommendations:**

1. A statewide training program should be established to further the knowledge of NG9-1-1 across the state. This should cover multiple topics to address the needs of telecommunicators and PSAP managers with varying levels of experience. This can be done by expanding the current, annual boot camp and providing courses regularly.

## 8.2. ARCHITECTURE DOMAIN

Upon review of the Architecture Maturity State of Florida counties, it is evident that a substantial majority of these counties are in the Legacy state within this domain. Specifically, 39 counties, accounting for 58.21% of the state, have self-reported being in the Legacy state. This statistic signifies that the state's infrastructure lacks advanced NG9-1-1 features.

**Next-Generation Core Services**

**Findings:**

Of the PSAPs that participated in the survey, 82 reported their county has a signed contract with a NGCS provider, while 14 PSAPs reported their county is currently in the process of signing a contract. Twenty-six PSAPs reported their county did not have a signed contract. The reporting shows that progress on county NG9-1-1 deployment differs across the state. With NGCS being a key component in an NG9-1-1 system, it is a priority to ensure all Florida counties establish a contractual agreement with a vendor to perform these essential services.

**Recommendations**:

1. To ensure compatibility between all counties, every county must require their current or future vendors to meet the newly established standards. If a county has already implemented NGCS, the county's NG9-1-1 plan must include how they will ensure their systems meet the newly established standards. To facilitate adherence to the proposed timeline, it is recommended that the Bureau of Public Safety or the ECB be granted the authority to ensure all counties in Florida comply with the specified requirements and implementation dates.

**Technical Complications and Interoperability**

**Findings:**

NG9-1-1 relies on advanced technologies, such as IP-based systems and GIS integration. The data suggests the absence of a statewide system or standard, along with issues related to versioning, introduces complications in achieving interoperability and consistency. These disparities among public safety agencies, who are often in neighboring jurisdictions, further amplify the complexities of interoperability when public safety officials need to communicate with each other or have access to consistent and current data. Technical challenges, such as compatibility issues, software development delays, or unexpected technical glitches can slow progress or, in worst-case scenarios, slow response to an emergency.

**Recommendations:**

1. When strategizing to address technical challenges, particularly in achieving widespread interoperability, the state's plan should incorporate a phased approach. This approach would allow regions with a more mature transition state to evaluate their NGCS and their regionally managed GIS platforms. The objective

of the phased approach is to thoroughly document technical issues, including vendor-specific disparities, resolve the issues, and disseminate the findings to DMS, the ECB, and other stakeholders. The results of this documentation will guarantee interoperability is established among regions before a statewide rollout is final.

2. The State should establish options to simplify the procurement of NGCS, ESInet, GIS services, and other foundational elements in support of an IP-based system. A competitively procured contract format, for example a State Term contract or a General Services Administration (GSA) contract would assist counties in controlling the cost and ensure interoperability of these elements. If a procurement pathway is not established for the counties to use, counties would continue using limited alternative contract sources and procuring services on their own.
3. If the State does not provide a pathway, it should consider providing a state-wide ESInet or a point of interconnection for the multiple NGCS providers in the state.
4. An interconnection agreement between regional repositories should be established.

**Text-to-9-1-1**

**Findings:**
Of the PSAPs that participated in the survey, 11 reported they were unable to receive Text-to-9-1-1 via Short Message Service (SMS). This technical gap must be prioritized because it is an essential advancement for 9-1-1 communication, and Florida Statute 365.172 requires all counties to enact a Text-to-9-1-1 system by January 1, 2022.

**Recommendations:**
The absence of Text-to-9-1-1 technology in certain Florida counties, even after a statutory deadline has passed, highlights the necessity for the ECB and/or DMS to have more authority for ensuring repercussions for counties that fail to comply with federal or state requirements.

**Call Handling System**

**Findings**:
The collected data indicates that 25 PSAPs are currently using a call-handling system that has not been replaced for over 5 years. This raises concerns regarding potential security vulnerabilities and operational limitations, and further analysis is needed to determine whether the older CHS are compatible with NG9-1-1 infrastructure.

**Recommendations**:
As a part of establishing guidelines, the Bureau of Public Safety should update standards for 9-1-1 system capabilities and performance set forth in the State 9-1-1 Plan to meet NG9-1-1 standards and capabilities. These standards are essential to ensure that all PSAPs objectively evaluate and assess their CHS equipment regularly. Regular

assessments guarantee the reliability and efficiency of emergency response systems, address potential technological advancements, and maintain operational readiness for timely and effective emergency responses.

## Geographic Information System

**Findings**:
As shown in Figure 15, 55.4% of PSAPs reported they do not have their 9-1-1 calls geospatially routed to their PSAP, while 12.4% of PSAPs reported they were "Unsure" if 9-1-1 calls are geospatially routed. The reports emphasized the significant variance in NG9-1-1 Implementation across PSAPs in Florida. The 12.4% who responded "Unsure" shows there may be a lack of awareness or a need for increased communication regarding the status of NG9-1-1 Implementation and planning.

Figure 16 shows that 62.2% of PSAPs reported their GIS dataset has been migrated to the NENA NG9-1-1 Data Model, while 19.3% of PSAPs have not, and 18.5% of PSAPs are unsure. This reveals how Florida PSAPs are inconsistent with the structure of their GIS data because there is no mandated dataset to use. This presents major concerns regarding interoperability and the transfer of a 9-1-1 call with location information that may not match with a neighboring jurisdiction's information.

Figure 18 displays the diversity of responses received by PSAPs when they were asked how frequently their data was updated. The wide spectrum of responses illustrates a lack of GIS standardization across PSAPs in Florida. It also shows that a sizable percentage of PSAPs are not updating their GIS data regularly, which could result in having missing location information for a 9-1-1 caller.

**Recommendations**:

1. The Bureau of Public Safety should develop a comprehensive guide, setting a consistent GIS standard for 9-1-1 systems. The standards should do the following:
    - Define local requirements based on NENA standards.
    - Define quality standards to be used by the state or region.
    - Define how, what, and frequency of data to be collected.
    - Define requirements for cross-jurisdictional collaboration.
2. DMS should implement a training program to allow PSAP stakeholders to increase knowledge of 9-1-1 systems and technical knowledge related to infrastructure and technology.

## Redundancy and Failover

**Findings:**
Among the PSAPs involved in the survey, 39 reported instances of 9-1-1 service outages during Fiscal Year 2022-2023. Service outages must be addressed promptly, as they can reduce the efficiency of emergency call-taking services, leading to delays in response and communication during critical incidents.

The data collected also reveals that 34 PSAPs do not have multiple independent means of connecting to the internet. Redundant internet connections at PSAPs are vital for ensuring uninterrupted emergency services. Without redundancy, a single point of failure could lead to service disruptions, causing delays or a complete inability to receive and respond to emergency calls.

**Recommendations:**

1. It is recommended that the Bureau of Public Safety updates the State 9-1-1 Plan to include a policy mandating PSAPs to maintain multiple independent methods of internet connectivity. These should not be limited to wired connections. The standard should specify the diversity requirements of each connection, such as not sharing common cable pathways, equipment, or entry points.

## 8.3. SECURITY DOMAIN

Security practices encompass protective capabilities, operations, and best practices across ESInets, NGCS, and all external-facing interfaces.

As with many of the technical complexities in the Architecture Domain, the foundation of effective cybersecurity lies in an organization's capacity to manage risks effectively, maintain awareness of potential threats, evaluate the local environment, and pinpoint vulnerabilities through a formal security policy.

**Security Maturity State**

**Findings:**

The Security Maturity State of Florida counties indicate that more than 67% of counties are in the Legacy or Foundational maturity state regarding cybersecurity best practices. This indicates a widespread insufficiency in security controls and highlights the need to prioritize cybersecurity as agencies establish a baseline for their environment and undergo system upgrades to comply with NG9-1-1 standards.

**Recommendation:**

1. The Bureau of Public Safety should incorporate cybersecurity minimum requirements in the policy and procedures outlined in the State 9-1-1 Plan. Once completed, the counties will have a standard to follow to ensure the security of each system is uniform throughout the state. The policy can be updated over time as old security requirements become superseded by more advanced technologies. These policies and procedures can be adopted from a national standard and should address network and systems security such as physical security, network security, level of encryption, phishing protocol, and more.

# 9. PROJECTED COSTS FOR PSAP UPGRADES

The budget projection strategy for NG9-1-1 services leverages comprehensive analysis and actual operating budgets of PSAPs. By examining past expenditures and conducting careful cost analysis, this strategy ensures that budget estimates are rooted in real-world financial data, obtained directly from the PSAPs in each county across Florida.

The development of the budget projection strategy for the implementation of NG9-1-1 services focuses on the most recent years' operating budgets of PSAPs that participated in the statewide survey and careful cost analysis of the three key areas necessitating NG9-1-1 service upgrades, specifically NGCS, ESInet, and GIS. With careful review of various detailed proposal quotes for the services provided by the participating PSAPs, the approach acknowledges the diverse needs of counties based on their sizes (large, medium, and rural) and formulates average cost estimates accordingly. The primary objective of this budget projection strategy, centered on estimating the average implementation costs for PSAPs for establishing an NG9-1-1 infrastructure baseline, serves as the guiding framework for meeting the evolving needs of the counties.

The data received from the PSAPs participating in the survey indicates that of the 67 counties in Florida, 42 have entered into contracts with vendors to provide NGCS. Additionally, 6 counties reported having pending contracts with vendors. The assumption is that these 48 counties are currently in various stages of payment for these services. The survey data is inconclusive regarding whether payment of services has commenced, but in cases where there may be an over-allocation of budget, the overage can be absorbed to facilitate continued progress toward achieving NG9-1-1 standards for the region to achieve interoperability.

For rural counties, the non-recurring startup costs for ESInet and NGCS services are anticipated to be $105,000, while $50,000 has been allocated for GIS data model updates. Recurring monthly operational costs are estimated at $3,000 per month.

In medium-sized counties, the non-recurring costs for ESInet and NGCS services are projected to be $200,000, with an additional $75,000 designated for GIS data model updates. Monthly recurring costs are projected to average $25,000 per month on average but are based on population. Therefore, medium-sized counties will experience the largest variation compared to other sizes and types of counties. ($7,500 per month for smaller medium counties up to $63,000 per month for the largest of the medium counties).

For large counties, vendors have taken two different approaches. One vendor has decreased the up-front costs and rolled those costs into monthly recurring costs over the life of the contract. This vendor has contracted with three of the nine large counties and is charging, on average, $150,000 up front with monthly recurring costs between $75,000 and $100,000 per month. The remaining vendors are using a similar approach for large counties as they did for medium and rural counties with higher up-front costs and lower monthly recurring costs. AT&T, for example, has contracted with three large counties and charges non-recurring costs between $2,000,000 and $3,000,000 with monthly recurring costs below $50,000 per month, and only one large

county has contracted with Motorola and their non-recurring costs were $1,240,475. All but one of the nine large counties have finalized contracts and have already covered the startup costs. In addition, $100,000 is allocated for GIS data model updates for each county.

These estimates are based on proposals submitted by PSAPs participating in the survey and available regional proposals, which account for population sizes. Regional estimates have been cross-referenced with those from PSAPs with similar proposals. Table 2 provides a summary of the estimated total costs for implementation:

| | ESInet /NGCS | | |
|---|---|---|---|
| County Size | Non Recurring Costs | Annual Recurring Costs | GIS |
| Large | $2,000,000 | $1,200,000 | $100,000 |
| Med | $200,000 | $300,000 | $75,000 |
| Rural | $105,000 | $35,000 | $50,000 |

**Table 2: Estimated Costs by County Size**

| County Size | # of Counties | ESInet/NGCS | GIS | Total |
|---|---|---|---|---|
| Large | 9 | $18,000,000.00 | $900,000.00 | $18,900,000.00 |
| Medium | 31 | $6,200,000.00 | $2,325,000.00 | $8,525,000.00 |
| Rural | 27 | $2,835,000.00 | $1,350,000.00 | $4,185,000.00 |
| Totals | 67 | $27,035,000.00 | $4,575,000.00 | **$31,610,000.00** |

**Table 3: Estimated Costs for Initial Statewide NG9-1-1 Implementation**

Due to prior State initiatives and the desire of PSAPs to make the transition, many counties have already begun the process of transitioning, either funded by the current State Grant Program or through self-funding. As of the end of 2023, 61 counties have begun the transition, either with NGCS and ESInet or by creating an NG9-1-1 GIS environment. The total cost to implement NG9-1-1 throughout the state is estimated to be $31,610,000, which includes the reimbursement of all costs expended to date.

| Stage | Complete | In Progress | Not Started | Total |
|---|---|---|---|---|
| NGCS/ESInet | $ 7,470,000 | $13,040,000 | $6,525,000 | $27,035,000 |
| GIS | $ 1,700,000 | $ 1,700,000 | $1,175,000 | $ 4,575,000 |
| Total Up Front | $ 9,170,000 | $14,740,000 | $7,700,000 | $31,610,000 |

**Table 4: Estimated Costs Based on Stage of Implementation**

A breakdown of these numbers shows that of the estimated $31,610,000 to implement NG9-1-1, $20,510,000 has been already committed to NGCS and $3,400,000 has been committed to GIS, leaving **$7,700,000** of the total cost of implementation unfunded. Most counties have committed their own funds to these major upgrade costs.

| Funding Source | NGCS | GIS | Total |
|---|---|---|---|
| Grant Funded | $ 5,775,000 | $ 2,575,000 | $ 8,350,000 |
| Self Funded | $16,915,000 | $ 825,000 | **$17,740,000** |
| Not Funded | $ 6,525,000 | $ 1,175,000 | **$ 7,700,000** |

**Table 5: Estimated Costs by Funding Source**

Looking at the 29 fiscally constrained counties (FCCs) as defined by S. 218.67(1), Florida Statutes, all but three of these counties have begun or completed the upgrade. An additional $1,545,000 is needed to fund the remainder of FCC upgrades for NG9-1-1.

| Fiscally Constrained Counties | | | |
|---|---|---|---|
| Funding Source | NGCS | GIS | Total |
| Grant Funded | $ 1,775,000 | $ 1,100,000 | $2,875,000 |
| Self Funded | $ 315,000 | $ - | **$ 315,000** |
| Not Funded | $ 1,145,000 | $ 400,000 | **$1,545,000** |

**Table 6: FCC Estimated Costs by Funding Source**

After all FCCs have completed the transition, their total annual recurring cost is estimated to be $1,510,000 to sustain their NG9-1-1 system. The remaining counties in Florida are anticipated to spend an additional $19,535,000 annually on maintenance and operations of their NG9-1-1 systems. These estimates do not include any additional cybersecurity costs incurred by the counties due to a lack of information available in the timeframe required for this plan.

| County Type | MRC | Annual MRCs |
|---|---|---|
| FCCs | $ 125,833 | $ 1,510,000 |
| Other Counties | $ 1,627,917 | $19,535,000 |
| Total | $ 1,753,750 | **$21,045,000** |

**Table 7: Ongoing Monthly Recurring Costs**

# 10. CONCLUSION

The initiative to upgrade Florida's PSAPs to implement NG9-1-1 capabilities to allow for the transfer of voice, text message, image, video, caller identification information, location information, and additional standards-based 9-1-1 call information must have a solid foundation. These recommended Florida-wide standards for NG9-1-1 should not only encompass requirements for NGCS and GIS, but also cybersecurity. New allowable expenditures created through 2023 statutory revisions create extensive opportunity for counties to utilize 9-1-1 funding on vital operational expenses. The funding model should be reviewed every three years to ensure the legislative intent of the updates are sustainable long term and allow for Florida's NG9-1-1 environment to thrive and grow with future technological updates.

Since the process to begin the transition to NG9-1-1 in Florida has already begun, there are several options available to ensure the project is completed by 2033. Each of the options below can be initiated on their own, or in combination with other options as funding is available. All numbers provided are estimates and will vary based on population and the vendor chosen by each county.

Option A: Funding for all unfunded projects for an estimated $7,700,000.

Option B: Funding just the unfunded FCCs projects for an estimated $1,545,000.

Option C: As funding is available, reimbursement of all self-funded costs for an estimated $17.8 million.

Option D: As funding is available, reimbursement of self-funded costs for just the FCCs for an estimated $318,000.

Option E: Any remaining funds can be used for other eligible expenses, including cybersecurity, as available.

Option F: Future funding for ongoing operational costs, estimated to be $21,045,000 annually for the whole state or $1,510,000 annually for just the FCCs.

Next Generation 9-1-1 will transform the infrastructure of 9-1-1, solidifying our reputation as a state that ensures continued safety and security for Florida citizens and visitors.

# APPENDIX A: GLOSSARY OF TERMS

| Term | Acronym | Definition |
|---|---|---|
| **Association of Public-Safety Communications Officials** | APCO | The world's oldest and largest not-for-profit professional organization dedicated to the enhancement of public safety communications. |
| **Backup PSAP** | | A disaster recovery PSAP that serves as a backup to a primary PSAP, which is not located at the primary PSAP; backup PSAPs are funded by the county. |
| **Border Control Function** | BCF | Provides a secure entry into the ESInet for emergency calls presented to the network. The BCF incorporates firewall, admission control, and may include anchoring of session and media as well as other security mechanisms to prevent deliberate or malicious attacks on PSAPs or other entities connected to the ESInet. |
| **Call Handling System** | CHS | Only those devices, software, and peripherals that are associated with the PSAP that are used exclusively for the receipt and processing of 9-1-1 calls. |
| **Computer-Aided Dispatch** | CAD | A computer-based system, which aids PSAP Telecommunicators by automating selected dispatching and record-keeping activities. |
| **Department of Defense (DOD) PSAP** | | A PSAP managed by the Department of Defense and under the jurisdiction of the federal government. DOD PSAPs do not receive funding from the state. |
| **Department of Management Services** | DMS | The agency charged by Florida Legislators to oversee the development and implementation of a State 9-1-1 Plan and provide administrative support to the Emergency Communications Board. |
| **Emergency Call Routing Function** | ECRF | Receives location information (either civic address or geo-coordinates) as input and uses this information to provide a URI that can be used to route an emergency call to the appropriate PSAP for the caller's location. Depending on the identity and credentials of the entity requesting the routing information, the response may identify the PSAP or an Emergency Services Routing Proxy (ESRP) that acts on behalf of the PSAP to provide final routing to the PSAP itself. The same database that is used to route a call to the correct PSAP may also be used to subsequently route the call to the correct responder, e.g., to support selective transfer capabilities. |
| **Emergency Communications Board** | ECB | Provides coordination, support, and technical assistance to counties to promote the deployment of advanced 911 systems in the state. |
| **Emergency Services Internet protocol Network** | ESInet | An IP-based inter-network (network of networks) shared by all agencies that may be involved in any emergency. |

| | | |
|---|---|---|
| **Emergency Services Routing Proxy** | ESRP | An i3 functional element which is an SIP proxy server that selects the next hop routing within the ESInet based on location and policy. There is an ESRP on the edge of the ESInet. There is usually an ESRP at the entrance to an NG9-1-1 PSAP. There may be one or more intermediate ESRPs between them. |
| **Federal Communications Commission** | FCC | A government organization in the US that makes rules for communications by radio, television, satellite, cable, and phone. |
| **Florida Association of Counties** | FAC | Helps Florida's counties effectively serve and represent their communities through Advocacy, Collaboration, and Education. |
| **Geographic Information System** | GIS | A computer software system that enables one to visualize geographic aspects of a body of data. It is able to translate implicit geographic data (such as a street address) into an explicit map location. It can query and analyze data to receive the results in the form of a map. It also can be used to graphically display coordinates on a map, i.e., latitude/longitude from a wireless 9-1-1 all. |
| **Internet Protocol** | IP | The method by which data is sent from one computer to another on the Internet or other networks |
| **Large County** | | Any county that has a population greater than 750,000 |
| **Master Street Address Guide** | MSAG | A database of street names and house number ranges within their associated communities defining Emergency Service Zones (ESZs) and their associated Emergency Service Numbers (ESNs) to enable proper routing of 9-1-1 calls. |
| **Medium County** | | Any county that has a population greater than 75,000 but less than 750,000. |
| **National Emergency Number Association** | NENA | A not-for-profit corporation established in 1982 to further the goal of "One Nation-One Number." NENA is a networking source and promotes research, planning and training. NENA strives to educate, set standards and provide certification programs, legislative representation and technical assistance for implementing and managing 9-1-1 systems. |
| **National Fire Protection Association** | NFPA | An international authoritative voice on all fire safety standards. NFPA codes are updated constantly to ensure the highest level of safety and efficiency in combating fire emergencies. |
| **Next Generation 9-1-1** | NG9-1-1 | An IP-based system comprised of managed IP-based networks (ESInets), functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provide additional capabilities. NG9-1-1 is designed to provide access to emergency services from all connected communications sources and provide multimedia data capabilities for PSAPs and other emergency service organizations. |

| | | |
|---|---|---|
| **Next Generation Core Services** | NGCS | Refers to the software, hardware, and database services within an NG9-1-1 system. NGCS is made up of functional elements which work together to perform essential tasks required to route and manage a 9-1-1 call. |
| **Non-Recurring Cost** | NRC | Costs incurred once during the life of a product. Usually related to implementation. |
| **Primary PSAP** | | A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office. Primary PSAPs are funded by the county. |
| **Public Safety Answering Point** | PSAP | A set of call takers authorized by a governing body and operating under common management which receives 9-1-1 calls and asynchronous event notifications for a defined geographic area and processes those calls and events according to a specified operational policy. |
| **Public Safety Broadband Network** | PSBN | A wireless broadband network that provides prioritized and exclusive access to wireless data for First Responders and Commercial Critical Infrastructure entities that underpin our modern digital society (e.g., electric utilities, rail, and transportation networks, transit systems, energy, potable water control systems, airports, naval ports).[9] |
| **Rural County** | | Any county that has a population fewer than 75,000 |
| **Secondary PSAP** | | A PSAP to which 9-1-1 calls are transferred from a Primary PSAP; Secondary PSAPs are funded by the county. |
| **State/University PSAPs** | | A regional communication center or PSAP operated by a state entity. Falls under the jurisdiction of the state. Both regularly engage with local PSAPs across the state. |
| **Voice over Internet Protocol** | VoIP | Provides distinct packetized voice information in digital format using the Internet Protocol. The IP address assigned to the user's telephone number may be static or dynamic. |

[9] "PSBN Innovation Alliance," Website. Accessed November 9, 2023. PSBN Innovation Alliance

# APPENDIX B: IMPORTANT STANDARDS TO REVIEW WHILE DEVELOPING FLORIDA'S NG9-1-1 STANDARDS

The list below is not all-inclusive and further research is needed as the state develops standards for NG9-1-1 Implementation.

- NENA-STA-010.3d-2021, NENA i3 Standard for Next Generation 9-1-1
    - This ANSI Approved Standard provides the detailed functional and interface specifications for a post-transition IP (Internet Protocol)-based multimedia telecommunications system, including the Core Services and legacy gateways necessary to support the delivery of emergency calls via an Emergency Services IP network.[10]

- NENA-STA-021.1a-2021, Emergency Incident Data Object (EIDO)
    - An ANSI Approved Standard. As agencies and regions move forward with implementing NG9-1-1 and IP-based emergency communications systems, they must adhere to a standardized, industry-neutral format for exchanging emergency incident information between disparate manufacturer's systems located within one or more public safety agencies, and with other incident stakeholders.

- NENA-STA-019.2-2022, NG9-1-1 Call Processing Metrics Standard
    - This ANSI Approved Standard intends to define normalized NG9-1-1 call processing metrics for computing useful statistics so that independent implementations can derive the same comparable measurements.

- NENA-STA-004.1-2014, NENA Next Generation United States Civic Location Data Exchange Format (CLDXF)
    - The NENA NG9-1-1 CLDXF standard supports the exchange of United States civic location address information about 9-1-1 calls, both within the US and internationally. The NENA NG9-1-1 CLDXF standard covers civic location addresses within the United States, including its outlying territories and possessions. The NENA NG9-1-1 CLDXF standard defines the detailed data elements needed for address data exchange.

- NENA-STA-005.1.2-2022, NENA Standards for the Provisioning and Maintenance of GIS data to ECRF and VLF

[10] "Nena i3 Standard for Next Generation 9-1-1," Website, accessed November 1, 2023. NENA-STA-010.3 (ymaws.com)

    - This document defines operational processes and procedures necessary to support the i3 Emergency Call Routing Function (ECRF) and Location Validation Function (LVF). Additionally, this document identifies ECRF/LVF performance and implementation considerations for 9 1 1 Authorities' consideration.

- NENA-STA-006.2a-2022, NENA Standard for NG9-1-1 GIS Data Model
    - This ANSI Approved Standard defines the GIS data information, formats, requirements, and related information used in NENA NGCS.

# APPENDIX C: 2023 FLORIDA PSAP DATA COLLECTION SURVEY

## SURVEY PARTICIPANT INFO

- Name
  - First Name
  - Last Name
- Email
- Phone Number
- Role
  - 911 Coordinator
  - IT Operations
  - PSAP Operations
  - GIS Coordinator

## PSAP INFORMATION

- County
- PSAP/Agency Name
- PSAP 24/7 Phone Number
- PSAP Address
- PSAP Primary Point of Contact
  - Name
  - Job Title
  - Email
  - Phone Number
  - Organization Associated With
- PSAP Type

- Primary – A PSAP to which 9-1-1 calls are routed directly from the 9-1-1 Control Office.
- Secondary – A PSAP to which 9-1-1 calls are transferred from a Primary PSAP.
- Regional Communication Centers (RCC) – Provide professional dispatch and communication services for state and federal agencies.

- What discipline(s) does your PSAP dispatch for? (Select all that apply)
  - ☐ EMS
  - ☐ Law Enforcement
  - ☐ Fire
  - ☐ Animal Control
  - ☐ Utilities
  - ☐ Other

- Per statute, all PSAPs operate under the authority of the Board of County Commissioners. Is there a secondary authority that 911 resides under in the county?
  - Yes, County Sheriff's Office
  - Yes, Emergency Management
  - No, only the Board of County Commissioners
  - Other

- Do you have a backup PSAP site in the case of an emergency?
  - Yes
  - No

- If yes, please list the following information for the backup PSAP:
  - Name/Location
  - Distance from PSAP (in miles)

- Please list the PSAP(s) that are used for alternate routing to assist with call overflow in the case of a call surge. Please list them in order of priority.
  1.
  2.
  3.

# PSAP BUDGET

- What was the PSAP's total operating budget for the 2022-2023 county fiscal year?

# PSAP STAFFING

NENA defines a Telecommunicator as an emergency response coordination professional trained to receive, assess, and prioritize emergency requests for assistance, including:

- Determining the location of the emergency being reported.
- Determining the appropriate law enforcement, fire, emergency medical, or combination of those emergency services to respond to the emergency.
- Coordinating the implementation of that emergency response to the location of the emergency.
- Processing requests for assistance from emergency responders.

In the following questions about staffing, we ask that you recognize both your call takers and dispatchers as telecommunicators.

- How many full-time telecommunicator positions are budgeted for at the PSAP?

- How many part-time telecommunicator positions are budgeted for at the PSAP?

- What is the total budgeted amount for all telecommunicator salaries (full-time and part-time) including fringe costs?

- What funding source(s) is used to cover the expenses associated with staffing salaries? (If you use a combination of funds, please select all that apply)

| | Please check this box if this funding source is used. | Please check this box if this funding source is NOT used. | If the funding source is used, please note what percentage it contributes to the total budgeted amount. |
|---|---|---|---|
| Monthly Fee Reimbursement | ☐ | ☐ | |
| Board of County Commissioners funds | ☐ | ☐ | |
| County Sheriff's Office funds | ☐ | ☐ | |
| Emergency Management fund | ☐ | ☐ | |
| Other | ☐ | ☐ | |

- How many telecommunicators are working on a typical peak shift?
  - 1
  - 2

- 3-5
- 6-10
- 11-15
- 15-20

- Do you currently have all of your telecommunicator positions staffed at this time?
  - Yes
  - No

- If no, what is the number of vacant telecommunicator positions?

- Please explain why the positions are vacant. Be sure to address any staffing issues that you may be experiencing.

# NEXT-GENERATION 911

- Has your county or PSAP developed a NG9-1-1 Implementation plan?
  - Yes
  - No

- If no, please explain what hurdles the PSAP/county has encountered when trying to implement NG9-1-1. Let us know if there are specific areas in the plan where you may need assistance or guidance.

- Does your PSAP currently operate a NG9-1-1 system?
  - Yes
  - Not yet, but we are in the process of upgrading systems.
  - No

NENA defines Next Generation 9-1-1 Core Services (NGCS) as the set of services needed to process a 9-1-1 call on an ESInet. It includes but is not limited to, the ESRP, ECRF, LVF, BCF, Bridge, Policy Store, Logging Services, and typical IP services such as DNS and DHCP. The term NG 9-1-1 Core Services includes the services, not the network on which they operate.

- Does your county have a signed contract with a vendor to provide Next Generation Core Services (NGCS)?
  - Yes
  - Currently in the process of signing a contract.

- No

- Please select your NGCS provider:
  - Atos
  - AT&T
  - INdigital
  - Lumen
  - Motorola
  - NGA911

- Does the PSAP's governing authority support the PSAP's initiative to implement NG9-1-1?
  - Yes
  - No

- If no, what are the governing authority's concerns?

## 10.1. NGCS COSTS

- What are the monthly recurring costs for service and/or maintenance from your NGCS provider?

- What were the non-recurring costs expended for your NGCS provider?

- What funding source(s) is used to cover the expenses associated with NGCS? (If you use a combination of funds, please select all that apply)

| | Please check this box if this funding source is used. | Please check this box if this funding source is NOT used. | If the funding source is used, please note what percentage it contributes to the total budgeted amount. |
|---|---|---|---|
| Monthly Fee Reimbursement | ☐ | ☐ | |
| Board of County Commissioners funds | ☐ | ☐ | |
| County Sheriff's Office funds | ☐ | ☐ | |
| Emergency Management fund | ☐ | ☐ | |
| Other | ☐ | ☐ | |

# NETWORK INFRASTRUCTURE

- What is the PSAP's primary 911 trunk type?
  - CAMA
  - SIP
  - Other

- Does your PSAP have multiple independent means of connecting to the Internet?
  - Yes
  - No

- Do those independent connections to the internet route data and communications without sharing common cable pathways, equipment, and entry points?
  - Yes
  - No

- What are the annual costs associated with your PSAP's network circuits?

The Network Infrastructure question(s) below have been requested by the Department of Defense:

- Are there selective routers within your county?
  - Yes
  - No
  - Unsure

- If yes, is there a known timeline for decommissioning the selective router(s)?
  - Yes
  - No
  - Unsure

- If yes, please state a specific deadline and note if it impacts any other PSAP(s), counties, military installations, etc.

# CALL HANDLING SYSTEM (CHS)

- Select the PSAP's 911 CHS Provider:
  - Viper

- Vesta 911
- Other

- What is the model number of your CHS?

- When was the CHS last upgraded?
  - 0-1 years ago
  - 1-3 years ago
  - 3-5 years ago
  - 5+ years ago

- Does your PSAP have a plan to upgrade or purchase new CHS equipment in the next year?
  - Yes
  - No

## 10.2. CHS COSTS

- What are the annual costs associated with your PSAP's CHS?

- What funding source(s) is used to cover the expenses associated with the PSAP's CHS? (If you use a combination of funds, please select all that apply)

| | Please check this box if this funding source is used. | Please check this box if this funding source is NOT used. | If the funding source is used, please note what percentage it contributes to the total budgeted amount. |
|---|---|---|---|
| Monthly Fee Reimbursement | ☐ | ☐ | |
| Board of County Commissioners funds | ☐ | ☐ | |
| County Sheriff's Office funds | ☐ | ☐ | |
| Emergency Management fund | ☐ | ☐ | |
| Other | ☐ | ☐ | |

# LOGGING RECORDER

- Select the PSAP's voice and data recording system provider:
  - NICE
  - NexLog
  - Exacom

## 10.3. LOGGING RECORDER COSTS

- What are the annual costs associated with your logging recorder?

- What funding source(s) is used to cover the expenses associated with the PSAP's logging recorder? (If you use a combination of funds, please select all that apply)

| | Please check this box if this funding source is used. | Please check this box if this funding source is NOT used. | If the funding source is used, please note what percentage it contributes to the total budgeted amount. |
|---|---|---|---|
| Monthly Fee Reimbursement | ☐ | ☐ | |
| Board of County Commissioners funds | ☐ | ☐ | |
| County Sheriff's Office funds | ☐ | ☐ | |
| Emergency Management fund | ☐ | ☐ | |
| Other | ☐ | ☐ | |

# COMPUTER-AIDED DISPATCH (CAD)

- Please list the PSAP's CAD vendor and system name:

- Does your PSAP use aerial imagery within your CAD system?
  - Yes
  - No
  - Unsure

- When was the CAD System last upgraded?
  - 0-1 years ago

- 1-3 years ago
- 3-5 years ago
- 5+ years ago

- Does your PSAP plan to upgrade or purchase a new CAD System by the end of the 2023-2024 State fiscal year?
  - Yes
  - No

### 10.4. CAD COSTS

- What are the annual costs associated with your CAD?

- What funding source(s) is used to cover the expenses associated with the PSAP's CAD system? (If you use a combination of funds, please select all that apply)

| | Please check this box if this funding source is used. | Please check this box if this funding source is NOT used. | If the funding source is used, please note what percentage it contributes to the total budgeted amount. |
|---|---|---|---|
| Monthly Fee Reimbursement | ☐ | ☐ | |
| Board of County Commissioners funds | ☐ | ☐ | |
| County Sheriff's Office funds | ☐ | ☐ | |
| Emergency Management fund | ☐ | ☐ | |
| Other | ☐ | ☐ | |

# GEOGRAPHIC INFORMATION SYSTEM (GIS)

- Please select the mapping software used by the PSAP for GIS data development and maintenance:
  - ESRI
  - QGIS
  - Other

- Is your GIS data managed internally or by a vendor?

- Internally
- Vendor

- How many people are responsible for GIS support?

- Are the individuals who support GIS data internally funded with the 911 monthly disbursement funds?
  - Yes
  - No

- Please list the name of the PSAP's GIS vendor:

- Please list the vendor's duties:

- Does the PSAP have the staff and resources available (internally or vendor) to resolve GIS data errors in three business days or less?
  - Yes
  - No
- Does the PSAP have dedicated 911 GIS professional staff internally? (Even if your GIS data is managed by a vendor, do you have on-site staff dedicated to GIS when necessary?)

- Please fill out the following chart so that data can be collected on the data structures defined in the NENA i3 Standard for Next Generation 9-1-1:

| | Is the dataset used by the PSAP? | Who owns and maintains the data? | What is the completion status of the dataset? | Is the dataset NG9-1-1 ready? | Has a vendor reviewed the dataset? | Do you share your dataset? | Does the dataset follow a set standard? | How often is the dataset reviewed for gaps or overlaps with other jurisdictions? | Does your dataset have well-maintained metadata? |
|---|---|---|---|---|---|---|---|---|---|
| PSAP Boundaries | ☐ | | | | | | | | |
| Provisioning Boundaries | ☐ | | | | | | | | |
| Emergency Service Boundaries (Law, Fire, and EMS), | ☐ | | | | | | | | |
| Site/Structure Address Points | ☐ | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Road Centerlines | ☐ | | | | | | | | |

- Please list any other datasets that you use:

- Where are the GIS datasets stored?
  - On-site database
  - Off-site database hosted by 3rd party agency
  - Off-site database hosted by 3rd party vendor
  - Unsure

- How frequently is the PSAP's GIS data updated?
  - Live Updates
  - Daily
  - Weekly
  - Monthly
  - Quarterly
  - Unsure
  - Other

- Are calls routed geospatially to your PSAP?
  - Yes
  - No
  - Unsure

- Has the Site/Structure Address Points been synchronized to the PSAP's Automatic Location Identification (ALI) database?
  - Yes
  - No
  - Unsure

- Does your county use the US Census TIGER Data Layer as your county boundary?
  - Yes
  - No
  - Unsure

- Do you currently synchronize your Road Centerline dataset to the Master Street Address Guide (MSAG)?
  - Yes
  - No

- Unsure

- Are the PSAPs GIS datasets migrated to the NG9-1-1 Data Model?
  - Yes
  - No
  - Unsure

- Which data quality issues concern you the most regarding your GIS datasets? (Select all that apply)
  - Inconsistencies within the data
  - Lack of maintenance
  - Lack of reconciliation/coordination with neighboring PSAPs/jurisdictions
  - Lack of staff capacity
  - Lack of standardization
  - Lack of strong workflows/quality control
  - Lack of technical knowledge

## 10.5. GIS COSTS

- What were the initial costs expended on GIS software/hardware?

- What are the annual costs associated with your PSAP's GIS?

- What funding source(s) is used to cover the expenses associated with GIS? (If you use a combination of funds, please select all that apply)

| | Please check this box if this funding source is used. | Please check this box if this funding source is NOT used. | If the funding source is used, please note what percentage it contributes to the total budgeted amount. |
|---|---|---|---|
| Monthly Fee Reimbursement | ☐ | ☐ | |
| Board of County Commissioners funds | ☐ | ☐ | |
| County Sheriff's Office funds | ☐ | ☐ | |
| Emergency Management fund | ☐ | ☐ | |
| Other | ☐ | ☐ | |

# PSAP CAPABILITIES

- Can the PSAP receive text-to-911 via Short Message Service (SMS)?
  - Yes
  - No

- Can the PSAP receive text-to-911 via Real-Time Text?
  - Yes
  - No

- Can the PSAP initiate texts to a 911 caller?
  - Yes
  - No

- Can the PSAP initiate texts to someone who has not called 911?
  - Yes
  - No

- Can the PSAP create individual and household profiles for 911 callers (i.e. Smart 911, etc.)?
  - Yes
  - No

## 10.6. COSTS OF CAPABILITIES

- What are the annual costs associated with text-to-911?

- What are the annual costs associated with the capability of creating household profiles?

- What funding source(s) is used to cover the expenses associated with these capabilities? (If you use a combination of funds, please select all that apply)

| | Please check this box if this funding source is used. | Please check this box if this funding source is NOT used. | If the funding source is used, please note what percentage it contributes to the total budgeted amount. |
|---|---|---|---|
| Monthly Fee Reimbursement | ☐ | ☐ | |
| Board of County Commissioners funds | ☐ | ☐ | |

| | | | |
|---|---|---|---|
| County Sheriff's Office funds | ☐ | ☐ | |
| Emergency Management fund | ☐ | ☐ | |
| Other | ☐ | ☐ | |

# SERVICE OUTAGES

- Did your PSAP experience any 911 service outages in the 2022-23 State of Florida fiscal year (July 1, 2022 – June 30, 2023)?
  - Yes
  - No

- Please list the number of outages that occurred:

- Please list the length of each outage with a brief explanation of what caused it:

- Does your provider(s) perform a Root Cause Analysis (RCA) in the case of an outage?
  - Yes
  - No

# SHARING EQUIPMENT

- Does your PSAP currently share equipment with another PSAP?
  - Yes
  - No

- If yes, please list the equipment that is being shared:

- Has the PSAP consolidated with another PSAP in the last three years? (This includes virtual and physical consolidations)
  - Yes
  - No

- If yes, please list the PSAPs that were a part of the consolidation:

- When did the consolidation take place?

- 0-1 year ago
- 1-3 years ago
- 3-5 years ago
- 5+ years ago

- Does the PSAP have plans to consolidate with another PSAP/agency in the 2023-24 State fiscal year?
  - Yes
  - No

# PSAP CYBERSECURITY

- Did the PSAP have any cybersecurity services completed during the 2022-23 State fiscal year?
  - Yes
  - No

## 10.7. CYBERSECURITY COSTS

- What specifically did you spend your funds on in cybersecurity?

- Please provide the total costs expended on cybersecurity for the year:

- What funding source(s) is used to cover the expenses associated with cybersecurity? (If you use a combination of funds, please select all that apply)

| | Please check this box if this funding source is used. | Please check this box if this funding source is NOT used. | If the funding source is used, please note what percentage it contributes to the total budgeted amount. |
|---|---|---|---|
| Monthly Fee Reimbursement | ☐ | ☐ | |
| Board of County Commissioners funds | ☐ | ☐ | |
| County Sheriff's Office funds | ☐ | ☐ | |
| Emergency Management fund | ☐ | ☐ | |
| Other | ☐ | ☐ | |

- Does your county plan to spend funding towards cybersecurity in the upcoming fiscal years?
  - Yes
  - No

- If yes, what cybersecurity initiatives are you looking into?

- Do you have any cybersecurity concerns for your PSAP that the State of Florida can help you meet?

# AREAS FOR IMPROVEMENT

The following questions aim to understand your opinions and address any concerns you may have. Your responses will remain confidential.

- What are some ways you think statewide NG9-1-1 implementation could be improved in Florida?

- What are some ways the Department of Management Services (DMS) can provide additional support for your county?