State of Ohio

9-1-1 Plan

July 15, 2024

Prepared by the Ohio Department of Administrative Services
Office of First Responder Communications Initiatives
Ohio 9-1-1 Program Office

The Ohio 9-1-1 Steering Committee as well as the Ohio 9-1-1 Program Office of the Ohio Department of Administrative Services' Office of First Responder Communications Initiatives have developed this statewide 9-1-1 Plan to document the current state of 9-1-1 in Ohio. Periodic reviews and updates will occur to ensure this document is timely and accurately depicts Ohio's Statewide 9-1-1 Plan and operations.

Document Revision History

Version	Publication Date	Revision Comments
V0.1	April 3, 2024	Initial Draft for the Statewide 9-1-1 Steering Review
V1.0	July 15, 2024	Approved by Statewide 9-1-1 Steering Committee

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Executive Summary

The Ohio 9-1-1 Steering Committee and the Ohio Department of Administrative Services' Ohio 9-1-1 Program Office have developed this Ohio 9-1-1 Plan as an informational resource. This plan incorporates the requirements per Ohio Revised Code §128.211, along with information on 9-1-1 in Ohio from the start of 9-1-1 to where we are today as a state implementing Next Generation 9-1-1 (NG9-1-1).

On July 3, 2023, Governor DeWine signed House Bill 33 (HB33) from the 135th General Assembly. HB33 provided the Ohio 9-1-1 Program Office with nearly $46 million from the General Revenue Fund to build out the statewide NG9-1-1 core system and to cover non-recurring last mile costs for any Public Safety Answering Points (PSAPs) in Ohio wishing to join the statewide system. Ohio Revised Code (ORC) §128.40 ended the collection of twenty-five cents ($.25) per cellular device on Jan. 1, 2024. ORC §128.41 went into effect Jan. 2, 2024, which increased the fee to be collected to forty cents ($.40), which is to be assessed on wireless, voice over Internet Protocol (VoIP), and multiline telephone systems (MLTS) until Oct. 1, 2025. §128.41 also provides that the fee shall not exceed 100 voice channels per network for VoIP or 100 lines per building with a unique street address point for MLTS. Per §128.412, the forty cents ($.40) shall be reduced to twenty-five cents ($.25) on Oct. 1, 2025.

The State of Ohio is in the process of implementing our statewide Next Generation 9-1-1 (NG9-1-1) system. The system will be available for all PSAPs to utilize. We are working on establishing an Emergency Services IP network (ESINet) connection from the state's servers to all PSAPs in Ohio. This will allow for improved call routing and for data to travel with the call if the call must be transferred to another PSAP. The ultimate goal is delivering the 9-1-1 call to the right place the first time and improving location information of the caller. Geospatial call routing will help in this effort. Calls will be routed to the Primary PSAP as identified in the County's 9-1-1 plan regardless of the call type.

Ohio is a Home-Rule state, and 9-1-1 is primarily a county and local government responsibility. This plan outlines the collaborative nature of governance, implementation, and operation of a statewide NG9-1-1 core service (NGCS). For any questions regarding this plan or the current status of 9-1-1 in Ohio, please contact the following:

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9-1-1 in Ohio

In Ohio, 9-1-1 has progressed through the years as technology has permitted. Prior to 1985, citizens contacted emergency responders through the telephone operator or a direct dial seven-digit telephone number advertised by the public safety agencies. These agencies primarily consisted of fire departments (both full-time and volunteer), private ambulance services, police departments, sheriff's offices, and the Ohio State Highway Patrol. Ohio law required telephone companies to publish these emergency contact numbers in the front of phone books distributed to the public, and agencies also distributed stickers to place on telephones.

In 1985, the Ohio Legislature paved the way for 9-1-1 to become a reality and tasked the counties with implementing 9-1-1 systems. These early systems used the common number of 9-1-1 to contact a 9-1-1 Public Safety Answering Point (PSAP) for police, fire, or EMS response. Eventually, this Basic 9-1-1 transitioned to Enhanced 9-1-1, providing the telecommunicator with the address and telephone number of the caller. This greatly reduced dispatch delays and provided a way for a caller who was unable to speak or didn't know their location to receive help quickly.

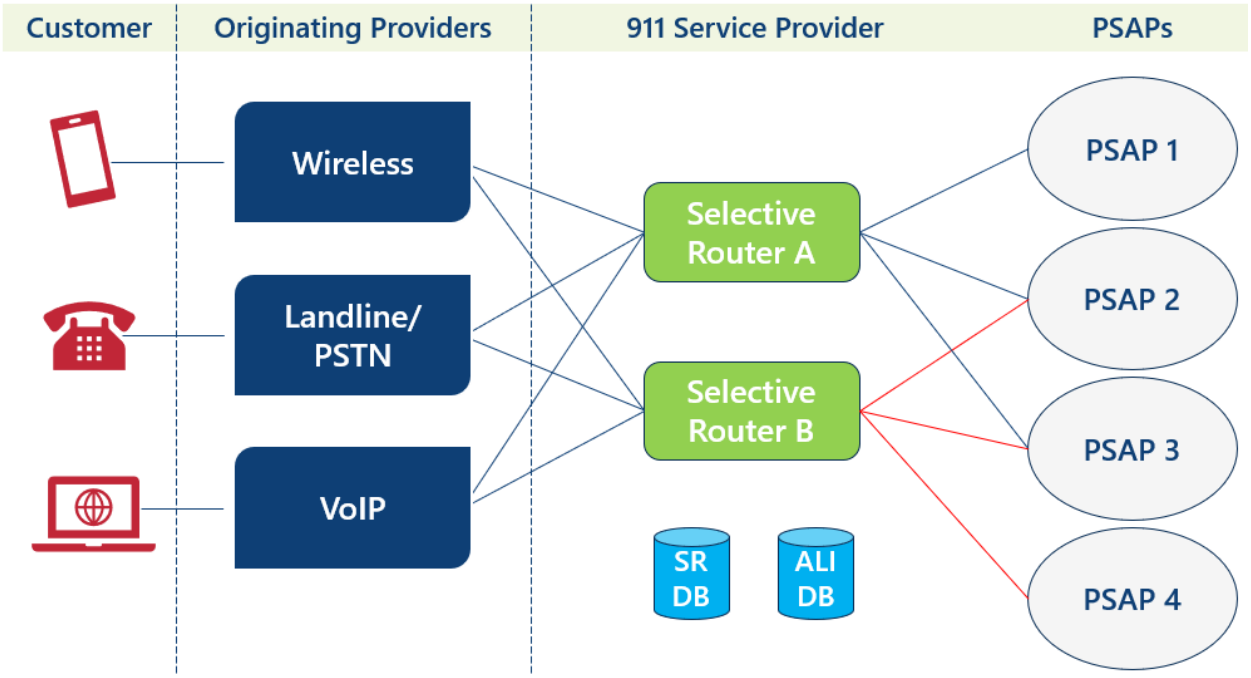
The mobile wireless phone has had the greatest impact on how 9-1-1 is used today. Although it first became popular as a car-mounted device, once it became portable and small enough to carry in a pocket, the number of wireless phones exploded. More people have ready access to their phones and can report emergencies in real-time more than ever before. In the early years, 9-1-1 systems provided the telecommunicator with wireless tower information regarding where a wireless call was connected. As we progressed, enhanced wireless 9-1-1 became a reality in 2005. It not only transmitted the caller's telephone number to the telecommunicator, but also the address of the cell phone tower that was processing the call. Triangulation followed, allowing the telecommunicator to get a better caller location based on the triangulation coordinates between the three closest cell towers. Eventually, handset-based location technology began to be used.

The Public Utility Commission of Ohio (PUCO) initially regulated 9-1-1 through their oversight of the landline telephone companies. As cellular carriers, voice-over-internet-protocol (VoIP), and other communication technology began to be used, much of the technology utilized to contact 9-1-1 was outside PUCO's regulatory authority. As 9-1-1 technology moves toward Next Generation 9-1-1 capabilities, requiring a project approach, 9-1-1 coordination at the state level was moved to the Ohio Department of Administrative Services. At the same time Morgan County was working on a proof-of-concept project utilizing OARnet for network connectivity to run their 9-1-1 system. Morgan County's proof of concept ended up being supported by the State of Ohio, with a total of six counties being involved. This six-county proof-of-concept project is still in operation today.

The Ohio 9-1-1 Program Office was established in 2015 and tasked with specific duties related to coordination by providing a liaison between state and local governments and wireless 9-1-1 oversight. The oversight of 9-1-1 operations remains at the local level and is governed by the implementation of county final plans. ORC §128 governs the operation and funding of 9-1-1 in Ohio.

Telephone companies and cellular carriers implemented much of the technology to bring us to today's 9-1-1 capabilities. In partnership with national, state, and local governments, Next Generation 9-1-1 is the next step in the technological evolution of 9-1-1.

Structure of Legacy E9-1-1



Governance

Ohio is a Home-Rule state and 9-1-1 is primarily a county function. Counties, municipalities, townships, councils of government (COGs), and the State of Ohio all have a role in the governance of 9-1-1. The Statewide 9-1-1 Steering Committee is the entity responsible for the administration of ORC §128.

County 9-1-1 Program

County 9-1-1 System

Under ORC §128.03, a countywide 9-1-1 system shall include all the territory of the township and municipal corporations in the county and any portion of such municipal corporation that extends into an adjacent county. A countywide system may be Enhanced 9-1-1 or NG9-1-1, or a combination of the two, and shall provide access to emergency services from all connected communications sources.

On Oct. 3, 2023, the latest revision to ORC §128 took effect. The Ohio Legislature revised the makeup of the local 9-1-1 program review committees and tasked each county with creating and submitting a County 9-1-1 Plan under the new rules for their community. All plans are to be filed with the Ohio 9-1-1 Program Office on or before April 3, 2024. The local 9-1-1 review committees are required to meet annually to review their plans and file any updates within ninety (90) days of making them.

Every emergency service provider which provides emergency services within the territory of a countywide 9-1-1 system shall participate in the countywide system as outlined in the County Final Plan.

County 9-1-1 Program Review Committee

Under ORC §128, every county shall create and maintain a 9-1-1 program review committee. The committee shall meet annually to review and amend the final plan as needed for implementing and operating a countywide 9-1-1 system.

The county 9-1-1 Program Review Committee makeup is covered in ORC §128.06. The composition of members of a 9-1-1 Program Review Committee depends on several variables. If a county has multiple Public Safety Answering Points (PSAPs) they shall follow ORC §128.06 (A). If a county has multiple PSAPS, fewer than five (5) townships and a population greater than seven hundred and fifty thousand (750,000), they shall follow ORC §128.06 (B).

If the county has only one PSAP which is not run by the county commissioners, the 9-1-1 Program Review Committee shall follow ORC §128.06 (C) (1). If the single county PSAP is run by the county commissioners, the commissioners are the only members of the local 9-1-1 Program Review Committee, per ORC §128.06(C) (2).

Annually, by the first day of March, each committee is also required to submit a financial report to the political subdivisions within the county and to the Ohio 9-1-1 Program Office. The report is to include the sources and amounts of revenue expended to support the system, all costs incurred to operate the countywide 9-1-1 system, and the PSAPs which were a part of that system for the previous calendar year.

County Final 9-1-1 Plan

Each county has a final 9-1-1 plan, and their countywide 9-1-1 system operates under the criteria set forth in the plan. All county plans must initially go through the approval process as defined in ORC §128.08. Any amendments to the plan shall follow the approval process as outlined in ORC §128.12. All plans must answer specific questions and be distributed as defined in ORC §128.07.

County 9-1-1 Coordinator

ORC §128.05 requires each county to appoint a County 9-1-1 Coordinator. The coordinator shall serve as the liaison with other county coordinators and the Ohio 9-1-1 Program Office. This position could vary among the counties from a full-time position, a part-time/shared position with other job titles/duties, or even a volunteer.

The 9-1-1 Program Office keeps an updated interactive map on our website, www.911.ohio.gov, which provides the contact information for each county coordinator.

County contact for 9-1-1 Discrepancies, Misroutes, and Boundaries

ORC §128.25 requires each county to provide a single-point-of-contact to the Ohio 9-1-1 Program Office who has the authority to assist in location-data discrepancies, 9-1-1 traffic misroutes, and boundary disputes between PSAPs. This may or may not be the same individual who serves as the County 9-1-1 Coordinator for the respective county.

County System Receiving Disbursements to Provide Wireless 9-1-1 Service

ORC §128.57 requires a county system receiving disbursements from the 9-1-1 Government Assistance Fund (GAF) or NG9-1-1 Fund under ORC §128.55 to provide wireless enhanced 9-1-1 (E911) service as soon as reasonably possible after receiving their first distribution. Counties may use the funds for designing, upgrading, purchasing, leasing, programming, installing, testing, or maintaining the necessary data, hardware, software, and trunking required for the public safety answering point (PSAP) or points of the 9-1-1 system to provide wireless, enhanced, or NG9-1-1 service. The county also may utilize the GAF funds for costs related to

transferring data between PSAPs, law enforcement, fire, and emergency medical service agencies. Training of the PSAP staff also is an allowable expenditure. Once the PSAP certifies they are providing wireless E911 service, they may utilize the funds for personnel expenses.

No disbursement to a countywide 9-1-1 system for costs of a PSAP shall be made from the GAF or the NG9-1-1 fund unless the PSAP meets the standards set by the steering committee under section 128.021 of the Revised Code. This includes direct or indirect funding to a PSAP.

"Wireless enhanced 9-1-1" means a 9-1-1 system that, in providing wireless 9-1-1, has the capabilities of phase I and, to the extent available, phase II Enhanced 9-1-1 services as described in 47 C.F.R. 20.18 (d) to (h).

Grant Request

Per ORC §128.212, any entity operating a 9-1-1 system, Emergency Services Internet-Protocol Network (ESINet), or PSAP, that pursues a 9-1-1 grant from the state or federal government shall present a letter of coordination from the Ohio 9-1-1 program office that declares that the system, equipment, software, or any component to be procured with the grant and the purpose of the grant do not inhibit, conflict, or reduce interoperability with the statewide next generation 9-1-1 core services system and emergency services internet-protocol network and is consistent with the state of Ohio 9-1-1 plan.

State of Ohio

Statewide 9-1-1 Steering Committee

Under Ohio Revised Code (ORC) §128.02, the Statewide 9-1-1 Steering Committee consists of ten (10) members, nine (9) of which are voting members:

- Chair: Ohio Department of Administrative Services' Ohio Chief Information Officer or Designee (non-voting)
- Majority party representative from the House of Representatives
- Minority party representative from the House of Representatives
- Majority party representative from the Senate
- Minority party representative from the Senate
- Representative from the County Commissioner's Association of Ohio
- Representative from the County Commissioner's Association of Ohio
- Representative from the Ohio Municipal League
- Representative from the Ohio Municipal League
- Representative from the Ohio Township Association

The Statewide 9-1-1 Steering Committee shall generally advise the state on the implementation, operations, and maintenance of a statewide ESINet, statewide NGCS, and the dispatch of emergency service providers. The steering committee shall do all of the following:

1. Examine the readiness of the state's current technology infrastructure for a statewide emergency services internet protocol network (ESINet);

2. Research legislative authority with regard to governance and funding of a statewide emergency services internet protocol network, and provide recommendations on best practices to limit duplicative efforts to ensure an effective transition to Next Generation 9-1-1;
3. Where feasible, make recommendations for consolidation of public-safety-answering-point (PSAP) operations in this state to accommodate Next Generation 9-1-1 technology and to facilitate a more efficient and effective emergency services system;
4. Recommend policies, procedures, and statutory or regulatory authority to effectively govern a statewide Next Generation 9-1-1 system;
5. Designate a Next Generation 9-1-1 statewide coordinator to serve as the primary point of contact for federal initiatives;
6. Coordinate with statewide initiatives and associations such as the Statewide Interoperable Executive Committee (SIEC), the Ohio Geographically Referenced Information Program (OGRIP) Council, the Ohio Multi-Agency Radio Communication System (MARCS) Steering Committee, and other interested parties;
7. Serve as the entity responsible for the administration of Chapter 128 of the Revised Code.

Additionally, a 9-1-1 service provider shall provide to the steering committee:

- The aggregate number of access lines that the provider maintains within Ohio;
- The aggregate amount of costs and cost recovery associated with providing 9-1-1 service, including coverage under tariffs and bill-and-keep arrangements within this state;
- Any other information requested by the steering committee deemed necessary to support the transition to NG9-1-1.

Any entity operating a public safety answering point (PSAP) shall provide to the steering committee:

- The geographic location and population of the area for which the entity is responsible;
- Statistics detailing the number of 9-1-1 calls received;
- A report of expenditures made from disbursements for 9-1-1;
- An inventory of and the technical specifications for their current 9-1-1 network and equipment;
- Any other information requested by the steering committee that is deemed necessary to support the transition to NG9-1-1.

The information requested shall be provided by the 9-1-1 service provider, political subdivision, or governmental entity within 45 days of the request of the steering committee.

The steering committee shall meet at least once a quarter, either in person or utilizing telecommunication-conferencing technology. A majority of the voting members shall constitute a quorum.

The steering committee shall have two sub-committees: Technical Standards and Public Safety Answering Point Operations.

Technical Standards Sub-Committee

The Technical Standards Sub-Committee is made up of representatives from the following agencies / organizations:

- Ohio Academic Resources Network (OARnet)
- Multi-Agency Radio Communication System (MARCS)
- Ohio Geographically Referenced Information Program (OGRIP)
- Ohio Telecommunications Association
- Ohio Chapter of the Association of Public Safety Communications Officials (APCO)

- Ohio Chapter of the National Emergency Number Association (NENA)
- Representative of a wireless or wireline carrier which participates in the state's 9-1-1 system
- At-Large Member

PSAP Operations Sub-Committee

The PSAP Operations Sub-Committee is made up of representatives from the following agencies / organizations:

- Ohio Emergency Management Agency (EMA)
- Ohio State Highway Patrol (OSHP)
- Two (2) PSAP Managers nominated by the County Commissioners Association of Ohio (CCAO)
- Two (2) PSAP Managers nominated by the Ohio Municipal League (OML)
- Buckeye State Sheriffs' Association (BSSA)
- Ohio Association of Chiefs of Police (OACP)
- Ohio Association of Fire Chiefs (OAFC)
- Ohio Chapter of the Association of Public Safety Communications Officials (APCO)
- Ohio Chapter of the National Emergency Number Association (NENA)
- At-Large Member

Ohio Department of Administrative Services

The Ohio Department of Administrative Services (DAS) is the engine of state government, providing innovative solutions and supporting the efficient operation of state agencies, boards, and commissions. The Ohio 9-1-1 Program Office is an office within DAS. Statewide, 9-1-1 was originally handled through the Public Utilities Commission of Ohio. With the anticipated transition to NG9-1-1, 9-1-1 became less regulatory and more of a service-oriented program. The Ohio legislature moved the responsibility from PUCO to DAS in 2013, under the 130th General Assembly, creating the 9-1-1 Program Office at that time. The Ohio 9-1-1 Program Office reports to the Deputy Director of First Responder Communications Initiatives.

Ohio 9-1-1 Program Office

The Ohio 9-1-1 Program Office opened March 23, 2015. The current staff consists of the Deputy Director of First Responder Communications Initiatives, the Ohio 9-1-1 administrator, a support and compliance coordinator, and an administrative professional. The Ohio 9-1-1 administrator serves at the pleasure of the Director of the Ohio Department of Administrative Services. Duties performed by the office include the following:

- Manage and oversight of the Statewide NG9-1-1 solution.
- Facilitate and coordinate Statewide 9-1-1 Steering Committee activities.
- Carry out specific sections of ORC Chapter 128.
- Serve as an official liaison with local, state, regional, and federal associations and private entities engaged in 9-1-1 in Ohio.
- Expend funds from the 9-1-1 program fund for the purposes of 9-1-1 public education.
- Serve as a repository for all County 9-1-1 Plans.
- Obtain and review annual financial reports from all PSAPs, including reconciliation of the 9-1-1 Government Assistance Fund expenditures.
- Communicate information to local authorities concerning 9-1-1.
- Carry out compliance checks as required by Ohio Administrative Code (OAC) 5507-1, 1-19.
- Provide two hours of continuing education training to all telecommunicators in Ohio annually.
- Maintain an Ohio 9-1-1 membership in the Ohio chapter of the APCO and NENA.
- Complete an annual FCC and National 9-1-1 Office -survey.
- Maintain a working relationship with OARnet and monitor the ESINet for NG9-1-1.

- Chair the Ohio 9-1-1 County Coordinator monthly call.
- Maintain the Ohio9-1-1@das.Ohio.gov e-mail account for general information.

9-1-1 Funding

There are multiple funding mechanisms available to counties, including property or income tax levies, or in cases where levies cannot be passed, a fee assessment of up to 50 cents on all landline telephone accounts in a county. This is in addition to disbursements from the 9-1-1 Government Assistance Fund (GAF), which is a statewide fund established to process money received through the surcharge on wireless telephones, Voice over Internet Protocol (VoIP), and multiline telephone systems (MTLS) and a .05% surcharge on pre-paid cellular phones sold. The surcharge on VoIP is limited to a maximum of 100 voice channels per network, and MTLS fees are limited to a maximum of 100 per building with a unique street address or physically identifiable location.

As of this plan, there is not yet adequate information to determine if the change in funding is sufficient for sustainability. The 9-1-1 Program Office staff is currently working with the State of Ohio Auditor's Office staff to review the revenue that the increased fees will generate, along with the expenses incurred by the PSAPS to transition to NG9-1-1. Per HB33, the State of Ohio Auditor's office is required to complete its review by February 2025, and notify the 9-1-1 Program Office, along with the Ohio legislature, of its opinion as to whether the transition to NG9-1-1 can be sustained under the current fee structure, or whether the current 40 cent fee should be increased, decreased, or remain the same.

The Ohio Department of Taxation collects the statewide surcharge and disburses the fund as follows:

- One percent to the Ohio Department of Taxation for processing (9-1-1 Administrative Fund);
- Two percent to the Ohio 9-1-1 Program Office to fund operations and ESINet Steering Committee activities (9-1-1 Program Fund);
- Twenty-five percent to fund Next Generation 9-1-1 to support the NG9-1-1 System; and
- Seventy-two percent to the 9-1-1 Government Assistance Fund which is distributed to each county to support wireless and NG9-1-1 functions.

With the passing of HB33, the steering committee is also instructed to establish guidelines for the tax commissioner to use when disbursing money from the 9-1-1 government assistance fund to countywide 9-1-1 systems in the state as well as guidelines for the use of funds from the NG9-1-1 fund. The guidelines are to be consistent with the standards adopted in section 128.021 of the Revised Code and shall specify that disbursements may be used for costs associated with the operation of and equipment for phase II wireless systems and for costs associated with a county's migration to NG9-1-1 systems and technology. The committee is ordered to periodically review the guidelines described in ORC Chapter 128 and adjust them as needed.

If the committee makes any adjustments to the guidelines, they shall report the adjustments to the Ohio Department of Taxation. The adjustments shall take effect six months from the date the department is notified of the adjustments.

The steering committee is also required to monitor compliance with the standards and is to notify the tax commissioner to suspend disbursements to a countywide 9-1-1 system that fails to meet the standards. Upon receipt of this notification, the tax commissioner shall suspend disbursements until the commissioner is notified of compliance with the standards.

Annually, the Ohio 9-1-1 Program Office reviews the revenue and expenses from each county to ensure all GAF expenditures are in accordance with ORC.

PSAP Operations Rules

The Statewide 9-1-1 Steering Committee, as required by ORC Chapter 128, developed Public Safety Answering Point (PSAP) operational standards for all PSAPs eligible to receive disbursements from the Government Assistance Fund (GAF) or Next Generation 9-1-1 Funds. Until October 2023, PSAPs that only answered wireless calls and received funding from the GAF were required to follow the PSAP operations rules, although the Ohio 9-1-1 Program Office recognized the PSAP operations rules as best practices for all PSAPs.

After extensive discussion, public comment opportunities, and approval from the Statewide 9-1-1 Steering Committee, the PSAP operations rules were certified through the Joint Committee on Agency Rule Review (JCARR) on May 12, 2016. ORC Chapter 128 required all PSAPS initially answering wireless 9-1-1 calls to be in compliance within two years after the rules were certified. On May 12, 2018, the Ohio 9-1-1 Program Office implemented the Support and Compliance Program for all 88 Ohio counties. As part of HB33, all PSAPs receiving GAF or NG9-1-1 funds must comply with the PSAP operation rules within two years of the legislation taking effect, regardless of whether they receive wireless calls. The first review of the new PSAPs coming onto the support and compliance program will be on or after Oct. 3, 2025.

The PSAP operation rules were last updated in 2021 and subject to review every five (5) years. The next scheduled review date is August 20, 2026. The Ohio 9-1-1 Program Office in partnership with the 9-1-1 county coordinators and PSAP managers, shall review the rules and submit revisions to the Statewide 9-1-1 Steering Committee.

Support and Compliance Program

The Ohio 9-1-1 Program Office coordinates a Support and Compliance Program to ensure affected PSAPS are compliant with OAC 5507-1: 1-19, more commonly known as the PSAP operations rules. Within the Ohio 9-1-1 Program Office there is a Support and Compliance Coordinator. This position was tasked with setting up an initial framework for the program, with the main goal to provide support and assist counties in achieving compliance. With assistance and input from the county 9-1-1 coordinator focus group, the Ohio 9-1-1 Program Office developed the following program, which was implemented in three phases.

Information packets specifically designed to gather statistical information and documentation from the affected wireless PSAP in all counties were created. The compliance packet contains a description of information acceptable for compliance validation with each of the Operations Rules. Fillable forms are provided if a PSAP does not already have suitable documentation for submission. The packet is distributed to each county 9-1-1 coordinator for completion by each wireless-receiving PSAP within their county. These packets are used for both the on-site support and compliance visits, as well as mail-in submissions. The overall program operates on a three-year cycle, with each county and its PSAPs responding annually. Each of the 88 Ohio counties are assigned a month of the year in which their compliance documentation is submitted to the Ohio 9-1-1 Program Office, either by electronic submission, mail, or during an in-person meeting with the county coordinator. Over the course of three years, the Ohio 9-1-1 Program Office support and compliance coordinator will meet all Ohio county 9-1-1 coordinators in person to review the documentation submitted. The annual reviews will be analyzed and documented. Counties found to be out of compliance will then become subject to the Rules of Enforcement provided by ORC 128.021 and ORC 128.57.

The program was implemented using a three-phase approach to ensure that each county and its affected PSAPs had every opportunity for success.

- Phase 1: Education and Training

- The purpose of the training sessions was to present the documentation designed to gather and analyze the components identified in the PSAP Operations Rules and to clarify what individual, agency-specific data would be adequate to support the validation of compliance.

- Phase 2: Implementation
  - During the implementation phase, the support and compliance coordinator collected documentation of records, statements of fact, or other information relevant to the compliance of the statutory requirements applying to all public safety answering points within the counties that had wireless 9-1-1 communication initially routed to their facility from a wireless carrier service.
  - The support and compliance coordinator analyzed and evaluated the compliance documentation to determine whether statutory requirements have been fulfilled. The results were documented in an executive summary and submitted to the Ohio 9-1-1 Program Office administrator for review. During this phase, agencies that were out of compliance were given additional information to help clarify any misinterpretations. The implementation phase allowed them to get used to the validation process without concern about losing funding from the 9-1-1 government assistance fund.
- Phase 3: Operational
  - In January 2019, each county and PSAP started submitting their annual information to the Ohio 9-1-1 Program Office according to the predetermined monthly schedule.
  - Over the course of the ensuing three years, the Ohio 9-1-1 Program Office support and compliance coordinator met with all Ohio county 9-1-1 coordinators in person. This allowed support and compliance staff to view specific items as defined in the rules of each PSAP. This also allowed staff to meet one-on-one with the PSAP directors/managers and staff to answer any questions.
  - Counties found out of compliance became subject to the Rules of Enforcement provided by ORC §128.021 and ORC §128.57.
  - This final cycle has continued on the three-year cycle, since completion of the first three-year cycle.

The program's goal, as communicated in 2015, is to help counties and PSAPs comply with the rules; it is not to strive to enforce penalties. As the ORC is updated and additional PSAPs come on to the support and compliance program, we will continue to educate their staff to ensure success at all levels.

Documentation Analysis

The support and compliance staff shall review all documentation submitted to support PSAP Operations Rule compliance. Each rule and training component identified in OAC 5507-01 shall have corresponding documentation to validate compliance. Each rule component will be verified and tracked using a spreadsheet created for each wireless PSAP within each county.

Executive Summaries

The support and compliance coordinator shall compile an executive summary identifying each county audited. The summary shall include the title and name of representatives from the county responsible for submitting the compliance documentation, the date of submission or visit, and the location of the audit when applicable. The summary will identify any of the PSAP Operations Rules found out of compliance with a detailed explanation of the factors leading to the decision *(or conclusion).* In addition, any discussions or explanations given during the audit for current PSAP operational conditions will be documented within the summary. Upon completion, the executive summary will be submitted to the Ohio 9-1-1 Administrator for review and/or follow-up. After compliance status has been confirmed, clarified, or revised by the 9-1-1 administrator, the support and

compliance coordinator shall compose a response report to the county 9-1-1 coordinator on department letterhead detailing the findings in the format identified above. If a “non-compliance” status exists, contact with the county 9-1-1 coordinator will be made to establish a reasonable timeline for reaching full compliance status.

Record Keeping

All source documentation collected from the 9-1-1 county shall be retained as per DAS records retention schedule. Analysis of compliance for each county shall be documented, identifying each rule component.

The Ohio 9-1-1 Program Office is committed to providing all the assistance necessary to successfully implement the Support and Compliance Program.

Next Generation 9-1-1

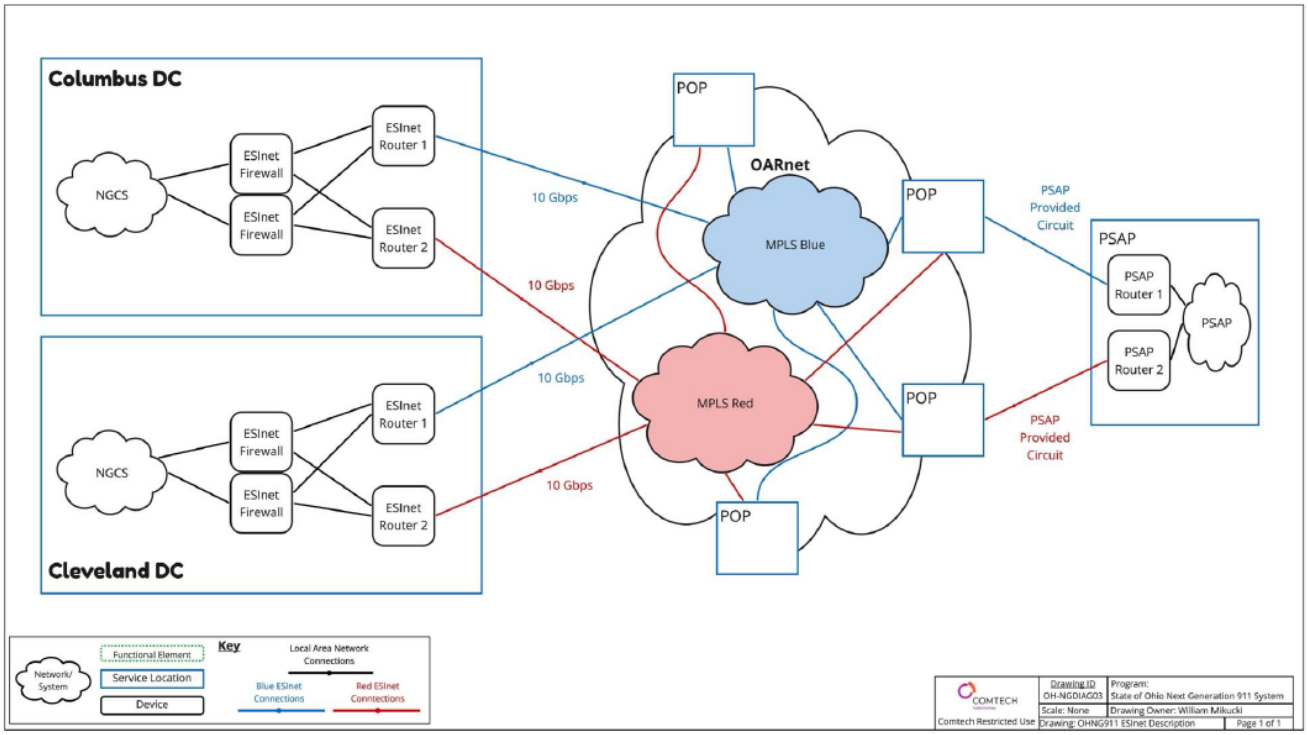
The transition to Next Generation 9-1-1 (NG9-1-1) started in February 2017 when the initial request for proposal (RFP) was released. An updated RFP was released in June 2019. On March 3, 2020, a contract with Next Gen Communications (commonly known as Comtech) was signed with a funding contingency, as supporting legislation had yet to be passed.

On July 3, 2023, Governor Mike DeWine signed House Bill 33 from the 135th General Assembly, which provided the 9-1-1 Program Office funding for NG9-1-1. The 9-1-1 Program Office received just over $28.1 million for fiscal year 2024 and just over $17.7 million for fiscal year 2025. House Bill 33 also modified ORC 128.54, setting 25% of the surcharge collection aside for NG9-1-1, to be administered by the 9-1-1 Program Office.

On Aug. 2, 2023, the State of Ohio NG9-1-1 project was officially kicked off with a meeting at the DAS offices on Surface Road in Columbus. The State of Ohio project calls for a diverse configuration, with NGCS being installed in two locations within Ohio. Comtech also will provide a Hosted Call Handling Equipment (HCHE) service based on its Guardian product. The Guardian product is available for any agency that would like to purchase next generation call-handling-based equipment through the DAS cooperative purchasing agreement. The current objective is to have the core services running by the third quarter of calendar year 2024 and start to convert the first six pilot counties to the hosted solution.

Once the first six pilot counties are on the hosted solution, they will be monitored for 30 days to ensure that no errors or issues occur. Once completed, the remaining four pilot counties will be moved onto the system. These four additional counties use a variety of Call Handling Equipment (CHE). All 10 pilot counties will run for 90 days without critical fail prior to certifying the system. After a successful pilot program, the system will be certified. As per ORC §128.26, not later than five years after the date that the statewide NG9-1-1 core services system is operationally available to all counties in the state, each county or, as applicable, each regional council of governments, shall provide NG9-1-1 service for all areas to be covered as set forth in the county's final plan or the council's agreement.

Structure of NG9-1-1



NG9-1-1 Core Services

NGCS = Next Generation Core Services
Based on the Nation Emergency Number Association's i3 Standard for Next Generation 9-1-1 (NENA-STA-010.3d-2021), NGCS is the base set of services needed to process and deliver a 9-1-1 call on a ESInet. NGCS includes the Emergency Service Routing Proxy (ESRP), Location Database (LDB), Emergency Call Routing Function (ECRF), Location Validation Function (LVF), Border Control Function (BCF), Bridge, Policy Store, Logging Servies, typical IP services such as Domain Name System (DNS), and Dynamic Host Configuration Protocol (DHCP). The term includes the services and not the network on which they operate.

Ohio's Next Generation 9-1-1 system design meets all National Emergency Number Association (NENA) commercially available standards. The Ohio NG9-1-1 system contains no single point of failure and is engineered to meet 99.999% service availability (also known as five-nines). Designed for continuous 9-1-1 call transaction processing from the Originating Service Provider (OSP) to the Public Safety Answering Point (PSAP) or Emergency Communication Center (ECC), which can provide the best public safety response. High-performance capability and optimal reliability will be achieved through intelligent use of a highly redundant system design. Any single component or communication path can be removed for maintenance or failure in the system without negatively affecting the system's overall capacity and performance. Routine maintenance, software upgrades, and PSAP additions and changes can be performed without system downtime and loss of emergency call routing capability.

To ensure a highly redundant system, we are utilizing a geo-diverse data center that will be able to provide NG9-1-1 core services to all 88 counties. The data centers are connected to the Emergency Services IP Network (ESInet). The NG9-1-1 Core Servers are then interconnected to the PSAPs/ECCs via the (ESInet). The ESInet is a combination of statewide network services provided by Ohio Academic Resources Network (OARnet) and last-

mile data circuits procured by the PSAPs/ECCs. Finally, the OHNG9-1-1 system connects to PSAPs/ECCs Call-Handling Equipment (CHE), whether they have legacy or E911 equipment, i3 compatible equipment, or use the Comtech's Guardian HCHE. Customer handling equipment (CHE) will not be mandated to be from a specific vendor but must meet i3 and Ohio standards to work with the statewide system.

Emergency Services Internet Protocol Network (ESInet)

ESInet = Emergency Services Internet Protocol Network
The term designates the network, not the services within the network. A managed IP network that is used for emergency services communications, and which can be shared by all public safety agencies. It provides the IP transport infrastructure upon which independent application platforms and core services can be deployed, including, but nor restricted to, those necessary for providing NG9-1-1 services. ESInets may be constructed from a mix of dedicated and shared facilities. ESInets may be interconnected at local, regional, state, federal, national, and international levels to form an IP-based inter-network (network of networks).

In the event a failure occurs during functional element processing, which prevents a call from being successfully delivered, the call will be redirected to an alternately designated PSAP, based on the SIP Response Code (a code which comunicates the issue), or default routed to a Final (also known as Last Route Option) PSAP capable of handling a call that arrives without caller location.

Legacy 9-1-1 used copper phone line Centralized Automated Message Accounting, also known as CAMA trunks, that brought calls into the PSAP from the selective router. As we transform to NG9-1-1, the CAMA and/or Tandem Office Translations (TOS) trunk links to the selective router go away. Depending on how each community was set up, the Selective Router also had a last route option, which sent the caller to a 10-digit phone line. During the reroute, the call would be answered by 9-1-1 staff on a standard phone without any ANI or ALI information being provided. In the NG9-1-1 setup, the calls come in via internet protocol (IP) from the carriers to the NG9-1-1 Core Servers. The caller's location is verified and routed to the appropriate PSAP with the call back number, location, and metadata available in the signaling. One of the requirements is to ensure, if at all possible, each PSAP has geographically diverse paths for the last-mile providers and entry points to their location. In the event of an emergency, such as an evacuation, if a call cannot reach the PSAP, each PSAP can configure its own rollover options to allow another PSAP to answer the 9-1-1 call as a mutual aide PSAP. A last route option will also be identified for all PSAPs and configured in the NGCS. The last route option also will be used if a 9-1-1 call arrives without any identifiable information to provide the call the proper routing. In the last route option, the telecommunicator would have to talk with the 9-1-1 caller to determine the PSAP to which the call should have been routed. In the end, every 9-1-1 call will be answered by a telecommunicator.

GIS Data

GIS is the most critical part of NGCS for call routing. Within the USA, a majority (over 80%) of all 9-1-1 calls are made from wireless devices. Currently, wireless callers are routed based on a number of technologies. Initial location, which is the least accurate, utilizes triangulation of the caller's location based on the three antenna's face of the cellular tower. This location is sent to the NGCS and associated PSAP which support the caller's location. If you are calling from an area along a board of two jurisdictions this could cause the call to be routed to the incorrect PSAP.

Business Lines, Landline, and non-nomadic VoIP call locations are based on the carrier's information submitted to the NGCS and stored in the Location Database. Nomadic voice is provided at time of call by the carrier, like a wireless call, but uses the carrier's determined location. All calls – agnostic to the call type – are plotted against our GIS data and routed to the appropriate PSAP which provides first responder services in that location.

Routing of a 9-1-1 call happens twice. First, the carrier routes the call to the appropriate 9-1-1 Service Provider (our NG9-1-1 System for example) based on the known caller location at the time of route. Second, the NGCS routes based on the location queried/provided at that time of route, which has become more specific with the passage of time. Finally, PSAPs query the location of the 9-1-1 caller at the time the call is answered, which also can be more accurate. PSAPs can, after a call is answered, query manually or automatically (on a regular timing such as every 30 seconds for a more accurate/updated location of the caller is available by the carrier.

The GIS data must be updated and maintained to ensure the most up-to-date and appropriate call routing is utilized, especially as PSAPs in Ohio consolidate, municipalities annex additional land, new subdivisions are built, etc. Without GIS being maintained by the counties, a 9-1-1 call could be routed to a neighboring PSAP, which delays the response to the 9-1-1 caller.

Levels of Service

Full

The county connects to the state ESInet and utilizes the statewide core services system. The county procures call-taking positions directly from Comtech off the cooperative purchasing agreement to utilize the state's hosted call handling equipment.

NGCS Only

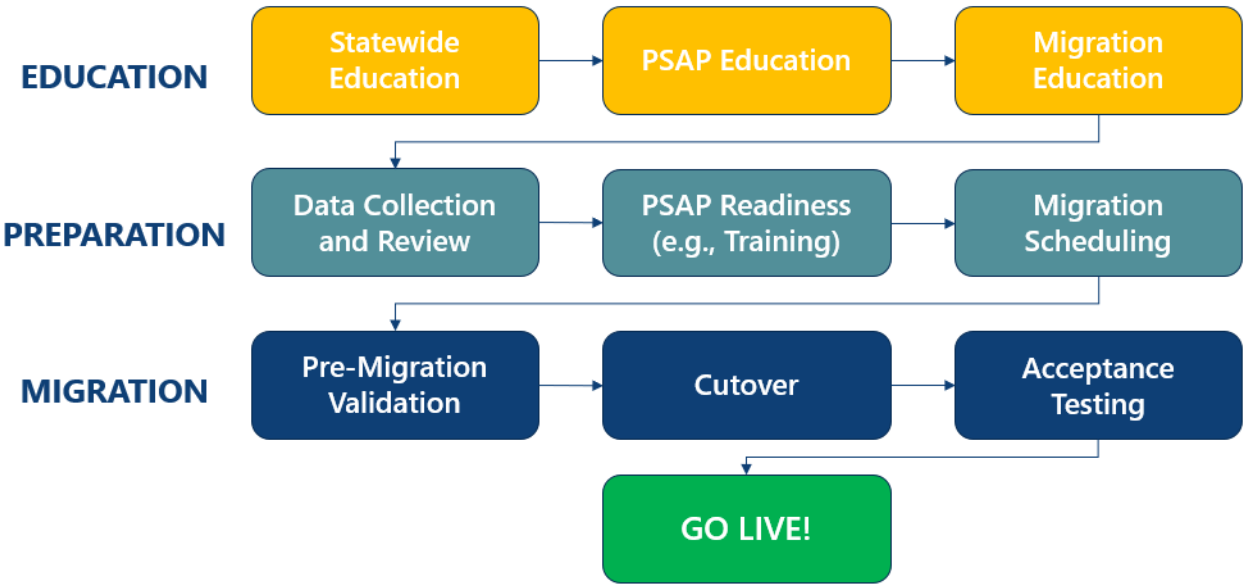
The county connects to the state ESInet and utilizes the statewide core services system utilizing its own call handling equipment.

Interoperable via IP Connection

A county maintains its own NGCS or is connected to another system or state's NGCS. Once connected to the State of Ohio NGCS, the county will be in compliance with the ORC.

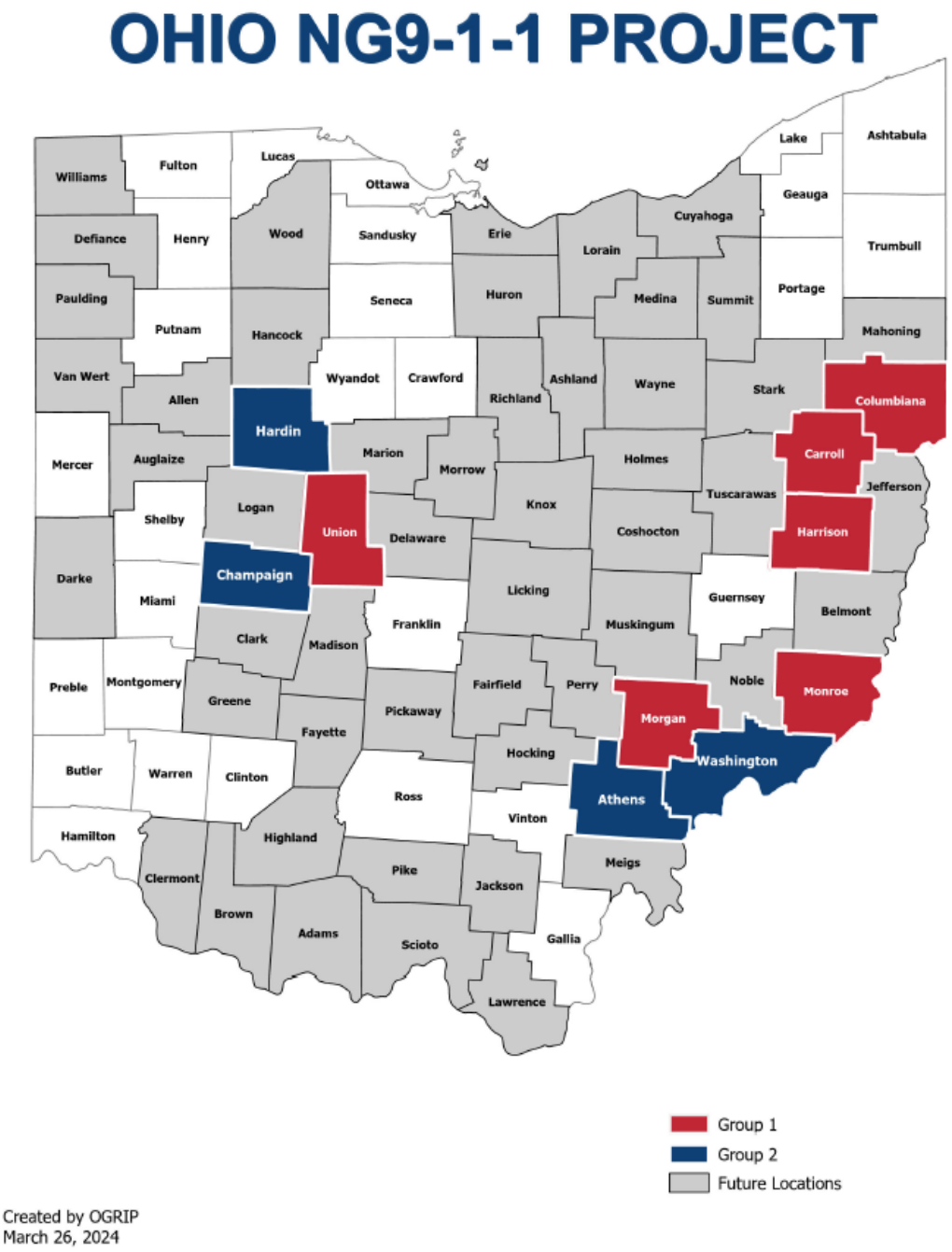
All three options ensure full interoperability between all counties in Ohio, allowing seamless transfer of all 9-1-1 calls and -metadata.

Phase of Education and Implementation



Education on NG9-1-1 is important to ensure the PSAPs understand how NG9-1-1 operates and what services are part of the NG9-1-1 Core Services. The 9-1-1 Program Office and Comtech traveled throughout Ohio in mid-October 2023 to provide an overview of the NG9-1-1 Project along with educational sessions. As we continue training, we are progressing to data collection and PSAP readiness. We provided an *"NG9-1-1 Are you ready now"* document and also posted it to the 911.Ohio.gov website. The Ohio 9-1-1 Office will continue to train PSAPs and help them prepare to convert to NG9-1-1.

Current Counties in Ohio Looking to Join the State of Ohio NG9-1-1



NG9-1-1 Status of Surrounding States and Canada

The 9-1-1 Program Office has met with all the states surrounding Ohio to learn about the status of NG9-1-1 in their communities. The goal of the Ohio 9-1-1 Program Office is to interconnect with other surrounding states and Canada that utilize NG9-1-1. The ability to connect with our surrounding states and Canada will allow for a seamless transfer of a 9-1-1 caller and will allow all the metadata obtained in Ohio to be transferred to the appropriate call handling center, along with the call.

Indiana

The State of Indiana has a total of 92 counties and 117 PSAPs. Indiana has a statewide NG9-1-1 system provided by INdigital and AT&T. Several PSAPs in Ohio are connected to the Indiana state system. Once the State of Ohio system is online, we will meet with Indiana officials to establish a connection between the two systems. Once a connection is established, PSAPs in Ohio connected to Indiana's system will be able to transfer calls to other PSAPs in Ohio seamlessly. Any PSAP in Ohio utilizing Indiana's NG9-1-1 system as its NG9-1-1 system, will also be in compliance with Ohio laws once the interconnection is established.

Kentucky

The Commonwealth of Kentucky has a total of 120 counties and 117 certified PSAPs. As of this writing, they are working on legislation. However, all NG9-1-1 projects are either local or regional. None of the counties close to Ohio are currently operating an NG9-1-1 system. If this changes in the future, we can discuss interconnection. For now, all transfers will remain as is.

Michigan

The State of Michigan has a total of 83 counties and one hundred and forty-two (142) PSAPs. Michigan does not have a statewide NG9-1-1 system; however, 82 counties have selected Peninsula Fiber Network and INdigital. Recently, Macomb County selected ATOS as their NG9-1-1 provider. Once Ohio NG9-1-1 Core Services are operational, we will work with the State of Michigan, Peninsula Fiber Network, INdigital, and Atos to interconnect their systems to the State of Ohio.

Pennsylvania

The Commonwealth of Pennsylvania has a total of 67 counties and 61 PSAPs. As of this report, 48 of the PSAPs are connected to their NG9-1-1 Core Services. The goal is to have all PSAPs connected by August 2024. Comtech, who is building our NG9-1-1 system, also is the vendor for Pennsylvania. Once the State of Ohio is operational, a meeting will be held to discuss interconnection. Interconnection would require two diverse connections from the server locations in each state.

West Virginia

The State of West Virginia has a total of 55 counties and 51 PSAPs. As of this writing, all NG9-1-1 projects are either local or regional. None of the counties close to Ohio are currently operating an NG9-1-1 system. If this changes in the future, we can discuss interconnection. For now, all transfers will remain as is.

Canada

Canada has nationwide deployment, which includes three NG9-1-1 Networks operating in their country. Canada's current plan is to have the country converted to NG9-1-1 by August 2025 and decommission the legacy 9-1-1 system at that time. Peele Island is the closest Canadian area to the State of Ohio. A long-term goal is to interconnect with Canada to allow seamless call transfers. In conversations with Ottawa County Sheriff's

Office, currently if they receive a call involving Peele Island, they transfer the caller directly to the Peele Island Police Department. The Ottawa County Sheriff's office indicated it's very seldom the Sheriff's Office receives any calls requiring a transfer to Canadian authorities.

Strategic Plan

As we have seen over the years, from flip phones to smart phones, technology is ever-changing. The device in the palm of your hand has an unreal amount of technology. Due to the ever-changing technology, new ways for the community to reach 9-1-1 are also changing. We started with the landline, and now citizens can text 9-1-1 from a cell phone. Below are several objectives the Ohio 9-1-1 Program Office is working on to improve 9-1-1 for all Ohioans.

Work with PSAPs to determine their best option to provide NG9-1-1 service in their community.

Background:
In Ohio, we have numerous PSAPs that utilize on-premises and hosted Call Handling Equipment (CHE) to answer 9-1-1 calls. Within each county, last-mile providers vary, and the distance to the closest Point of Presence (PoP) also varies.

Objective:
Work with each County Coordinator and PSAP first to determine where the call handling equipment servers exist. If all servers are local, identify local providers to provide diverse network links to the closest OARnet PoP. If the call handling equipment is a hosted solution, determine the server location and who can provide diverse network connectivity to the call handling equipment servers. In both instances, a review of the PSAP call volume will need to be completed to ensure the bandwidth is acceptable to handle the maximum call volume.

Cyber Security

Background:
NG9-1-1 is a secure network linking all PSAPs in Ohio. Cyber security is still a threat and must be monitored to ensure five-nines of availability.

Objective:
Continually work with Comtech, OARnet, the Ohio Department of Administrative Services' Office of Information Security and Privacy, and CISA to ensure we are maintaining our system as per best practices in the industry. As new information is provided or obtained, ensure our network is updated. Ensure we have an updated continuity of operation plan in the event of a potential attack and have a penetration (PEN) test completed to verify our operation.

NG9-1-1 Rollover and last resort option for calls.

Background:
NG9-1-1 allows for the local PSAPs to build out rules on their rollover procedures in case a center is overloaded due to call volume or an evacuation of a center. The NG9-1-1 system also allows for a last route option where calls can be sent in case the other routes are unavailable.

Objective:
To ensure that no call that comes into the State of Ohio NG9-1-1 system goes unanswered, work with each PSAP as they prepare to join the NG9-1-1 system to ensure the PSAP has adequate rollover options. Previously, with selective routers, you could program a last resort option as a 10-digit number.

The 10-digit number option did not allow for the transferring of receiving location or phone number information. Within NG9-1-1, the call center answering the transferred 9-1-1 call will receive the phone number, location, and any other metadata available.

Support and Compliance

Background:
Due to the changes within HB33, the number of PSAPs subject to OAC 5507-01 will increase greatly. Support and Compliance currently has one employee reviewing over one hundred fifty (150) PSAPs annually.

Objective:
The original language of ORC §128 only affected those PSAPs that answered wireless 9-1-1 calls. Within HB 33, any PSAP receiving GAF and NG9-1-1 funds has two years to comply with the rules, even if they don't answer wireless calls. Based on current information, the number of compliance reviews could increase by close to fifty (50) PSAPs annually. Currently, the Ohio 9-1-1 Program Office meets with each county in person every three (3) years. Counties with multiple PSAPs cannot always be visited due to time limitations. Once all County Plans are filed, they will be reviewed to determine the exact number of PSAPs that will be reviewed annually and determine if additional administrative staff members are needed to review paperwork or if additional staff members are needed in the field.

Working with National Emergency Number Association (NENA)

Background:
Comtech's contract with the State of Ohio requires our system to be updated and meet all requirements of NENA.

Objective:
Attending NENA meetings, conferences, and training involving NG9-1-1 will ensure staff is up to date and has all the information to ensure our system is in compliance with the latest NENA standards.

Conclusion

This is a living document and changes within NG9-1-1 are always evolving. The Ohio 9-1-1 Program Office, in coordination with the Statewide 9-1-1 Steering Committee, will continue to review and publish updates. It's critical we continue to work with all 88 counties to ensure all Ohioans and visitors to Ohio can reach immediate help by calling 9-1-1 if ever in an emergency.