CUYAHOGA COUNTY
9-1-1 PLAN

Adopted: 3/8/2023

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APPENDICIES

RECORD OF REVISIONS

Version	Date	Description/Changes
1.0 (Initial Plan)	March 24, 1986	Creation of Document
2.0	May 10, 2006	Updates to reflect the processing of Wireless 9-1-1 calls.
3.0	February 26, 2013	Updates to reflect new consolidated PSAPs, new County governmental structure, updated PSAP territory index and updated 911 Fund disbursements
3.1	April 2, 2013	Update to page 57, North Randall PSAP, Insert new Appendix C – PSAP Territory To Community Index, Update page numbers and Index accordingly.
3.2	April 19, 2013	Update document to include signed signature page.
3.3	August 1, 2013	Update document to reflect PSAP consolidation of Gates Mills to Chagrin Falls
4.0	June 11, 2014	Updated all ORC numbers to reflect re-numbering by Legislative Services Commission. Update Section 2.3 and 2.4 to reflect upgrades to NG911. Update Section 4.3 to designate Cleveland as a wireless 911 answering point. Update Section 4.5 with current fund disbursements. Update Appendix A to reflect consolidation of North Royalton PSAP to Strongsville and North Randall and Highland Hills to Chagrin Valley Regional Dispatch. Update Appendix D to current wireless service providers.
5.0	February 10, 2021	Removes City of Cleveland as wireless 9-1-1 call handling PSAP. Also removes subsidy associated with call handling responsibilities **Updated** • Format & Numbering • Planning Commission members. • Language on History, Cuyahoga 9-1-1 History, Funding, PSAP Territories. • Appendix 4 **Added** • 9-1-1 Coordinator Responsibilities • language on current system, Text-To-911, ESINet, Advanced Location Services, State of Ohio and Cuyahoga County Operational Requirements, Cuyahoga County System Requirements, misdirected calls, MARCS PSAP Talkgroups, PSAP Relocation, PSAP Redundancies, Future Operations (ECW Refresh, Future Consolidation & Cost Structure, Long-Term Planning) • Appendix 5, Appendix 6

5.1	June 9, 2022	Change to Section 7.2 to reflect postponement of charges to PSAP for AT&T circuit. <u>Updated</u> • Format & Numbering • Planning Commission members and acknowledgements • Recent consolidations • Language replacing "CallWorks" with "NG911 system" • Update Appendix 5
5.2	March 8, 2023	Village of Oakwood Police/Fire/EMS to Bedford Heights PSAP Removal of Armond Budish and add County Executive Chris Ronayne

Version X.0 – Major Revision

Version X.I – Minor Revision

9-1-1 PLANNING COMMITTEE

The County of Cuyahoga 9-1-1 Planning Committee was established on July 1, 1985 by the Cuyahoga County Board of Commissioners (Resolution Nos. 523321 and 526327), pursuant to Section 128.06 of the Ohio Revised Code (ORC).

The 9-1-1 Planning Committee is made up of five (5) voting members and is responsible for maintaining and updating the Countywide 9-1-1 Plan. The Countywide 9-1-1 Plan addresses the NG9-1-1 system that is used at every Public Safety Answering Point (PSAP).

On May 10, 2006, the 9-1-1 Planning Committee approved a revised Cuyahoga County 9-1-1 Plan as required in the ORC 128.01 – 128.34 to implement network configuration for processing 9-1-1 wireless calls in Cuyahoga County.

In January 2011, significant changes were made to the Cuyahoga County government structure. A charter change replaced the three-member Board of Commissioners with a single elected Executive and 11-member Council.

In August 2011, the 9-1-1 Planning Committee reconvened to reassess the 9-1-1 Plan under the new governmental structure. The purpose was to ensure the current plan was meeting the needs of Cuyahoga County and to update the plan where necessary (ORC 128.12).

This plan includes the objectives and standards necessary to meet the requirements set forth by ORC128 and OAC 5507. As such, the 9-1-1 Planning Committee is adopting this new edition as a replacement for all other versions of the “Cuyahoga County 9-1-1 Plan.”

9-1-1 COMMITTEE MEMBERS / ALTERNATES

Chris Ronayne
Cuyahoga County Executive

Brandy Carney (alternate)
Public Safety Director – Cuyahoga County

Mayor Justin M. Bibb
City of Cleveland

Karrie Howard (alternate)
Public Safety Director – Cleveland

Mayor Tim DeGeeter
City of Parma

Robert Coury (alternate)
Public Safety Director – Parma

Lisa Zver, Trustee
Olmsted Township

Mayor Jerry Hruby
Mayors and City Manager's Association

9-1-1 TECHNICAL ADVISORY COMMITTEE

Cuyahoga County Police Chief's Association

Cuyahoga County Fire Chief's Association

Cuyahoga County Sheriff

Ohio Highway Patrol Representative

Telephone Company Representative

Township Trustee Association

Cuyahoga County Emergency Management

Cuyahoga Emergency Communications System (CECOMS)

PLAN ADOPTION

This document titled "The Cuyahoga County 9-1-1 Plan" is adopted by the 9-1-1 Planning Committee pursuant to the requirements specified in Section 128 of the Ohio Revised Code.

As adopted on this ____9th_____ day of _____June_____, 2022.

Signature on File – Brandy Carney

Cuyahoga County Executive
Chris Ronayne

Signature on File – Justin Bibb

City of Cleveland
Mayor Justin M. Bibb

Signature on File – Timothy DeGeeter

City of Parma
Mayor Timothy DeGeeter

Signature on File – Lisa Zver

Olmsted Township
Lisa Zver, Trustee

Signature on File – Jerry Hruby

Mayors and City Managers Association Representative
Mayor Jerry Hruby

ACKNOWLEDGEMENTS

Brandy Carney
Director, Public Safety and Justice Services

Lisa Raffurty
Manager, Cuyahoga Emergency Communications Systems (CECOMS)

Nancy Kolcan
Cuyahoga County 9-1-1 Coordinator

SCOPE

This document has been prepared pursuant to the requirements specified in Sections 128.01 through 128.99 of the Ohio Revised Code (ORC) and 5507-1-01 through 5507-1-19 of the Ohio Administrative Code (OAC).

9-1-1 AMENDED PLAN APPROVAL REQUIREMENTS

This plan will be reviewed annually, and subsequent modifications to this plan shall be signed and dated by Cuyahoga County 9-1-1 Planning Committee members. The Plan will be modified and amended as needed with respect to new information, emerging technologies, accumulated experiences, or in response to legislated changes as promulgated in ORC 128.12. Cuyahoga County is committed to working with the local jurisdictions in pursuit of the most cost-effective and efficient implementation of NG9-1-1 services within the County.

In accordance with ORC 128.06, this 9-1-1 Plan was placed in effect upon receiving approval by the 9-1-1 Planning Committee. The composition of this Committee is as follows:

1. Cuyahoga County Executive or Designee
2. Mayor of the City of Cleveland or Designee
3. Mayor of the City of Parma or Designee
4. Mayor appointed by the Mayors and City Managers Association
5. Township Trustee appointed by the Mayors and City Managers Association.

In addition, the 9-1-1 Planning Committee established the 9-1-1 Technical Advisory Committee, which is responsible for assisting in planning the Countywide 9-1-1 system, and reviewing, updating and making recommendations to the Planning Committee regarding the 9-1-1 Plan. The Planning Committee may convene, amend, or dissolve the Technical Advisory Committee as necessary.

Pursuant to 128.12 of the Ohio Revised Code, this Final Plan shall be amended upon approval from the Cuyahoga County 9-1-1 Planning Committee.

An amended final plan is required for any of the following purposes:

- Expanding the territory included in the countywide system
- Upgrading any part or all of a system from basic to enhanced wireline 9-1-1
- Adjusting the territory served by a Public Safety Answering Point (PSAP)
- Permitting a regional council of governments to operate a PSAP
- Re-prescribing the funding of Public Safety Answering Points between the alternatives set forth in division (B)(5) of section 128.07 of the Revised Code
- Providing for wireless enhanced 9-1-1

- Adding, changing, or removing a 9-1-1 system service provider as a participant in the countywide 9-1-1 system
- Providing that the state highway patrol or one or more public safety answering points of another 9-1-1 system function as a public safety answering point or points for the provision of wireline or wireless 9-1-1 for all or part of the territory of the system established under the final plan, as contemplated under division (J) of section 128.03 of the Revised Code
- Making any other necessary adjustments to the plan

Changes to the plan are documented in the following manner:

- The Plan is given a new version number following the annual review and update cycle, or following any interim update that was necessary. The number given at that time is a full number, that is, 1.0, 2.0 etc.
- Any changes made to the Plan on an interim cycle are given a fractional number, that is, 1.1 or 1.2, etc.

Upon approval by the 9-1-1 Planning Committee, the plan shall serve as the reference on the configuration of Public Safety Answering Point (PSAP) territories in Cuyahoga County.

In addition, it is a requirement of this Plan that agencies considering consolidation or adjusting the territory served by a PSAP must inform the 9-1-1 Coordinator of such efforts.

1 HISTORY OF 9-1-1

The concept of a three-digit uniform emergency telephone number has existed for decades in the United States and for even longer in Great Britain and other European countries. In 1957, the National Association of Fire Chiefs recommended the use of a single number for reporting fires. While no action was taken at the time, the concern of the firefighting community set the groundwork for future governmental action.

In 1967, a Presidential Advisory Commission recommended establishment of a common nationwide telephone number for public use in an emergency. In November 1967, the FCC met with the American Telephone and Telegraph Company (AT&T) to find a means of establishing a universal emergency number that could be implemented quickly. In 1968 the digits 9-1-1 were reserved for this purpose. Later that same year, the first 9-1-1 call was placed from the Haleyville City Hall in Alabama to the city's police station.

In the early 1970's technological advances in communications led to the establishment of Enhanced 9-1-1 (E911) services that originally included 9-1-1 selective routing, automatic location information (ALI) and automatic number identification (ANI). By the end of 1976, 9-1-1 was serving about 17 percent of the population of the United States. In 1979, approximately 26 percent of the population of the United States had 9-1-1 service, and nine states had enacted 9-1-1 legislation. At this time, 9-1-1 service was growing at the rate of 70 new systems per year. By 1987, those figures had grown to indicate that 50 percent of the US population had access to 9-1-1 emergency service numbers.

E911 eventually evolved to include selective transfer, fixed transfer, alternate routing, default routing, PSAP evacuation (abandonment) routing and call detail record. The ability to automatically identify the location of the telephone from which the call originated made 9-1-1 an even more attractive system for urban, multi-jurisdictional areas. At the end of the 20th century, nearly 93 percent of the population of the United States was covered by some type of 9-1-1 service. Ninety-five percent of that coverage was Enhanced 9-1-1 (E9-1-1). Currently, 96 percent of the geographic US is currently covered by some type of 9-1-1.

Location-based functionality remains at the center of our legacy 9-1-1 system today. When a 9-1-1 call is made, it arrives at the appropriate PSAP after it is routed across the Public Switched Telephone Network (PSTN) to a special, often dedicated, telephony switching platform called a selective router. To determine routing, the tandem office 9-1-1 selective router queries the selective routing database (SRDB) using the ANI to match the location of the caller to the emergency service number (ESN), which defines the appropriate PSAP. The ESN is predetermined for each possible originating telephone number using master street address guide (MSAG). When the voice call with its associated ANI is delivered to the PSAP, another query is made from the PSAP's equipment to the ALI database, again using the ANI as a search key. The associated ALI record is then returned to the PSAP where the customer premise equipment (CPE) displays the location on the call taker computer display.

When wireless telephone service emerged and began to sweep the country in the early 1990s, the legacy 9-1-1 network faced another challenge. At that time, wireless phones were not usually used for wireline replacement but rather for mobile calling typically outside of a building. In the E9-1-1 system, location information was based on the fixed installed-location address of an originating telephone number. Because wireless devices have no fixed service location, new technologies had to be created in order to provide E9-1-1 services to all wireless callers.

In 1996, the Federal Communications Commission (FCC) responded to this need by issuing the Wireless Enhanced 9-1-1 Rules. This order established and required enhanced wireless 9-1-1 services. In order to provide carriers with a staged implementation, the FCC ordered wireless carriers to provide the service in two phases. Under Phase I, within six months of a valid request by a PSAP, wireless carriers had to deliver the 9-1-1 caller's voice and originating cell site location to the most appropriate PSAP. Phase II required wireless carriers, as of October 1, 2001 and within six months of a PSAP request for location information, to improve the location information used for call routing and caller location by providing the 9-1-1 system with the latitude and longitude of callers. Carriers were allowed to choose handset-based location technology within individual wireless phones – or network-based location technology using cell-tower triangulation.

The order also set technical and accuracy requirements for carriers based on the type of implementation they chose. Location accuracy for handset-based technology had to be within 50 meters for 67 percent of calls and within 150 meters for 90 percent of calls. Location accuracy for network-based solutions had to be within 300 meters for 90 percent of calls.

Next Generation 9-1-1 (NG9-1-1) refers to an initiative aimed at updating the 9-1-1 service infrastructure in the United States and Canada to improve public emergency communications services in a wireless mobile society. In addition to calling 9-1-1 from a phone, it intends to enable the public to transmit text, images, video and data to the 9-1-1 call center (PSAP). The NG9-1-1 system is viewed as an evolutionary transition to enable the general public to make a 9-1-1 "call" from any wired, wireless, or internet Protocol (IP) based device, and allow the emergency services community to take advantage of E9-1-1 call delivery and other functions through new internetworking technologies based on open standards. By enabling the general public to access 9-1-1 services through virtually any communications device, the NG9-1-1 system provides a more direct ability to request help or share critical data with emergency services providers from any location. In addition, call takers at the PSAP will be able to transfer emergency calls to another PSAP and forward the location and other critical data, such as text messages, images, video, with the call.[1]

[1] Information for the section titled "History" gathered from NENA "9-1-1 Origin & History" and The Industry Council for Emergency Response Technologies, "History of 911"
County history collected from archived files and courtesy Mr. John Snack.

1.1 Cuyahoga County 9-1-1

Prior to the mid 1960s, traumatic injury and sudden illness accounted for a large portion of deaths throughout the country. There were no organized emergency medical response plans in place. There was no central telephone number to contact to request assistance. If you were able to dial a number where someone could send help, often the local mortician or a police vehicle would respond and deliver the victim to the hospital. Hospital personnel rarely had any prior knowledge of what they might face when injured victims arrived. Precious time was lost in transport of critical injuries and lack of preparation at the hospital.

Cuyahoga County initially became involved with emergency communications some time before 9-1-1 came into existence in this region. In the mid-1970s, with funding from the Robert Wood Johnson Foundation (CEO of Johnson & Johnson) and the Greater Cleveland Hospital Association, Central Medical Emergency Dispatch (C-MED) was formed.

Forty-three regions in 32 states were chosen out of 251 applications to receive funding from the Robert Wood Johnson Foundation. Cuyahoga County Regional EMS Response Program received a total of $398,580 between July 1974 and June 1977. These funds were used to purchase two-way radios for hospitals and ambulances and to build out a central communications center (C-Med). Cleveland EMS Medic 9 (based out of University Hospitals at that time) responded to its first call at 9:00 a.m. on October 13, 1975.

Establishing communications between “first responders” and hospitals was a critical step in trauma survival support. Housed at 1021 Euclid Avenue, and staffed by Emergency Medical Technicians, C-MED’s main function was to coordinate communications between ambulances and hospitals for the City of Cleveland. By the late 1970s, C-MED was performing this function for the majority of jurisdictions in Cuyahoga County.

The Robert Wood Johnson Foundation continued to fund the backbone infrastructure nationally and facilitate cooperation with large corporations and telecommunications providers throughout the 1970’s to form the nation’s first 9-1-1 system. During the early 1980’s C-Med partnered with Military Assistance to Safety and Traffic (MAST) to provide communications and coordination between EMS units and Army medical helicopters stationed at Cleveland Hopkins Airport to provide med-evac services throughout the county.

In early 1985, Cleveland EMS decided to take their EMS communications in-house. C-MED became Cuyahoga Emergency Communications System (CECOMS) and was moved to the first floor of 1255 Euclid Avenue. While still taking calls for Cleveland EMS and surrounding communities, their priority during this time was to assist Cleveland with training and migration to their own EMS dispatch, coordinating records, and creating the Master Street Address Guide (MSAG) for Cuyahoga County.

On July 1, 1985, Cuyahoga County’s 9-1-1 Planning Committee was established by the Board of County Commissioners’ Resolution No. 523321, as amended by Resolution No. 526327.

In January 1986, "The Proposal for the Implementation of a Countywide 9-1-1 System" was presented by the 9-1-1 Planning Committee to the Cuyahoga County Board of Commissioners. Prior to this date, there had been no organized system of 9-1-1 anywhere in the county. This document was prepared pursuant to the requirements specified in the Ohio Revised Code (ORC). It provided the County's Board of County Commissioners, municipal corporations and boards of township trustees with written description of the proposed Countywide 9-1-1 System, the proposed Public Safety Answering Point (PSAP) territories, the location of the PSAPs, the System's features and operations, and the initial and recurring costs. The Ohio Bell Telephone Company estimated that the 9-1-1 System could be implemented county-wide 14-18 months after the plan was approved making it feasible that 9-1-1 services would be available to individuals in the County during the last quarter of 1987.

A one-time cost of installing the 9-1-1 Network and establishing the Data Management System's database was estimated to be $3,650,218. The State of Ohio paid these costs via a tax credit to Ohio Bell. The estimated annual cost of maintaining the 9-1-1 Network and Data Management System's database was $938,856. All telephone subscribers in the county would equally contribute to this ongoing monthly cost at a rate of 12 cents per line.

Costs for each Public Safety Answering Point (PSAP) were primarily related to the equipment installed and maintained at the Primary, Secondary and Default PSAPs. It was determined the cost savings derived from leasing equipment from Ohio Bell as opposed to purchasing and maintaining equipment from another vendor was significant. Initial one-time installation fees were estimated to be $1,256,673 and monthly lease and maintenance fees totaled approximately $59,713. These costs included all Primary, Default and Secondary PSAPs and included the following functions and services: selective routing, default routing, automatic number identification (ANI), call transfer, call hold, call return, forced disconnect, alternate routing, automatic location identification (ALI), hard copy with and without address. This plan was adopted and executed on March 24, 1986. Cuyahoga County's 9-1-1 system went live in November 1987.

As cell phone service proliferated during the early 1990s, CECOMS became the Primary Safety Answering Point for all wireless 9-1-1 calls made in the County. CECOMS staff would establish the location of the caller and then route the call to the appropriate PSAP for dispatch.

In addition, CECOMS became a regional information gathering and deciphering point for AMBER Alerts, mutual aid coordination, severe weather alerts and telephone support for county PSAPs. Funding for the county 9-1-1 system comes primarily from the state Wireless 9-1-1 Government Assistance Fund. This fund is maintained through monies that are collected monthly from tariffs charged to contract subscribers by the wireless service carries.

In 2012, Cuyahoga County contracted with Attevo to complete a detailed assessment of the 48 PSAPs that existed at that time. The purpose of the study was to determine where overlaps between PSAPs existed and to develop a plan for efficiencies including PSAP consolidations. Overall, the study concluded that Cuyahoga County should work to significantly reduce the

number of PSAPs countywide. Cuyahoga County made the reduction of PSAPs a priority while furthering the County's mission for regional collaboration in 2011.

In order to support these collaborations, Cuyahoga County invested over 15 million dollars to provide state of the art Next Generation 9-1-1 (NG9-1-1) equipment with built-in redundancies such as dual connections to both the Cleveland and Columbus host. When the NG9-1-1 System went live in 2015, 140 workstations were deployed to 37 primary and 2 secondary PSAPs throughout the county.

In addition to the NG9-1-1 equipment and 10-year maintenance and support contract, Cuyahoga County entered into a five-year contract with AT&T to supply the backend infrastructure to support network connectivity. The costs for both ECW and AT&T are currently supported by Cuyahoga County's portion of the Wireless Government Assistance Fund.

During 2014, Cuyahoga County began implementation of NG9-1-1 network for all Cuyahoga County PSAPs. Under contract with Emergency Call Works (ECW) and AT&T, PSAP cutovers to this new technology continued through mid-2015. This technology features a hosted system with redundant technology that allows agency users to log in from any ECW station and receive their calls.

On July 1, 2017, Cuyahoga County deployed a web-based Text-To-911 service, allowing anyone within the boundaries of Cuyahoga County to be able to text message 9-1-1.

Currently, there are 22 Primary PSAPs throughout the county. CECOMS continues to provide support through wireless call answering and routing, Text-To-911 coordination, AMBER alerts, weather advisories, assistance to PSAPs in locating callers, MABAS support, media alerts, , license plate reader program management, back-up EMD for all PSAPs, countywide dispatcher training, hospital restrictions and over-rides, HAZMAT reporting, Radio Communications/MTAC assignments, mass notifications coordination, major emergency incident communications coordination, State of Ohio Emergency Response Plan and mass casualty incident coordination.

The county entered into a contract with Mission Critical Partners (MCP) in 2022 and are currently working on a county-wide emergency communications assessment, due to be complete in October, 2022.

1.2 9-1-1 Coordinator Responsibilities

Cuyahoga County Department of Public Safety & Justice Services shall appoint a County 9-1-1 Coordinator who shall coordinate the 9-1-1 implementation and the operation of 9-1-1 activities within the county in accordance with the rules incorporated in this chapter. The County 9-1-1 Coordinator, after consultation with representatives of the county, the municipalities and local public safety agencies shall:

- Maintain a county plan for 9-1-1 enhanced service throughout the county. The plan shall specify:
  - The number and locations of all PSAPs serving municipalities within the county;
  - The procedure each PSAP will employ for continuing essential 9-1-1 services during the loss of commercial power;
  - The number of lines and call-taker position that each PSAP will utilize
- Monitor for compliance with the standards and report the results on a regular basis to the 9-1-1 Planning Committee.
- Ensure that address and mapping data is updated in the emergency services communication system database and mapping system within thirty days of receipt of notice or request for change.
- Management and maintenance of the 9-1-1 database is a primary responsibility of the County 9-1-1 Coordinator. A very important component of this task is the information provided by the call takers and dispatchers at each PSAP. PSAPs shall provide information about erroneous location information provided on the ALI screen and any corrections provided by the caller. Each PSAP shall complete a Trouble Report/Inquiry Form for every 9-1-1 call that experiences problems (ANI failures, database errors, etc.). These trouble reports shall be routed to the 9-1-1 Coordinator who shall ensure that 9-1-1 trouble reports are consistently completed and incorporated into the Master Street Address Guide (MSAG) database.
- In order to maintain an accurate MSAG, the governing body of each municipality shall provide the data necessary for the Automatic Location Identification capability of the 9-1-1 Emergency Telecommunication System as follows:
  - Correct or verify the accuracy of the street and address information;
  - Where necessary, supplement the street and address information;
  - Label the map to indicate political boundaries, fire service zones, emergency medical service zones and police service zones;
  - Advise of any new developments, streets and or addresses
- Provide for a complete annual review of the emergency services communication system land line database by obtaining current records from the appropriate telecommunications companies.
- Oversee training for PSAP operators on various issues.
- Ensure PSAP equipment works correctly and efficiently.
- Evaluate new equipment.
- Work with addressing authorities, telephone companies, and GIS personnel to provide for the accuracy of the 9-1-1 database.
- Maintain the law enforcement, fire, and emergency medical service response boundaries for the public safety answering point service area.

2 CURRENT COUNTYWIDE 9-1-1 SYSTEM

Under the 9-1-1 system in Cuyahoga County, persons in need of police, fire and/or emergency medical services dial or text 9-1-1. In Cuyahoga County CECOMS is the only wireless PSAP. This means that all 9-1-1 wireless and VoIP calls and texts within the County automatically route to CECOMS, which then directs the call to the appropriate PSAP.

Selective alternate and default routing are 9-1-1 call routing methods that use an E9-1-1 control office/selective router to send wireline calls to the appropriate PSAP based on the location of the caller.

Basic 9-1-1 systems have an inherent disparity between central office/tandem/LEC boundaries and public-safety agency jurisdictional boundaries. Selective routing overcomes this problem by routing calls to appropriate PSAPs based on the caller's telephone number (ANI) and its associated Emergency Service Number (ESN). The ESN designates a specific geographical area having a unique combination of law enforcement, fire and medical response agencies.

Alternate routing provides call handling at a pre-selected PSAP, when the identified primary PSAP is incapable of handling traffic due to being too busy or offline. Default routing is the capability of routing the 9-1-1 call to a pre-designated default PSAP, when the 9-1-1 call cannot be selectively routed due to ANI failure or unavailable ALI.

Cuyahoga County currently has 22 Primary and 1 Secondary PSAP Territories. Each PSAP position is equipped with network connectivity, CPU with software installed, keyboard, and two monitors. In addition, the NG9-1-1 System will display at the Primary PSAP the Automatic Number Identification (ANI) and Automatic Location Identification (ALI) from which the 9-1-1 call is originating along with mapping and GPS coordinates.

Cuyahoga County shall determine the number of 9-1-1 workstations allocated to each PSAP based on several factors including call volume, staffing and back-up responsibilities. In addition to the number of designated workstations, a PSAP may elect to purchase additional workstations from the 9-1-1 system vendor. All costs for additional workstations – including initial purchase and recurring maintenance – will be the responsibility of the PSAP.

2.1 Text To 9-1-1

Cuyahoga County implemented Text-to-9-1-1 on July 1, 2017 utilizing a web-based application through Comtech. As with 9-1-1 calls, text messages sent within the jurisdictional boundaries of Cuyahoga County are routed directly to CECOMS. CECOMS identifies the sender location, gathers pertinent dispatch information and relays it to the appropriate PSAP

In November of 2018, Cuyahoga County completed an upgrade to an improved i3 solution for Text-To-9-1-1 enabling CECOMS to transfer verified text to 9-1-1 calls for service to the appropriate PSAP.

2.2 Advanced Location Services

In October 2018, Cuyahoga County integrated Rapid SOS into the NG9-1-1 system. This integration allows for enhanced location accuracy with inbound wireless 9-1-1 calls by providing precise handset location from a variety of sensors on modern devices such as GPS, Wi-Fi access points, cell towers, Bluetooth beacons and barometric pressure sensors. This technology provides more accurate location identification of callers which is essential in providing fast and accurate processing of 9-1-1 calls.

2.3 ESINet

An Emergency Services Internet Protocol Network (ESINet) is a network capable of receiving and relaying emergency calls, texts and other forms of media to PSAPs. As of the date of this plan, the State of Ohio is in the planning stages of implementing a statewide ESINet.

In Ohio, nearly eight million 9-1-1 calls are made each year by residents and visitors. The legacy 9-1-1 system, although once highly effective, is often incapable of transferring data and location information. Today's modern communications devices utilize protocols that are incompatible with legacy 9-1-1. Additionally, current 9-1-1 infrastructure is inadequate to support even modest increases in bandwidth.

In order to maintain a high level of service, Ohio's future 9-1-1 systems must be capable of accepting "calls" from any communication device. Most Ohio PSAPs are not equipped to accept or respond to calls from large segments of the population who utilize the ever-expanding spectrum of communications devices. In addition, some of the key infrastructure on which the legacy system depends is aging and will become progressively vulnerable if it is not maintained, upgraded or replaced by newer, more resilient technology.

For these reasons, the Ohio General Assembly recognized the importance of transitioning to NG9-1-1 system that uses an Emergency Services Internet Protocol Network to deliver and process 9-1-1 traffic.

The State ESINet Steering Committee was formed in 2012 and tasked with presenting recommendations to the Speaker of the House of Representatives, the President of the Senate and the Governor regarding:

- Development of a statewide emergency services internet protocol network,
- Funding the system
- Reducing wireless 9-1-1 charges

3 OPERATIONAL CONSIDERATIONS

The continued success of the countywide 9-1-1 system is dependent upon maintaining high standards and standardized processing of 9-1-1 calls. To provide and maintain the highest possible quality of public safety service to Cuyahoga County, the Cuyahoga County 9-1-1 Planning Committee shall review, recommend, and facilitate updates in the policies and procedures of the Public Safety Answering Point (PSAP) operation relative to 9-1-1 operations, and upgrades in equipment and facilities. The Cuyahoga County 9-1-1 Operating Procedures Manual approved by the Planning Committee shall provide guidance to all PSAPs for the operation of the Cuyahoga County 9-1-1 System.

All PSAPS operating in Cuyahoga County shall comply with applicable law. This Plan strives to recognize a variety of options for the organization of 9-1-1 services throughout the County. The following terms describe the types of 9-1-1 services currently being utilized in Cuyahoga County via Public Safety Answering Points (PSAPs). Cuyahoga County recognizes multiple types of PSAPs:

Primary PSAP

The Primary PSAP is a fully operational and staffed 24/7 answering point that receives incoming 9-1-1 land-line based calls from the public and typically but not always directly dispatches police, fire, and emergency medical service personnel in response to the call. For each call, the dispatcher will be able to view the caller's telephone number and address when received via a landline, as well as the police, fire, or emergency medical jurisdiction for that address. The PSAP will dispatch appropriate personnel for the departments and jurisdictions it serves or will transfer the call to a PSAP Associate with independent dispatch. There can only be one Primary PSAP per PSAP Territory. Refer to Section 6.0 for a list of the Primary PSAPs in Cuyahoga County. The following outlines required standards for a PSAP in Cuyahoga County:

- Primary PSAP that operates 24-hours-per-day and seven-days-a-week; capable of answering all three types of calls: police, fire, and EMS.
- Each PSAP must have a written 9-1-1 protocol.
- Each PSAP must utilize standardized, technically compatible 9-1-1 hardware and software for PSAP installations.
- All PSAPs must coordinate with their alternate PSAPs, so backup for loss of emergency communications can occur immediately.

Secondary PSAP

The PSAP to which the Primary PSAP may transfer 9-1-1 calls. A Secondary PSAP may be a Primary PSAP in a different PSAP Territory and may serve as a secondary PSAP for a number of Primary PSAPs. Section 6.0 identifies the recognized Secondary PSAPs in Cuyahoga County.

Alternate PSAP

A PSAP to which 9-1-1 calls are routed when the lines are busy or there is an equipment failure at a Primary PSAP. An Alternate PSAP may be a Primary PSAP in a different PSAP service area.

Subdivision PSAP

Located within the territory of a municipal corporation or township that serves as a Primary PSAP and dispatches emergency services. May operate as a Secondary PSAP if a Memorandum of Understanding (MOU) has been established between the Subdivision and the Primary PSAP regarding the transfer of 9-1-1 calls to the Subdivision.

Default PSAP

The PSAP to which the 9-1-1 calls are routed when the network system cannot determine the PSAP Territory from which the 9-1-1 calls are originating, and thus, the Primary PSAP to which the 9-1-1 calls should be routed. The CECOMS Center PSAP shall serve as the default PSAP for Cuyahoga County.

Consolidated or Regional PSAP

Consolidated or Regional PSAPs are a result of merging multiple PSAPs into a single, unified team with common operating platforms. This includes the sharing of space, personnel, equipment and procedures for 9-1-1 services among Primary PSAP territories and/or by providing countywide services. A consolidated or regional PSAP provides 9-1-1 call answering and emergency service dispatching to all portions of the joint service district. The administrative organizational structure can be memorialized by contractual agreement or Council of Governments (COG).

For the purposes of this plan, any consolidation of two to four primary PSAPs shall be considered "Consolidated" and five or more as "Regional".

Each physical location, whether it operates under contractual agreement or COG will be recognized as a separate PSAP, operating in separate facilities, with separate ORI's, separate MPLS and separate operating authorities.

Wireless PSAP

A Wireless PSAP is a Primary PSAP wherein wireless and VoIP calls are routed directly. CECOMS is the only Wireless PSAP in Cuyahoga County.

Remote Dispatch

The NG9-1-1 system supports the virtual PSAP Operator position capability as a standard function of its client software. This feature allows any installed and configured operator position in the

network to securely access the system by logging in at another PSAP to receive calls for their "home" PSAP. The capability does not require software to be installed or any configuration of the workstation, as all users and respective settings are loaded to the remote workstation from the server. In effect, this feature provides a telecommunicator with access to distinct PSAP settings, resources, and configurations anywhere in the network.

3.1 Cuyahoga County Operational Requirements

Cuyahoga County receives monthly disbursements from the State Wireless 9-1-1 Government Assistance Fund. These disbursements benefit all Primary and Secondary PSAP's in Cuyahoga County as the funding provides support for costs of the system's equipment, call-taking application and connectivity.

In order to maintain funding, all Primary PSAP's must achieve compliance with OAC 5507, which requires adherence to certain technical, training and operational standards and promotes best practices that ensure consistent, quality 9-1-1 service delivered by well trained personnel to all residents of, visitors to, and individuals who work in Cuyahoga County. Please refer to Attachment 3 of this document for OAC 5507 in its entirety. Full compliance with these standards must be attained by the end of 2023.

3.2 State of Ohio Operational Requirements

In order to maintain funding through the State Wireless 9-1-1 Government Assistance Fund, all Primary PSAPs must achieve compliance with Ohio Administrative Code (OAC), which requires adherence to certain technical, training and operational standards and promotes best practices that ensure consistent, quality 9-1-1 service delivered by well trained personnel to all residents of, visitors to, and individuals who work in Cuyahoga County. These disbursements benefit all Primary and Secondary PSAPs in Cuyahoga County as the funding provides support for costs of the system's equipment, call-taking application, and connectivity.

Chapter 128.021 of the Ohio Revised Code requires the ESINet Steering Committee to establish operational standards for public safety answering points eligible for wireless reimbursement. The ESINet Steering Committee adopted such standards on April 26, 2016.

The Cuyahoga County 9-1-1 Planning Committee believes the best interest of public safety is served by utilizing these standards for all 9-1-1 calls including calls transferred within the system. Therefore, the PSAP operational standards adopted by the ESINet Steering Committee shall be applicable to any Primary or Secondary PSAP attached to the Cuyahoga County 9-1-1 System.

It is the intent of this document to maintain compliance with OAC 5507. Authority over compliance is maintained by the Ohio Department of Administrative Services, 9-1-1 Program Office. Any changes or revisions to OAC 5507 will be reflected within this document upon approval of the Cuyahoga County 9-1-1 Planning Committee.

3.3 Cuyahoga County 9-1-1 System Requirements

The Cuyahoga County 9-1-1 system and PSAPs shall meet or exceed the technical standards established by the Ohio ESINet Steering Committee under state law.

The equipment installed at a PSAP determines the Enhanced 9-1-1 features that will be available to the individual answering the 9-1-1 call. For a PSAP and Alternate PSAP, at a minimum, a regular telephone, ANI and ALI equipment, and a printer are needed. For a PSAP Associate – Independent Dispatch, no equipment other than a regular telephone is essential; however, it is recommended that an appropriate number of private lines or seven-digit access lines be installed for access by the PSAP.

The minimum system requirements for the Cuyahoga County 9-1-1 network includes Selective Routing, Alternate (overflow) routing, Default routing, ANI/ALI delivery, redundant infrastructure to include voice and data delivery to each PSAP. Overflow conditions at a Primary PSAP, or conditions requiring evacuation or other temporary change in routing of 9-1-1 calls, will result in the use of an alternate PSAP.

The minimum ANI equipment for a PSAP is the ANI Controller, the ANI Transfer/Display unit/computer screen, and a regular telephone instrument or phone system (computerized) on which the call is actually answered. In addition, an ANI auxiliary controller and ANI additional trunk equipment may be required dependent upon the number of incoming trunk lines and the number of ANI Transfer/Display units at the PSAP.

ANI equipment is needed for the 9-1-1 system to display at the PSAP the telephone number from which the 9-1-1 call is being made, and for the alternate routing call transfer, forced disconnect, call hold, call return, and hard copy record features.

ANI equipment is a prerequisite for the ALI equipment which, at a minimum, would consist of the ALI Controller and the ALI display unit. In addition, ALI miscellaneous wiring is needed for each ALI display unit. Also, an ALI auxiliary controller may be needed depending of the number of ALI display units at the PSAP. The ALI equipment is needed in order for the 9-1-1 system to display at the PSAP the address from which the 9-1-1 call is originating.

For those communities considering a computer-assisted dispatch (CAD) system, the ALI display unit and the ALI miscellaneous wiring is displaced by the CAD system's visual display terminal if appropriate software is available.

PRINTER

It is possible to connect a computer printer to the ANI Controller to provide a hard-copy record of the 9-1-1 call activity. The level and volume of 9-1-1 call activity at the PSAP will determine the print speed required on the hard-copy printer.

TRUNK LINES

A community must maintain at least one seven-digit telephone number and the related trunk line. All PSAPs must maintain trunk lines dedicated to 9-1-1 call processing.

SELECTIVE ROUTING

This feature automatically routes the 9-1-1 call to the PSAP serving the area in which the 9-1-1 call originates.

ANI – AUTOMATIC NUMBER IDENTIFICATION

This feature displays the telephone number from which the 9-1-1 call is being made.

ALI – AUTOMATIC LOCATION IDENTIFICATION

This feature displays the telephone number, address, and type of telephone (residential, business, cellular, or pay) from which the 9-1-1 call is being made, and also displays the police, fire, and emergency medical service providers for the listed address. Primary PSAP CPE (customer premise equipment) minimum requirements include ANI/ALI receipt/display, a database of 9-1-1 call data, one button transfer, and abandoned call display.

3.4 Special Call Handling

Misdirected Calls

Calls initially misdirected to the wrong PSAP may be transferred to the appropriate PSAP via one-button transfer when possible. If one-button transfer cannot be made, all information shall be obtained and dispatched or relayed to the proper dispatch point/PSAP via most expeditious method – radio or telephone. If the misdirection is a result of an improper transfer, the caller shall NOT be transferred again. All information shall be obtained and, via most expeditious method, dispatched or relayed to the appropriate agency.

- 9-1-1 Calls may be transferred to the appropriate PSAP when required.
- When a 9-1-1 Call is transferred from one PSAP to another the transferring PSAP must announce the transfer. The announcement must include the name of the PSAP making the transfer and the Name of the PSAP that is receiving the transfer.
- The transferring PSAP must remain on the line to verify that the receiving PSAP has the caller and the address. For PSAPS who cannot remain on the line during a transfer they must contact the receiving PSAP to verify the call has been received.
- In instances where the ANI/ALI information is not transferred between PSAPS the transferring PSAP shall give the receiving PSAP any location and call back number information they have available.
- In any instance where the call is not able to be transferred the PSAPS shall gather all information from the caller as to the nature of the call and provide any pre-arrival instructions required. The information shall then be transferred to the appropriate dispatch point via the most expeditious method available (radio or telephone).

Abandoned Calls

An abandoned call, sometimes referred to as a hang-up call or a short duration call, occurs:

- When the caller disconnects before the call has been received at the PSAP or can be answered by the telecommunicator, and,
- When the telecommunicator does not have enough information to determine if the call is an emergency.

Disconnected Calls

A disconnected call occurs:

- When the caller disconnects after the call has been received at the PSAP or answered by the telecommunicator, or
- When the telecommunicator does not have enough information to determine if the call is an emergency.

Non-Responsive Calls

A non-responsive call is an open voice line call or a non-voice communication where the caller is not responding to the telecommunicator. All non-responsive calls MUST be interrogated with a TTY/TDD to determine if the caller is attempting to report an emergency using a special communications device for deaf, hard of hearing, or speech impaired individuals.

On a non-responsive call, if the telecommunicator hears background noises that indicate an emergency is occurring, such as domestic violence or difficulty breathing, the telecommunicator SHALL initiate the appropriate response. The telecommunicator should continue to monitor the open line until contact is established or the call is disconnected. If the call is disconnected, the telecommunicator SHOULD attempt to re-establish contact once, at a minimum, to determine if assistance is needed. If no direct contact (line busy, no answer, voice mail) is made after the initial attempt, any additional attempts to contact the caller should be made in accordance with local policy.

Regardless of the type or source, if a valid callback number is available a PSAP should attempt to reestablish contact with all hang-up, abandoned, or disconnected 9-1-1 calls for service once, at a minimum.

3.5 Cuyahoga County PSAP Training Program

CECOMS PSAP training program provides PSAPs with support needed to maintain the highest standards in emergency call processing. Cuyahoga County provides training in Public Safety Telecommunications (PST), CPR, First Aid, Emergency Medical Dispatch (EMD) and NG9-1-1 system specific user training. PSAPs are required to advise the County 9-1-1 Coordinator when new dispatchers are hired as they will be required to take the NG9-1-1 system application training. PSAPs who are enrolled in the county EMD program will have opportunities throughout the year to enroll new and existing staff for PST and EMD training. All PSAPs are invited to participate in the county training program.

4 NETWORK EQUIPMENT

As of the approval of this Plan, each PSAP is equipped with a designated number of positions that include NG9-1-1 system with mapped ALI, dual monitors, keyboard, CPU, Genovation keypad and a telephone. All positions are connected to the network which includes two geo-diverse hosted servers located at secure data centers, upgraded call taking licenses, custom one-way interface to county RMS system, site license for i3 support to NG ESINet as required, site license for the NG9-1-1 system and dual network access to SIP based administrative call processing.

County-owned positions are those positions currently covered under the County's monthly maintenance contract with the NG9-1-1 system vendor. Furthermore, only those County-owned positions that were installed during the period commencing with contract execution through the end of 2017 will be eligible for the upgrade. Equipment purchased after 2017 does not qualify for the contractual upgrade.

In addition to the equipment provided to the PSAP's and data center hosts, 10 laptop computers were purchased. The laptops are to be used for the limited purpose of answering 9-1-1 and ported phone number calls at a remote location during planned or unplanned emergencies. There are currently two sets of five laptops available for deployment upon request by Cuyahoga County dispatch agencies.

The County currently bears the financial responsibility for maintenance to the system not covered under the NG9-1-1 system contract including Text-to-9-1-1 capabilities and upgrades to maintain the highest industry standards. The County will continue to maintain this baseline commitment through 2025.

4.1 Additional Equipment

Establishing an integrated countywide 9-1-1 system demands the equipment each PSAP uses on that system is compatible with the other equipment in use. To establish a mechanism for assuring the compatibility of new, upgraded, and replacement equipment with the County's 9-1-1 System so that public funds are not spent on incompatible equipment. Any PSAP wishing to install new, upgraded, or replacement equipment, hardware or software shall be reviewed and approved by the 9-1-1 Coordinator in order to verify:

(a) Its Necessity to Maintain Current Operations,
(b) Its Compatibility with Future County 9-1-1 System Architecture,
(c) Its Consistency with Past Reimbursement Requests, and
(d) The Availability of Funds for Reimbursement.

In the event of a disagreement this shall be decided by the 9-1-1 Planning Committee.

5 FUNDING

The countywide 9-1-1 system is funded by the Ohio Wireless 9-1-1 Government Assistance Fund. ORC 128.57 stipulates that disbursements from the State Wireless Fund shall be used for:

- Designing, upgrading, purchasing, leasing, programming, installing, testing, or maintaining the necessary data, hardware, software, and trunking required for the public safety answering point or points of the 9-1-1 system to provide wireless enhanced 9-1-1;
- Training of staff to provide wireless enhanced 9-1-1
- Personnel costs to provide wireless enhanced 9-1-1

ORC 128.571 sets forth the current funding schedule of PSAPs that receive wireless calls directly. Counties are limited to a maximum number of PSAPs to which they may provide funding from their allocation of wireless 9-1-1 government assistance funds:

- Through 12/31/15 – no more than five (5)
- From 1/1/16 through 12/31/17 – no more than four (4)
- After 1/1/18 – no more than three (3)

CECOMS is currently the only wireless PSAP in Cuyahoga County.

In addition, funding may be allocated to one PSAP located within a municipal corporation of a population in excess of 175,000.

Based on the requirements for funding allocation cited in ORC 128.57(A), no other PSAP, jurisdiction or COG within Cuyahoga County is currently obligated financially to support the countywide wireless 9-1-1 system. As a recipient of state funds under ORC 128.55, funding obligations for the countywide wireless system are the sole responsibility of Cuyahoga County.

SYSTEM COSTS

There are two segments of cost associated with the implementation and operation of the Enhanced 9-1-1 System. The first is the network costs consisting of one-time start-up costs and monthly maintenance. The other segment is local-government PSAP costs also comprised of start-up and monthly costs. Ohio House Bill No.491 clearly defines the responsibility for these various cost elements. Ohio House Bill No.361 clearly defines the responsibility for various cost elements associated with wireless funding.

NETWORK COSTS

As stated, the county's 10-year contract with Motorola CallWorks will expire in 2025. During that period, obligations for the countywide system are the sole responsibility of Cuyahoga County. Cohesiveness and interoperability are and will continue to be the focus of the county. Coverage of AT&T ASE circuits is covered in Section 7 of this plan.

PUBLIC SAFETY ANSWERING POINT COSTS

The PSAP costs for wireline 9-1-1 calls are funded through local government budgets. Costs are primarily related to the equipment installed and maintained at the PSAP locations. This plan does not address anything outside of items mentioned in Section 7.2.

5.1 Fund Disbursements

Funds received from the State of Ohio Wireless 9-1-1 Government Assistance Fund shall be placed in a separate fund at the Cuyahoga County Treasurer's Office. Funds shall be disbursed to Cuyahoga County to cover costs associated with implementing and maintaining the countywide wireless NG911 system.

6 PSAP OVERVIEW

Cuyahoga County is comprised of 38 cities, 19 villages and 2 townships and recognizes the benefits of consolidating PSAPs and regionalizing emergency dispatch to provide more efficient and cost-effective emergency services for residents and visitors. A PSAP number is an identifying number assigned to each PSAP by AT&T that is used to electronically identify the equipment number and respective destination of each 9-1-1 call.

Each PSAP is also assigned a three-digit Emergency Service Number (ESN) by the telephone company. The ESN identifies a unique combination of emergency service agencies designated to serve a specific range of addresses within a particular geographical area, or Emergency Service Zone (ESZ). In summary, the ESN facilitates selective routing and selective transfer, if required, of calls to the appropriate PSAP and the dispatching of proper service agency(ies).

There are multiple public safety answering points to serving the residents of Cuyahoga County. There is one Wireless PSAP. Ohio Revised Code permits a County's Final Plan the authority to adjust the territory served by a Public Safety Answering Point. PSAP service area alignment may require minor changes to reflect technological changes and requested changes by governmental jurisdictions. Such changes may be accomplished as long as they are consistent with the general purpose and intent of the Final Plan.

Existing contractual arrangements, user fee-structure, and determination of operational costs unrelated to 9-1-1 are not subject to the provisions of this plan.

6.1 PSAP Notification Methods

There are four primary methods available to process a 9-1-1 call to the emergency responder or appropriate agency.

1. DIRECT NOTIFICATION is used when the PSAP initially receiving the 9-1-1 call is the dispatch point for the agency that is the proper emergency responder for the type and location of the 9-1-1 call.
2. CALL TRANSFER is used when the initial PSAP is not the dispatch point for the appropriate emergency responder therefore the caller is transferred to the appropriate PSAP or dispatch point.
3. CALL RELAY is used when a PSAP obtains information from a caller and notifies another PSAP about the information received.
4. CALL REFERRAL is used when the PSAP receives a non-emergency call for an agency and provides the caller with the appropriate phone number to contact that agency.

When the territory served by a PSAP changes by Plan amendment, appropriate changes in wireline 9-1-1 call routing will be made by the 9-1-1 coordinator.

6.2 PSAP Consolidation

Although PSAP consolidation is a local decision made by each municipality, formation of PSAPs that serve multiple municipal emergency response agencies is encouraged. As stated, consolidation, where municipalities combine and operate multiple public-safety agencies in a single E911 facility, reduces costs and increases efficiency. E911 system capabilities, which provide the caller's telephone number, location and respective jurisdictional response agencies, have reduced the need for municipally-based PSAPs. Community and county leaders should work together to consolidate PSAP facility and equipment resources.

Any PSAP(s) planning to relocate or consolidate is required to submit the new PSAP physical address to the county 9-1-1 Coordinator at least six (6) months before going live. Appendix 4 summarizes the assignment of costs under various scenarios of PSAP relocation.

6.3 PSAP Redundancies

Each Primary PSAP shall establish a back-up PSAP or have an arrangement for back-up provided by another PSAP. Agencies may also pool resources and create regional back-up centers. Alternate methods for receiving and processing 9-1-1 calls may include interlocal agreements among one or more PSAPs for sharing physical resources, entail a use of portable equipment that may be implemented wherever secure network connectivity is accessible, construction and maintenance of a back-up PSAP facility that would only be utilized when the Primary PSAP is inoperable, or other alternative solution.

The back-up PSAP shall be:

- Capable, when staffed, of performing the emergency functions performed at the primary PSAP.

- Separated geographically from the primary PSAP at a distance that ensures the survivability of the alternate center.
- Annually tested back-up PSAP plan.
- Capable of operation long enough to enable the transfer of operations to the back-up PSAP in the event of an emergency in the PSAP or in the building that houses the PSAP.
- The back-up PSAP shall be capable of executing a local management approved, written, dated, and annually tested back-up PSAP plan.

The plan shall include:

1. Any local agreements which may exist, or which are anticipated, that provide for the back-up PSAP.

2. The ability to reroute incoming 9-1-1 call traffic to the back-up center and to process and dispatch 9-1-1 calls at that center.

A list of Primary and Secondary PSAPs and their back-up centers is available in Appendix 1

6.4 Annual PSAP Assessment

The County has established an annual PSAP assessment program. Through the assessment program, the County 9-1-1 Coordinator assesses each PSAP in Cuyahoga County annually. During the assessment, the County evaluates the PSAP according to a checklist of criteria to verify compliance with the requirements of the State PSAP Operations Rules (OAC 5507), as adopted by the ESINet Steering Committee in 2016 and updated in 2021. The checklist is also used to identify and provide additional information and technical service that is of value to the PSAP client.

7 FUTURE OPERATIONS

7.1 NG9-1-1 system Equipment Refresh

The contract between Cuyahoga County and the NG9-1-1 vendor includes a hardware refresh 60 months after the initial implementation date in April, 2015. Vender will replace all existing hardware with new hardware to keep the system current. This will maintain the system as technically up-to-date and efficient as possible. Throughout this refresh, it is imperative that certain milestones are met to ensure a seamless and efficient transition. Examples of milestones include:

- Project Kick-Off
- Call-Flow Work-Session

- Site Walkthroughs
- Detailed Design Approved
- Hardware Procurement / Staging (start date)
- System Configuration
- Hardware Shipments
- System Installation (Data Centers then PSAPs)
- Network Installation (Interim?)
- Installation Acceptance / Site Testing
- Training Complete
- Cutover / Go-Live (Beneficial Use)
- System Acceptance
- Project Completion

During this refresh, a review of staffing, call volume and use of current positions by the County 9-1-1 Coordinator will be done and there will be a potential for changing the number of currently funded positions. Per the L.R. Kimball report on 10/31/2014, each PSAP will have a minimum of two positions funded via Ohio Wireless Fund through January 1, 2025. If any additional workstations are desired after the adjustments, they may be acquired through the County's current contract with ECW under the following conditions:

- The PSAP is responsible for the purchase, installation and engineering of any additional 9-1-1 workstations.
- The PSAP agrees to reimburse Cuyahoga County on a quarterly basis, the sum of $525.00 per workstation, per month for support and maintenance fees associated with the NG9-1-1 equipment, software and licensing.
- The PSAP agrees to pay these maintenance costs until the end of the contract period between vender and Cuyahoga County, approximate date of April 2025.
- The PSAP agrees to reimburse Cuyahoga County for any/all move, decommission and/or termination fees charged by vender.
- The PSAP will be responsible for all contractual and financial obligations with AT&T for installation, maintenance and monthly fees for any additions or upgrades to the current AT&T OPT-E-MAN Silver ASE Circuit.
- The PSAP agrees to reimburse the County for any installation, maintenance, and monthly recurring costs and/or administrative costs charged by AT&T in excess of their current monthly rate per month.
- In the event the PSAP were to terminate AT&T circuits early, the PSAP will be responsible for any and all early termination fees charged by AT&T.
- The PSAP is responsible for contacting NG9-1-1 system vender directly to address any system technical issues.

7.2 Future Consolidation and Cost Structure

Due to the increased cost of operating the enhanced 9-1-1 system, combined with the stagnant amount of state funding, Cuyahoga County will continue to pursue consolidation of emergency dispatch centers. Currently, Cuyahoga County pays 100 percent of the cost for the following system resources utilized at each PSAP:

- NG9-1-1 system Positions (varies per dispatch)
- Text-To-911 Services
- AT&T OPT-E-MAN Silver ASE Circuit (size varies between 10mbps and 50mbps)
- AT&T IPFlex / Admin Line Options (SIP trunking service that provides unified access for analog or PBX systems through a combination of voice & data to a single provider, transport method, and application management platform)
- DS1 (Also known as T1 - refers to a carrier system that transmits information, such as the voice signals of a telephone call and the video signals of television)
- AT&T Switched Ethernet Services

Beginning in 2023[2], only the following entities will receive funding for the aforementioned AT&T OPT-E-Man Silver ASE Circuits:

- Wireless PSAP
- City of Cleveland
- Regional PSAPs (comprised of five (5) or more municipal agencies)

Under that criteria, the following PSAPS will qualify for ASE Circuit funding:

- **CECOMS**
    - Wireless Call Taking
    - Cuyahoga County Municipalities (1) - East Cleveland *(Through 4/30/2021)*
- **City of Cleveland**
    - Cuyahoga County Municipalities (1) - Cleveland
- **Chagrin Valley Dispatch – Bedford**
    - Cuyahoga County Municipalities (16) - Bedford, Bentleyville, Bratenahl, Chagrin Falls, Chagrin Falls Township, Euclid, Gates Mills, Glenwillow, Highland Hills, Hunting Valley, Maple Heights, Moreland Hills, North Randall, Orange Village, Solon, Woodmere
    - *Non-Cuyahoga County Municipalities (1) – South Russell (Geauga)*

[2] These changes were originally slated to take effect on July 1, 2022. The original date was deferred by vote of the 9-1-1 Planning Committee due to several fluid changes taking place at both the county and state level. Additional planning meetings throughout 2022, along with the expected completion of the county-wide emergency communications assessment will assist in determining a new date in 2023 to implement these charges.

- **Chagrin Valley Dispatch – Brecksville**
    - Cuyahoga County Municipalities (9) – Brecksville, Broadview Heights, Brooklyn, Brooklyn Heights, Cuyahoga Heights, Independence, Newburgh Heights, Seven Hills, Valley View
    - Non-Municipality Agency – Cleveland Metroparks
- **Heights Hillcrest Communications Center – Cleveland Heights**
    - Cuyahoga County Municipalities (5) - Cleveland Heights, Richmond Heights, Shaker Heights, South Euclid, University Heights
- **Southwest Dispatch**
    - Cuyahoga County Municipalities (6) – Berea, Brook Park, North Royalton, Olmsted Falls, Olmsted Township, Strongsville

Temporary deferments of cost for non-Regional PSAPs may be granted due to pending mergers but will require a recommendation from the County 9-1-1 Coordinator and subsequent approval of the Director of Public Safety & Justice Services. If deferments are granted, the Director of Public Safety & Justice Services will report out to the 9-1-1 Planning Committee via email correspondence the request and subsequent basis for the decision within 30 days of the request being granted.

PSAPs may utilize the County's contract with AT&T to obtain ASE circuits under the following conditions:

- The PSAP is responsible for the purchase, installation and engineering of any additional equipment needed or costs that exceed the rate charged to the County under the contract that is in place on July 1, 2022.
- The PSAP agrees to reimburse Cuyahoga County for support and maintenance fees associated with the AT&T OPT-E-Man Silver ASE Circuits.
    - This may be paid on a quarterly or bi-annual basis contingent term of a Memorandum of Understanding executed between the PSAP and Cuyahoga County.

In coordination with the funding dates, Dispatch Centers serving agencies located outside Cuyahoga County may have funding reduced by an amount proportional to agency membership attributes.

7.3 Long-Term Planning

Ohio MARCS PSAP Talkgroups (2021)

Two talk groups, known as CC PSAP1 and CC PSAP2 are being developed and will be made available for any PSAP to use. When complete, these talk groups shall be used only for emergency communication between PSAP's when one or more have any disruption of 9-1-1 service including but not limited to loss of voice service, loss of data links, evacuation of PSAP, etc. The following

policy and procedures shall be followed by all PSAP's that elect to use the MARCS 9-1-1 Emergency Talk groups:

1. The talk groups shall be used for relay of 9-1-1 telephone call information when a 9-1-1 PSAP is out of service and defaulting to another PSAP.
2. The Ohio MARCS Radio system shall program one (1) radio at no cost to the 9-1-1 PSAP. The radio will be supplied by the PSAP.
3. No field units shall operate on these talk groups (PSAP to PSAP only)
4. There will be no dispatching by PSAP's (to field units) on these talk groups.
5. Participation shall be voluntary but is encouraged.
6. Talk groups need monitored only after notification of 9-1-1 outage.

Countywide Emergency Call Handling Study (2022)

Starting in April 2022, Cuyahoga County Public Safety & Justice Services entered into contract with Mission Critical Partners (MCP for a study to be completed reviewing the current landscape in both dispatching and call handling in Cuyahoga County. This study is expected to provide a detailed synopsis of best practices in comparable regions in the United States and to provide recommendations that may guide the future of emergency call handling and dispatching in Cuyahoga County.

Emergency Call Taking Software (2023)

On an ongoing basis, the County 9-1-1 Coordinator will work with the 9-1-1 Technical Advisory Committee to prepare review needs for future equipment and operational requirements for the county's E911 system. Once developed, a plan should be designed to provide the 9-1-1 Planning Committee, County management and PSAP managers with a list of anticipated resources and required funding to maintain a fully-enhanced 9-1-1 system.

As noted previously in this document, the County's contract with Motorola CallWorks expires on January 31, 2025. In 2023, Cuyahoga County will form a committee to develop specifications for an RFP for the next installment of the countywide 9-1-1 system. The committee will include subject matter experts in the fields of law enforcement, fire, emergency medical services, and 9-1-1 communications.

APPENDIX 1 – PRIMARY, SECONDARY AND ALTERNATE PSAP

PSAP	Address	Territory	Back-Up/ Rollover PSAP	911 Services Provided
Bay Village PD	28000 Wolf Rd.	Bay Village	Westlake PD	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD
Beachwood	3777 Richmond Rd.	Beachwood	Chagrin Valley Regional Dispatch	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
		Pepper Pike		
Bedford Heights	5661 Perkins Rd.	Bedford Heights	Walton Hills	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
		Oakwood Village		
Cleveland	4501 Chester Ave.	Cleveland	CECOMS	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD. Call transfer fire and EMS to FD for direct dispatch.
		Linndale		
CECOMS	88 Center Road	ALL Wireless	Cleveland	County-wide wireless 9-1-1 call answering and routing to appropriate PSAP, 10-digit emergency and non-emergency, countywide text to 9-1-1 response and routing to appropriate PSAP, advanced location services, direct dispatch to East Cleveland PD/FD/EMS
		East Cleveland		

PSAP	Address	Territory	Back-Up/ Rollover PSAP	911 Services Provided
Chagrin Valley Regional Dispatch - Bedford	88 Center Rd., Bedford, OH	Bedford Bentleyville Bratenahl Chagrin Falls Chagrin Falls Twp. Euclid Gates Mills Glenwillow Highland Hills Hunting Valley Maple Heights Moreland Hills North Randall Orange Village Solon South Russell Woodmere	Chagrin Valley Regional Dispatch - Brecksville	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Chagrin Valley Regional Dispatch - Brecksville	9018 Brecksville Rd.	Brecksville Broadview Heights Seven Hills Independence Cuyahoga Hts. Newburgh Hts. Valley View Brooklyn Hts. Brooklyn Cle Metroparks Cuyahoga Sheriff's	Chagrin Valley Regional Dispatch - Bedford	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire

PSAP	Address	Territory	Back-Up/ Rollover PSAP	911 Services Provided
Garfield Heights	5555 Turney Rd.	Garfield Hts.	CVD Bedford	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
HHCC	10 Severance Circle	South Euclid Shaker Heights Cleveland Heights University Heights Richmond Heights	CVD Bedford	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Highland Heights	5827 Highland Rd.	Highland Hts.	Mayfield Village	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Lakewood	12650 Detroit Rd.	Lakewood	North Olmsted	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Lyndhurst	5301 Mayfield Rd.	Lyndhurst	Mayfield Heights	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Mayfield Heights	6154 Mayfield Rd.	Mayfield Heights	Lyndhurst	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Mayfield Village	620 SOM Center Rd.	Mayfield Village	Highland Hts.	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
North Olmsted	27243 Lorain Rd.	North Olmsted	Lakewood	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Parma Regional	7335 Ridge Road	Parma Parma Heights	Southwest	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Rocky River*	21012 Hilliard Blvd.	Rocky River	North Olmsted	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD

PSAP	Address	Territory	Back-Up/ Rollover PSAP	911 Services Provided
Southwest	13213 Pearl Road	Strongsville	Parma Regional	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
		North Royalton		
		Berea		
		Olmsted Falls		
		Olmsted Twp.		
		Brook Park		
		Middleburgh Hts		
Walton Hills	7595 Walton Road	Walton Hills	CVD	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Warrensville Hts.	4301 Warrensville Ctr.	Warrensville	HHCC	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD/EMS/Fire
Westlake*	27300 Hilliard Rd.	Westlake	Bay Village	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to PD

**PSAP only covers Police Department operations*

Secondary PSAP	Address	Territory	Back-Up/ Rollover PSAP	911 Services Provided
WestCom (Fire/EMS)	29000 Center Rdg	Bay Village	Westlake PD	9-1-1, 10-digit emergency and non-emergency, text to 9-1-1, advanced location services, direct dispatch to EMS/Fire
		Fairview Park		
		Rocky River		
		Westlake		
		North Ridgeville		

APPENDIX 2 - GLOSSARY

911

A three-digit telephone number to facilitate the reporting of an emergency requiring response by a public safety agency.

911 Service Area

The geographic area that has been granted authority by a state or local governmental body to provide 9-1-1 service.

Abandoned Call

A call placed to 9-1-1 in which the caller disconnects before the call can be answered by the Public Safety Answering Point (PSAP) attendant.

Alternate PSAP

A PSAP designated to receive calls when the primary PSAP is unable to do so.

Alternate Routing

Alternate routing provides for a predetermined routing for 911 calls when the tandem office is unable to route the calls over the 911 trunks for a particular PSAP due to troubles or all trunks busy.

American Standard Code for Information Interchange (ASCII)

This standard defines the code for a character set to be used for information interchange between equipment of different manufacturers and is a standard for data communications over telephone lines. In the context of TDD/TTY this refers to both a binary code and modulation method used for 110/300 baud TDD/TTY communications.

Automatic Location Identification (ALI)

Automatic Location Identification provides for an address display of the subscriber calling 911. With ALI, the PSAP receives the ANI display and an ALI display on a screen. The ALI display includes the subscriber's address, community, state, type of service and if a business, the name of the business. The PSAP will also get a display of the associated ESN information (police, fire, rescue).

Automatic Number Identification (ANI)

Automatic Number Identification corresponds to the subscriber's seven digit telephone number. The ANI displays at the PSAP on the digital ANI display console. ANI Failure Failure of the end office to identify the call and provide the ANI (telephone number) to the tandem office; or, an ANI failure between the tandem office and the PSAP.

Anonymous Call

If a subscriber misdials and dials the seven digit number associated with the PSAP position, they will come in direct and ANI display as 911-0000 which will ALI as an anonymous call. The seven digit numbers associated with the PSAP positions are not published even to the PSAPs.

Call Detail Record

When the 911 call is terminated by the PSAP operator, the ANI will automatically print-out on the teletypewriter located at the PSAP. The printout will contain the time the call came into the PSAP, the time it was picked up by an operator, the operator number, the time the call was transferred, if applicable, the time the call was terminated and the trunk group number associated with the call. Printouts of the ALI display are now also available, if the PSAP has purchased the required equipment.

Cell

The wireless telecommunications (Cellular or PCS) antenna serving a specific geographic area.

Cell Sector

One face of a cell antenna (typically 3-sided) that operates independently of the other sectors.

Cell Site

The location of a cell and related equipment.

Computer Aided Dispatch (CAD)

A computer based system, which aids PSAP telecommunicators by automating selected dispatching and record keeping activities.

Data Base

An organized collection of information, typically stored in computer systems, comprised of fields, records (data) and indexes. In 9-1-1, such data bases include MSAG, telephone number/ESN, and telephone customer records.

Data Base Management System (DBMS)

A system of manual procedures and computer programs used to create, store and update the data required to provide Selective Routing and/or Automatic Location Identification for E9-1-1 systems.

Dedicated Trunk

A telephone circuit used for a single purpose; such as transmission of 9-1-1 calls.

Default Routing

Provides for routing of 911 calls when there is an ANI failure. The call will be routed to the "default" ESN associated with the he NNX the caller is calling from. Default ESNs are pre-assigned in translations and are usually the predominant ESN for a given wire center.

Digital Subscriber Line (DSL)

A subscriber loop supporting one of the digital transmission techniques.

Direct Dispatch

The performance of 9-1-1 call answering and dispatching by personnel at the primary PSAP.

E9-1-1

Enhanced 911: Features available include selective routing, selective transfer, fixed transfer, alternate routing, default routing, Automatic Number Display, Automatic Location Identification, night service, default routing, call detail record.

Emergency Location Identification Number (ELIN)

A valid North American Number Plan format telephone number assigned to the MLTS Operator by the appropriate authority that is used to route the call to a PSAP and is used to retrieve the ALI for the PSAP. The ELIN may be the same number as the ANI. The North American Numbering Plan number may in some cases not be a dialable number.

Emergency Service Number (ESN)/Emergency Service Zone (ESZ)

An ESN is a three to five digit number representing a unique combination of emergency service agencies (Law Enforcement, Fire, and Emergency Medical Service) designated to serve a specific range of addresses within a particular geographical area, or Emergency Service Zone (ESZ). The ESN facilitates selective routing and selective transfer, if required, to the appropriate PSAP and the dispatching of the proper service agency(ies).

Emergency Services Routing Digit (ESRD)/Emergency Services Routing Key (ESRK)

A 10-digit number used for the purpose of routing an E9-1-1 call to the appropriate Public Service Answering Point (PSAP) when that call is originating from wireless equipment. The Emergency Services Routing Digit (ESRD) identifies the cell site and sector of the call origination in a wireless call scenario. The Emergency Services Routing Key (ESRK) uniquely identifies the call in a given cell site/sector and correlates data that is provided to a PSAP by different paths, such as the voice path and the Automatic Location Identification (ALI) data path. Both the ESRD and ESRK define a route to the proper PSAP. The ESRK alone, or the ESRD and/or Mobile Identification Number (MIN), is signaled to the PSAP where it can be used to retrieve from the ALI database, the mobile caller's call-back number, position and the emergency service agencies (e.g., police, fire, medical, etc.) associated with the caller's location. If a NANP TN is used as an ESRD or ESRK, this number cannot be assigned to a customer.

Enhanced 9-1-1 (E9-1-1)

A location technology advanced by the FCC that will enable mobile, or cellular phones to process 911 emergency calls and enable emergency services to locate the geographic position of the caller

.

Forced Disconnect

The capability of a PSAP attendant to disconnect a 9-1-1 call even if the calling party remains off-hook. This feature is used to prevent overloading of 9-1-1 trunks.

Geographic Information System (GIS)

A computer software system that enables one to visualize geographic aspects of a body of data. It contains the ability to translate implicit geographic data (such as a street address) into an explicit map location, query and analyze date in order to receive the results in the form of a map. It can also be used to graphically display coordinates on a map, i.e. Latitude/Longitude from a wireless 9-1-1 call.

Global Positioning System (GPS)

A satellite based Location Determination Technology (LDT).

Internet Protocol (IP)

The method by which data is sent from one computer to another on the internet or other networks.

Manual Transfer

The capability of a PSAP attendant to transfer a 9-1-1 call to another location by manually dialing the destination number or speed dialing code.

MSAG Master Street Address Guide

A data base of street names and house number ranges within their associated communities defining Emergency Service Zones (ESZ) and their associated Emergency Service Numbers (ESN) to enable proper routing of 9-1-1 calls.

Misroute

Any condition that results in the 911 call going to the wrong PSAP. A call can be misrouted if the ESN and associated routing information are incorrect in the E9-1-1 data base and/or tandem data base. A call can also be misrouted if the call is an ANI failure, which automatically default routes.

Multi-line Telephone System (MLTS)

A system comprised of common control unit(s), telephone sets, and control hardware and software.

Multi-line Telephone System (MLTS) Operator

The entity that either owns, or leases/rents from a third party, and operates a MLTS through which a caller/person may place a 9-1-1 call through the public switched network.

N911 Assignments

The FCC has assigned several three-digit numbers for emergency and non-emergency access, and has posted a complete explanation on their Web site.

Next Generation 9-1-1 (NG9-1-1)

Refers to an initiative aimed at updating the 9-1-1 service infrastructure in the United States and Canada to improve public emergency communications services in a wireless mobile society. In addition to calling 9-1-1 from a phone, it intends to enable the public to transmit text, images, video and data to the PSAP.

Night Service

Night service works the same as alternate routing in that the calls coming into a given PSAP will automatically be routed to another preset PSAP when all trunks are made busy due to the PSAP closing down for the night.

No ANI

This condition means the PSAP received a call, but no telephone number displayed on the ANI console. The PSAP should report this condition immediately to the SSC/MAC.

No Displays

A condition where the PSAP ALI display screen is blank. This type of trouble should be reported immediately to the SSC/MAC. If all screens at the PSAP are blank, it is an indication that the problem is in the circuits from the PSAP to the E9-1-1 computer. If more than one PSAP is experiencing no display, it may be a problem with the Node computer or the E9-1-1 computer. The SSC/MAC should contact the MMOC to determine the health of the HOST computer.

No Record Found (NRF)

A condition where no ALI information is available for display at the PSAP.

North American Numbering Plan (NANP)

Use of 10 digit dialing in the format of a 3 digit NPA followed by 3 digit NXX and 4 digit line number.

One-button-transfer

The capability of a PSAP attendant to transfer a 9-1-1 call to a pre-determined location by activating a single button.

PSAP

Public Safety Answering Point, usually the police, fire and/or rescue groups as determined by the local municipalities. A "ringing" will not have ANI or ALI capabilities, but just receives calls or transferred calls from another PSAP.

PSAP Not Receiving Calls

If a PSAP cannot receive calls or request retrievals from the E9-1-1 host computer, i.e., cable cut, the calls into that PSAP must be rerouted to another PSAP. The Switching Control Center must be notified to reroute the calls in the tandem office E9-1-1 translations.

Record Not Found

If the host computer is unable to do a look up on a given ANI request from the PSAP, it will forward a
Record Not Found message to the PSA ALI screen. This is caused by service order activity for a given subscriber not being processed into the E9-1-1 data base, or HOST computer system problems whereby the record cannot be accessed at that point in time

Selective Routing

The capability to route a call to the particular PSAP serving the address associated with the TN making the 911 call. Selective routing is achieved by building TN/ESN translations in the tandem central office. These translations are driven by the E9-1-1 data base which assigns the ESN to each telephone number based on the customer's address. Service order activity keeps the E9-1-1 data base updated. The E9-1-1 data base, in turn, generates recent change to the tandem office (through the SCC or RCMAC) to update the TN/ESN translations in the tandem data base.

Selective Transfer

Provides the PSAP with the ability to transfer the incoming 911 call to a fire or rescue service for the particular number calling 911 by pushing one button for fire or rescue. For example, if an incoming 911 call was reporting a fire, the PSAP operator would push the fire button on the ANI console; the call would go back to the tandem office, do a lookup for the seven digit number associated with fire department, for the ESN assigned to the calling TN, and automatically route the call to that fire department. This differs from "fixed" transfer which routes every call to the same fire or rescue number whenever the fire or rescue button is pushed. The PSAP equipment is optioned to provide either fixed or selective transfer capabilities.

Spurious 911 Call

Occasionally, the PSAP will get a call that is not associated with a subscriber dialing 911 for an emergency. It could be a subscriber who has not dialed 911, but is dialing another number, or has just picked up their phone and was connected with the PSAP. These problems are equipment related, particularly when the calls originate from electromechanical or step by step offices, and are reported by the E9-1-1 Center to Network Operations upon receipt of the PSAP inquiry reporting the trouble. The PSAP may get a call and no one is there; if they call the number back, the number may be disconnected or no one home. Again these are network troubles and must

be investigated. Cordless telephones can also generate "spurious" calls in to the PSAPs. Generally, the PSAP will hear conversation on the line, but the subscribers are not calling 911. The PSAP may report spurious calls to repair if they become bothersome, for example, the same number ringing in continually.

Telecommunications Device for the Deaf (TDD/TTY)

A device capable of information interchange between compatible units using a dial up or private line
telephone network connection as the transmission medium and automatically detects TDD/TTY tones.

Voice over Internet Protocol, Voice over IP (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.

Wireless Phase I

Required by FCC Report and Order 96-264 pursuant to notice of Proposed Rulemaking (NPRM) 94-102. The delivery of a wireless 9-1-1 call with callback number and identification of the cell-tower from which the call originated. Call routing is usually determined by call-sector.

Wireless Phase II

Required by FCC Report and Order 96-264 pursuant to notice of Proposed Rulemaking (NPRM) 94-102. The delivery of a wireless 9-1-1 call with Phase I requirements plus location of the caller within 125 meters 67% of the time and Selective Routing based upon those coordinates.

APPENDIX 3 - WIRELESS CARRIERS IN CUYAHOGA COUNTY

As of the approval of this document, the following wireless carriers were operating in Cuyahoga County.

AT&T
Lawson Dripps
8089 South Avenue
Boardman, OH 44512
(513)657-6270
LD6216@att.com

T-Mobile
Lynn Mell
12920 SE 38th Street
Bellevue, WA 98006
(425) 378-4898
lynn.mell@T-Mobile.com

Sprint PCS
Terrence Phillips
US OP01 2D650
6100 Sprint Parkway
Overland Park, KS 66251
(913) 253-4762
Terrence.Phillips@ericsson.com

Verizon Wireless
Peter McHale
1 Verizon Place, GA3B1REG
Alpharetta, GA 30004
(678) 339-4116
Peter.McHale@VerizonWireless.com

APPENDIX 4 – FUNDING SCENARIOS FOR RELOCATION/CONSOLIDATION

SCENARIO	COSTS TO AGENCY (not all may apply)	COSTS COVERED BY COUNTY (not all may apply)
Relocation or renovation with no change in PSAP's agency membership	Purchase of any additional 9-1-1 hardware	NONE
	Monthly maintenance costs for additional 9-1-1 hardware	
	Fees for relocation/decommission of existing 9-1-1 hardware	
	Installation of new network circuit	
	Relocation of current network circuit, if possible	
	Additional network circuits (more than 1)	
	Circuit upgrades (increase in mbps)	
	Early termination fees for network circuit	
	Any monthly network cost in excess of current paid by County	
	Cuyahoga County costs of administration and invoicing	
Relocation for the purpose of consolidation, and resulting consolidated PSAP has more than one (1) but less than five (5) agencies	Purchase of additional 9-1-1 hardware	AT&T circuit install/relocation
	Monthly maintenance costs for additional 9-1-1 hardware	Monthly costs for network circuit
	Fees for relocation/decommission of 9-1-1 hardware	Early termination fee for network circuit
	Additional network circuits (more than 1)	
	Any monthly recurring network cost in excess of current paid by County	
Relocation for the purpose of consolidation, and resulting consolidated PSAP has five (5) or more agencies	Purchase of additional 9-1-1 hardware	9-1-1 hardware relocation fee
	Monthly maintenance costs for additional 9-1-1 hardware	network circuit relocation/installation
	Additional/redundant network circuit (more than 1)	Monthly costs for network circuit
		Early termination fee for network circuit
		Circuit upgrade monthly cost (increase in mbps)

Relocation resulting in separation of member agencies; i.e. reduction in consolidation	Relocation or decommission of 9-1-1 hardware	NONE
	Monthly maintenance for 9-1-1 hardware	
	Relocation of current network circuit	
	Installation of new network circuit	
	Installation of additional network circuit (more than 1)	
	Early termination fee for network circuit	
	Cuyahoga County costs of administration and invoicing	
PSAP withdraws from the Countywide 9-1-1 system	Decommission of call-processing hardware	NONE
	Relocation or installation of network CAMA trunks	
	Network circuit early termination fees	
	Any costs associated with the system transition	
Private PSAP joins the Countywide 9-1-1 system	Purchase and installation of call-processing hardware	NONE
	Monthly maintenance costs for call-processing hardware, per position	
	network circuit installation	
	network circuit monthly costs	
	Any other costs associated with integration into County system	

Chapter 5507-1 | 9-1-1 Public Safety Answering Points

Ohio Administrative Code/5507

Rule 5507-1-01 | Purpose.

Effective: August 20, 2021 Promulgated Under:119.

In the course of providing citizens with their most vital link to emergency response, 9-1-1 public safety answering points ("PSAP's") in the state of Ohio shall comply with technical and operational standards and recognize and promote best practices that will provide consistent, quality service by well trained personnel utilizing a high level of secure technology.

Last updated August 20, 2021 at 8:52 AM
Supplemental Information
Authorized By: 128.021
Amplifies: 128.021
Five Year Review Date: 8/20/2026
Prior Effective Dates: 5/12/2016

Rule 5507-1-02 | Scope.

Effective: May 12, 2016 Promulgated Under:119.

These operational standards apply to all public safety answering points (PSAP) eligible to receive disbursements through section 128.55 of the Revised Code.

Last updated June 3, 2021 at 8:07 AM
Supplemental Information
Authorized By: 128.021
Amplifies: 128.021
Five Year Review Date: 5/12/2026

Rule 5507-1-03 | Definitions.

Effective: August 20, 2021 Promulgated Under:119.03

(A) Public Safety Answering Point (PSAP), as defined in section 128.01 of the Revised Code, means a facility to which 9-1-1 requests for service for a specific territory are initially routed for response and where personnel respond to specific requests for emergency service by directly dispatching the appropriate emergency service provider, relaying a message to the appropriate provider, or transferring the call to the appropriate provider. For purposes of this chapter, PSAP's are divided into two types, primary PSAP and secondary PSAP.

(1) Primary PSAP: An abbreviation for a public safety answering point that operates on a twenty-four hour basis; and whose primary function is to receive incoming wireless and wireline 9-1-1 request for emergency assistance and relay those requests to an appropriate responding public safety responder or agency.

(2) Secondary PSAP: An abbreviation for a public safety answering point that operates as a dispatch center for a public safety agency and receives rollover and/or transferred wireless, and direct or rollover and/or transferred wireline 9-1-1 requests.

(B) Telecommunicator: Anyone who answers 9-1-1 service requests for public assistance at both a primary or secondary PSAP.

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Rule 5507-1-04 | Periodic review.

Effective: May 12, 2016 Promulgated Under:119.03

The office of the 9-1-1 administrator, in partnership with the local 9-1-1 coordinators and PSAP managers, shall periodically review these standards and make recommendations for addition, deletion, and/or revision of these standards to the state ESINet steering committee.

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Five Year Review Date: 5/12/2026

Rule 5507-1-05 | Minimum staffing.

Effective: May 12, 2016 Promulgated Under:119.03

A minimum of two telecommunicators must be on duty and available to receive and process calls at all times. For 9-1-1 systems with automatic rollover to a secondary PSAP, the secondary PSAP fulfills this obligation.

The PSAP shall ensure employment of a sufficient number of telecommunicators to allow for prompt receipt and processing of emergency calls in accordance with established call answering standards. The PSAP may participate in a virtual PSAP system where calls are automatically routed to one of multiple facilities within the system.

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Rule 5507-1-06 | Prioritization.

Effective: August 20, 2021 Promulgated Under:119.03

The PSAP shall provide standard operating procedures that ensure telecommunicators prioritize emergency functions over non-emergency functions and include the following:

(A) 9-1-1 requests for service are always an emergency function.

(B) When calls need to be transferred to another PSAP:

(1) An advisement to the caller to remain on the line as well as notification to the caller of the PSAP to which they are being transferred.

(2) That the transfer will be initiated without delay.

(3) That the telecommunicator will remain on the line during the transfer to ensure the caller is properly connected.

(4) A recommendation that, if at all possible, the following information be relayed to the receiving PSAP once the transfer is complete:

(a) Name of the agency making the transfer

(b) Location of the emergency

(c) Nature of the call

(d) Call back number

(e) Known safety information

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Rule 5507-1-07 | Minimum training standards.

Effective: August 20, 2021Promulgated Under:119.03

(A) The state ESINet steering committee shall oversee the development, implementation and revision of minimum training standards for telecommunicators who answer and process 9-1-1 requests for service in the state of Ohio and ensure they are

kept up to date with industry standards. Resources to consult with include the national emergency number association, the association of public safety communication officials, the United States department of transportation and other industry resources.

(B) The office of the 9-1-1 administrator will establish a process for certifying that telecommunicators meet the minimum training requirements contained in this rule.

(C) Any person who answers 9-1-1 requests for service shall be trained to the minimum training standards before handling such 9-1-1 requests without direct oversight.

(D) The components of the minimum training program required are listed in this paragraph. Agencies can utilize a commercially available program that contains these components, or develop a local training program that contains the required instructional components. Training will consist of a minimum of forty hours of instruction.

(1) Component 1 - general knowledge

(a) Knowledge and awareness of population and demographics

(b) Knowledge and awareness of geography

(c) Knowledge and awareness of first responder agencies and their jurisdictions

(d) Knowledge and awareness of the incident command system (ICS), national incident management system (NIMS), federal, state and local interoperable communication plans and federal, state and local emergency operations plans

(2) Component 2 - general skills

(a) Ability to quickly process information and make logical decisions

(b) Stress management

(c) Provide good customer service

(d) Multi-task in a fast-paced environment

(e) Work effectively with others to solve problems

(f) Communicate clearly in written and oral form, especially when relaying emergency information to first responders or communicating with the public requesting emergency assistance

(g) Ability to operate and/or respond to emergency alerts, including but not limited to amber, blue, missing adult, and emergency weather alerts

(h) Ability to achieve and maintain certification and operate applications and databases necessary to answer and process 9-1-1 requests for service

(3) Component 3 - agency skills

(a) Ability to operate agency computer equipment

(b) Ability to operate agency telecommunication equipment

(c) Ability to operate agency computer applications and systems

(d) Ability to read, comprehend and apply agency policies and procedures

(4) Component 4 - call taking skills

(a) Ability to answer and process calls in accordance with established procedures

(b) Ability to obtain complete information

(c) Ability to properly classify and prioritize the request for service

(d) Ability to process available information to identify conditions that may affect safety

(e) Ability to document call details accurately

(f) Ability to accurately verify, document and relay initial dispatch information

(g) Ability to handle/de-escalate hostile, hysterical or difficult callers to obtain information

(h) Ability to initiate emergency call tracing procedures and subscriber information requests in exigent circumstances

(i) Ability to recognize phase 1 versus phase 2 location technology, understanding how to use both

(j) Understanding the procedures for processing and responding to text messages, photos and video sent to 9-1-1, if applicable

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Rule 5507-1-08 | Continuing training standards.

Effective: August 20, 2021 Promulgated Under:119.03

(A) The state ESINet steering committee shall oversee the development, implementation and revision of continuing training standards for telecommunicators in the state of Ohio and ensure they are kept up to date with industry standards. Resources to consult will include the national emergency number association, the association of public safety communications officials, the United States department of transportation and other industry sources.

(B) The office of the 9-1-1 administrator will establish a process to certify that telecommunicators meet the continuing training requirements established by the committee.

(C) Any person working in a PSAP and receiving 9-1-1 requests for service shall be required to meet the continuing training standards as follows:

Annually, before the first day of February of each calendar year, the office of the 9-1-1 administrator will distribute subject matter of timely, industry standard educational information. The distribution will be in the form of an instructional video, curriculum package or train-the-trainer package to all county 9-1-1 coordinators. The training will constitute a two-hour training block to be completed by all 9-1-1 telecommunicators subject to this chapter.

All 9-1-1 telecommunicators subject to this chapter will also complete six hours annually of additional job relevant training, as determined by the local PSAP manager. The PSAP operations subcommittee will annually provide a list of recommended training topics and/or resources online through the office of the 9-1-1 administrator.

(D) Each PSAP is responsible for maintaining training records for individual telecommunicators and to make those records available upon request to the county 9-1-1 coordinator and/or the office of the 9-1-1 administrator.

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Rule 5507-1-09 | Emergency medical dispatching.

Effective: August 20, 2021 Promulgated Under:119.03

(A) The PSAP is required to provide emergency dispatching either:

(1) By establishing an emergency medical dispatching protocol, that provides pre-arrival instruction, through a recognized training provider that meets the standards as set forth by the United States department of transportation, and includes certified emergency medical dispatchers; or

(2) By establishing a local emergency medical dispatching protocol approved by the local medical authority, that provides pre-arrival instruction and includes specifically trained emergency medical dispatchers; or

(3) By agreement with a third party emergency medical dispatch provider that can be conferenced on with the caller during an emergency.

(B) If the PSAP does not provide emergency medical services dispatching, the PSAP may meet this requirement by having an agreement in place to transfer the call to a center that provides emergency medical dispatching in compliance with paragraph (A)(1) or paragraph (A)(2) of this rule.

(C) Any person who answers 9-1-1 requests for service shall be trained in the agency's emergency medical dispatching protocol before handling such requests without direct oversight.

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Rule 5507-1-10 | Emergency power.

Effective: May 12, 2016 Promulgated Under:119.03

(A) The PSAP shall have a minimum one alternate/emergency power supply capable of supporting (maintaining) 9-1-1 call handling/processing equipment and necessary related public safety (communications) services for a minimum of twenty-four hours.

(B) An uninterrupted power supply (UPS) and battery system shall be installed and sufficient enough to prevent power surges and provide continuous power to essential 9-1-1 equipment until the generator or other backup power source can fully activate.

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Rule 5507-1-11 | Security.

Effective: August 20, 2021 Promulgated Under:119.03

(A) 9-1-1 personnel and equipment shall be housed in a secure location with appropriate measures taken to allow access to authorized personnel only.

(B) A facility housing a 9-1-1 answering point shall have an emergency operation plan (EOP), evacuation plan and a continuity of operation plan (COOP) for the continued operation of the 9-1-1 center and its staff, each of which contemplates the response to all relevant natural and human made disasters that may strike the facility, including but not limited to power failure, fire, severe weather, building evacuations, and gas leaks.

Additionally, each plan should include the process for re-routing of 9-1-1 requests for service, where they will be answered, and by whom.

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Rule 5507-1-12 | Minimum capability.

Effective: May 12, 2016 Promulgated Under:119.03

(A) A 9-1-1 answering point shall have multiple methods of notification to response agencies.

(B) A 9-1-1 answering point shall have a minimum of two 9-1-1 "lines" and two 9-1-1 answering devices in addition to a minimum of one "line" available for outbound dialing only.

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Rule 5507-1-13 | Temporary PSAP.

Effective: May 12, 2016 Promulgated Under:119.03

The temporary PSAP is a PSAP that has been established to provide 9-1-1 service for a defined geographic area for a limited time/duration under the following circumstances:

(A) A planned special event with a defined duration (example: convention, sporting event, state/county/local fair).

(B) An unplanned situation requiring a temporary relocation of an existing PSAP.

(C) Any natural or man-made disaster or public safety critical incident or special operation requiring localized incident management/command post operation where establishing a temporary PSAP would benefit citizens and/or public safety responders.

When a temporary PSAP is established for an unplanned event/emergency, mandated standards shall become best practices applicable to the temporary PSAP for the duration of the emergency.

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Rule 5507-1-14 | Call processing software.

Effective: May 12, 2016 Promulgated Under:119.03

The PSAP will provide telecommunicators with software, including mapping, to assist in initiating calls for service, dispatching, and maintaining the status of responding resources in the field and the archiving of incident information.

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Rule 5507-1-15 | Logging/recording.

Effective: August 20, 2021 Promulgated Under:119.03

(A) The PSAP will have the capability of logging/recording 9-1-1 requests for service including voice, data, video and other media, if used.

(B) The PSAP will retain recordings in accordance with state law and local records retention requirements.

(C) The PSAP will provide telecommunicators the capability to instantly play back recent 9-1-1 requests.

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Rule 5507-1-16 | Graphical information systems.

Effective: August 20, 2021 Promulgated Under:119.03

(A) PSAP's should utilize map data that meets or exceeds the Ohio location based response system data specification for road center lines and addressable structures.

(B) Geographical information systems should, at a minimum, include road center lines, emergency service zone and/or responding entity polygons, and PSAP boundary polygons.

(C) The PSAP shall have the ability to electronically accept, display and plot caller location data on an electronic map display. Any application that allows the PSAP to automatically accept, display and plot caller location data on an electronic map display is acceptable.

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Rule 5507-1-17 | Statistical analysis.

Effective: August 20, 2021 Promulgated Under:119.

The PSAP will collect, analyze and report the following statistics:

(A) Total 9-1-1 call volume.

(B) 9-1-1 calls by hour of the day.

(C) 9-1-1 calls by day of week.

(D) 9-1-1 call ring/answer times.

(E) 9-1-1 abandoned call counts.

(F) 9-1-1 calls by type (wireline/wireless/VoIP/etc.).

(G) All other data a required by the ESINet steering committee or the state 9-1-1 administrator.

The PSAP will compile and review this data and make it available to their local 9-1-1 coordinator upon request. The 9-1-1 coordinator will be responsible for reporting this data on an annual basis to the office of the state 9-1-1 administrator during their annual support and compliance review, or at other times upon request of the office of the 9-1-1 administrator.

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Rule 5507-1-18 | Minimum call answering standards.

Effective: August 20, 2021 Promulgated Under:119.03

Ninety percent of 9-1-1 calls/requests received will be answered within fifteen seconds; with ninety-five per cent of 9-1-1 calls/requests received being answered within twenty seconds. For the purposes of determining compliance, all calls, including abandoned or unanswered calls, are factored in the calculation of the performance metric.

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Rule 5507-1-19 | Rules enforcement.

Effective: August 20, 2021 Promulgated Under:119.03

(A) When a PSAP is found out of compliance with any rule contained in this chapter, the office of the state 9-1-1 administrator will make contact with the county 9-1-1 coordinator and offer assistance in complying with the rule. The state 9-1-1 administrator will also notify the county 9-1-1 planning committee of a sixty-day time period to correct the issue and achieve compliance.

(B) When the state 9-1-1 administrator concludes that a PSAP has not achieved compliance within the sixty-day time period, the office of state 9-1-1 administrator will notify the county 9-1-1 coordinator that the administrator finds the county out of compliance and county 9-1-1 coordinator will be scheduled for appearance before the ESINet steering committee within sixty days. The ESINet steering committee will review the issue, hear from the interested parties and make a formal determination of whether the PSAP is out of compliance with the established rule.

(C) When a finding of non-compliance has been determined by the ESINet steering committee as outlined in paragraph (B) of this rule, the county 9-1-1 coordinator will, within thirty days, formulate and submit a written response outlining the county's plans to reach compliance.

(D) The ESINet steering committee will review the submitted plan outlined in paragraph

(C) of this rule and determine a date by which the county must come into compliance.

(E) If the county has not reached compliance by the date set in paragraph (D) of this rule, the office of the state 9-1-1 administrator will notify the department of taxation to suspend wireless 9-1-1 government assistance funding to the affected county until such time as the county returns to compliance. The funding suspension is for the entire county, as the county has sufficient authority to compel compliance at the local PSAP.

(F) Upon written notification of compliance by the county 9-1-1 coordinator, the office of state 9-1-1 administrator will, without unnecessary delay, verify compliance. If compliance is confirmed, the office of the state 9-1-1 administrator will notify the department of taxation to resume the funding to the county from the wireless 9-1-1 government assistance fund. No escrow or suspended funds will be restored to the county for the period of the suspension.

(G) The ESINet steering committee serves as the final authority in determining when the PSAP has achieved compliance.

(H) For purposes of this chapter, the office of the state 9-1-1 administrator has the exclusive authority to audit and review PSAPs for compliance.

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