



9-1-1 Technology Roadmap

Date Approved: August 13, 2025

Version: 2.0

Vision

- To build a resilient, interoperable, and future-ready emergency communications system that ensures rapid response, seamless coordination, and public safety across Oklahoma.

Strategic Priorities

1. Statewide Mapping & GIS Integration

Objective

- Establish a unified, accurate, and continuously updated statewide GIS dataset to support 9-1-1 operations.

Key Actions

- Standardize address data collection and maintenance across jurisdictions.
- Deploy a central GIS repository accessible by all PSAPs.

Pros

- Improves caller location accuracy and response times.
- Creates consistency and eliminates data silos.
- Supports Next Generation 9-1-1 (NG9-1-1) compliance.

Cons

- High upfront cost for data remediation and repository setup.
- Requires ongoing coordination between multiple agencies.

2. Satellite Emergency Communication Infrastructure

Objective

- Ensure uninterrupted emergency communication during outages of terrestrial networks.

Key Actions

- Identify strategic locations where emergency satellite terminals can be available.
- Train staff on usage, testing, and maintenance.
- Develop a policy for deployment, usage, and operational needs.

Pros

- Provides redundancy during outages of cellular and landline systems.
- Critical for rural, remote, and disaster-affected areas.
- Independent of terrestrial infrastructure.

Cons

- Ongoing subscription and service costs can be high.
- Limited coverage indoors or in heavily obstructed areas.
- Requires periodic testing to maintain readiness.

3. Push-to-Talk (PTT) Technologies

Objective

- Enable secure, real-time voice communication across agencies and jurisdictions.

Key Actions

- Deploy PTT over LTE and/or LTE/FirstNet for interoperable communication.
- Integrate with legacy radio systems to ensure compatibility.
- Establish common talk groups and protocols for multi-agency incidents.
- Ensure the application and device are vendor agnostic.

Pros

- Faster coordination between agencies and responders.
- Scalable and cost-effective compared to traditional radio systems.
- Enhances interoperability during multi-jurisdictional incidents.

Cons

- Dependent on cellular/LTE coverage for reliability.

- May require device upgrades or new equipment.
- User adoption and training are critical for success.

4. CAD-to-CAD

Objective

- Deploy a CAD-to-CAD model that allows all PSAPs within the State of Oklahoma to connect their CAD systems to a centralized hub.

Key Actions

- Establish seamless CAD-to-CAD interoperability between:
 - Public Safety Answering Points (PSAPs)
 - Emergency Communications Centers
 - Response agencies
- Improve incident response coordination across jurisdictions.
- Reduce call-processing delays.
- Eliminate redundant data entry.
- Enhance situational awareness for all participating entities.
- Utilize a cloud-hosted design to eliminate single points of failure for all participants.

Pros

- Faster dispatch and response times.
- Elimination of duplicate call entry.
- Improved accuracy and situational awareness.
- Better data for analytics and quality assurance.
- Stronger mutual aid and interoperability.

Cons

- High maintenance fees.
- Complex integration.
- Increased points of failure.
- Training challenges.
- Data duplication and/or conflicts.
- Multiple interfaces increase exposure to cybersecurity attacks.

5. Computer-Aided Dispatch (CAD)

Objective

- Deploy Computer-Aided Dispatch (CAD) systems for all PSAPs to support effective emergency response operations.

Key Actions

- Provide a cost-effective, cloud-hosted CAD platform that supports resource management and call-for-service tracking, with reporting capabilities to a database managed by OSBI.
- Support optional, upgradeable features, including:
 - Two-tone and fire station alerting
 - NCIC records checks with multi-factor authentication (MFA)
 - 9-1-1 CHE integration
 - Paging capabilities
 - iOS and Android mobile applications with AVL/GPS

Pros

- Provides a true CAD solution to agencies that currently lack one.
- Upgradeable and compatible with other systems already in use statewide.
- Cloud-hosted architecture increases uptime during outages or COOP activations.
- Faster implementation compared to on-premises solutions.
- Improves data security while eliminating the need for individual agencies to maintain primary databases.
- Data can be replicated to an OSBI-hosted server to support statewide and agency-specific reporting.
- Agencies are not required to purchase features they do not need or cannot afford.

Cons

- Even with modular, upgradeable features, the overall cost may remain significant.
- Training requirements are both a benefit and a challenge; training documentation must be developed and maintained and should not be the sole responsibility of the vendor.
- A governance body will be required to make configuration, policy, and operational decisions.
- Participating agencies must reach consensus on standardized call type codes, unit naming conventions, and administrative access protocols.

6. Call Handling Equipment (CHE)

Objective

- Implement standardized, NG911-compliant Call Handling Equipment (CHE) that meets the NENA i3 Standard, enabling Public Safety Answering Points (PSAPs) to receive, process, and manage emergency communications over an IP-based network while improving interoperability, resiliency, cybersecurity, and support for current and future emergency communication technologies.

Key Actions

- Develop statewide CHE standards to ensure interoperability.
- Procure a list of state approved CHE vendors that meets current NENA i3 standard.
- Integrate CHE with the Emergency Services IP Network (ESInet) and Next Generation Core Services (NGCS).
- Develop migration plans to minimize service interruptions during cutover. interoperability and acceptance testing prior to deployment.

Pros

- Supports voice, text-to-911, images, video, and future multimedia communications.
- Improves interoperability between PSAPs and neighboring jurisdictions.
- Enables seamless transfer of calls and associated data.
- Supports remote call-taking during emergencies or disasters.
- Improves caller location accuracy through NG911 data integration.
- Reduces reliance on aging legacy telephone infrastructure.

Cons

- Significant upfront procurement and implementation costs.
- Requires reliable, redundant broadband connectivity.
- Training requirements for telecommunicators and technical staff.
- Migration may temporarily increase operational workload.
- Vendor interoperability may vary without standardized requirements.
- Ongoing software licensing and maintenance costs.
- Cybersecurity responsibilities increase as systems become more IP-based.