



NG9-1-1 COST IMPACT ANALYSIS

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ABOUT THIS DOCUMENT

The purpose of this report is to provide Atlantic County with an informed projection of the costs and funding responsibilities that municipalities operating individual PSAPs will face when preparing for NG9-1-1 connectivity—compared to those under a centralized, county-managed PSAP model.

Reference

- Change order: **“NG9-1-1 Cost Impact Analysis | Atlantic County PSAPs Versus Centralized Model”** executed June 17, 2025.
- “Centralized Fire/EMS Dispatch Center Feasibility Study” dated May 28, 2025, by ADCOMM Engineering LLC.
- Agreement K.24.02 between the County of Atlantic and ADCOMM Engineering LLC signed 13th day of February 2024, based on Resolution 16 on 1/16/24 Feasibility Study of Centralized Fire/EMS and 9-1-1 Call Center in Atlantic County.
- ADCOMM response to Centralized Fire/EMS Dispatch and 9-1-1 Call Center Feasibility Plan RFP202334.3 dated November 29, 2023.
- RFP No.: RFP202334.3 Centralized Fire/EMS Dispatch and 9-1-1 Call Center Feasibility Plan released.

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EXECUTIVE SUMMARY

This “NG9-1-1 Cost Impact Analysis” is an add-on study that supplements the previously completed **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** by evaluating the financial implications of **Next Generation 9-1-1 (NG9-1-1)** transition for Atlantic County and its 13 municipal public safety answering points (PSAPs). The focus is on cost modeling, funding responsibilities, scalability, and transitional needs.

Summary of Key Cost and Funding Findings

Analysis indicates that upgrading a typical municipal PSAP to NG9-1-1 capabilities would cost **\$1.5 million to \$2 million per site**, including IP-capable CPE, GIS readiness, CAD integration, network security hardware, multimedia handling, and logging recorder enhancements. Extrapolated across 13 PSAPs, the municipal model could total **\$19 million to \$26 million** in upfront technology investments, exclusive of staffing or ongoing operational costs. These estimates are based on benchmarks and extrapolations; data from individual municipal PSAPs was **limited in scope**, constraining the precision of cost projections.

By contrast, the **county centralized model** described in the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** projected capital costs of approximately **\$12 million to \$15 million** for a fully consolidated facility, plus annual operations of **\$1.3 million to \$3.3 million**. This model leverages shared infrastructure, a unified CAD and CPE environment, and coordinated staffing, resulting in lower per-position cost growth and reduced redundancy.

Core Recommendation: Centralized Versus Municipal Investment

The municipal model allows communities to retain autonomy and familiarity with local systems, but it risks uneven technology refresh cycles, fragmented funding responsibility, and higher aggregate costs. The centralized model offers stronger long-term sustainability, more consistent service delivery, and greater investment efficiency. Based on comparative analysis, the **centralized model remains the recommended path** for Atlantic County, provided that municipal stakeholders are engaged and adequately represented in governance structures.

Key Takeaways for County and Municipal Leadership

- **Investment Efficiency:** Centralization minimizes duplicative spending and scales more effectively as population and call volumes grow.
- **Funding Strategies:** Atlantic County should pursue a layered approach:
 - **Federal NG9-1-1 Grant Program** for core service upgrades.
 - **New Jersey Shared Services Program** for consolidation and interoperability costs.
 - **FEMA and DHS grant programs** for cybersecurity and interoperability.
 - Local matching or cooperative agreements for ongoing operational support.

- **Transitional Needs:** Critical non-capital requirements such as training, vendor licensing, interface adjustments, and temporary dual-system support carry risks of being underfunded if not explicitly planned.

Next Steps: Municipal and county leaders should jointly prioritize:

1. Establishing a **funding responsibility framework** (Appendix D).
2. Coordinating **grant applications** to avoid duplication or missed opportunities.
3. Developing a **phased migration roadmap** that accounts for interoperability, staffing flexibility, and incremental technology adoption.

In conclusion, while municipal upgrades remain technically feasible, the **financial efficiency, operational consistency, and interoperability benefits of centralization** outweigh the costs of maintaining multiple PSAPs. County and municipal leaders should view this as an opportunity to align resources strategically while positioning Atlantic County for a sustainable NG9-1-1 future.

1. INTRODUCTION

This analysis was commissioned to build upon the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** by ADCOMM Engineering, LLC, which evaluated the costs, governance, and operational implications of transitioning Fire and EMS dispatching to a single, countywide model. That study provided detailed cost estimates—approximately **\$12 to \$15 million in capital costs** and **\$1.3 to \$3.3 million in recurring annual operational costs**—to implement a centralized model.

The purpose of this follow-on report is to examine an alternate path: maintaining the existing **13 municipal public safety answering points (PSAPs)** as the delivery model for Next Generation 9-1-1 (NG9-1-1) services. Specifically, it seeks to provide a **cost comparison** of municipal versus centralized models, clarify **funding responsibilities** at state and local levels, and identify **unfunded transitional needs** that risk being overlooked if not proactively addressed.

1.1 Connection to the 2025 Atlantic County Fire/EMS Dispatch Feasibility Study

The **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** established a baseline for capital, operational, and staffing needs if Atlantic County were to consolidate dispatch operations. This current report provides a comparative perspective by focusing on the **municipal model** as the counterpoint. The combined body of work allows county and municipal leadership to make more informed decisions about the future of 9-1-1 service delivery, balancing **investment efficiency, funding sustainability, and regional coordination**.

However, it is important to note that the **scope of this analysis was limited**. The 13 municipal PSAPs did not participate directly in providing detailed cost data, technology readiness assessments, or operational projections. As a result, municipal data included here is **limited rather than absent** and is therefore not sufficient to generate fully precise cost projections. This limitation impacts the certainty of municipal model estimates and should be considered in decision-making.

1.2 Overview of NG9-1-1 Drivers and Mandates

NG9-1-1 implementation is driven by national and state mandates to transition from legacy analog systems to **IP-based emergency communications networks**. The transition is not optional and will require every PSAP in Atlantic County—whether centralized or municipal—to upgrade to:

- **IP-capable call handling equipment (CPE)**
- **Geospatial (GIS) integration and coordination**
- **Computer-aided dispatch (CAD) interoperability**
- **Multimedia call handling (text, video, images)**

- **Network security and resiliency measures**
- **Logging recorder enhancements for IP environments**

These requirements are reinforced by state-level commitments in New Jersey to provide **core NG9-1-1 services (e.g., ESInet, core call routing)**, while leaving **local equipment, staffing, and training** responsibilities to individual PSAPs.

1.3 Big Picture Context

Placed within the broader framework, this report supports **Atlantic County's long-term strategic planning** by evaluating the financial and operational impact of two potential paths forward:

- Continuing with the **municipal PSAP model**, requiring 13 separate upgrade investments; or
- Advancing a **countywide centralized model**, aligning with national consolidation trends and offering potential cost savings and interoperability gains.

Both options must align with **state NG9-1-1 deployment timelines, federal interoperability goals, and available grant funding strategies**. The decision will directly affect the County's ability to maintain **efficient, sustainable, and resilient emergency communications** for its residents and visitors.

2. TECHNOLOGY BASELINE AND FUNDING RESPONSIBILITIES FOR NG9-1-1 TRANSITION

2.1 Technology and Readiness of Atlantic County PSAPs

The **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** documented that the County's PSAPs operate with **uneven technology maturity and NG9-1-1 readiness**. While some centers have made incremental upgrades toward IP-capable CPE and CAD systems, others continue to rely on legacy or vendor-limited platforms. For example:

- Certain municipal PSAPs maintain **CPE platforms that are NG-capable**, while others still depend on **older analog-based call handling solutions**, creating inconsistency across the county.
- CAD system deployment is **fragmented**, with multiple vendors and varying levels of integration, limiting regional coordination and increasing lifecycle costs.
- Backup and redundancy capabilities vary; some PSAPs rely on ad hoc arrangements rather than structured, countywide resiliency measures.

By contrast, **Charleston County (South Carolina)** has demonstrated the benefits of a consolidated and regionally funded approach, with fully redundant IP-based systems and a strong governance model. **Hunterdon County (New Jersey)** represents a more typical New Jersey experience — partial modernization coupled with reliance on municipal-level procurement and budgeting. These comparisons reinforce that Atlantic County's uneven baseline mirrors statewide challenges noted in **Appendix A: Baseline Comparisons** document: fragmented adoption, inconsistent lifecycle management, and the absence of uniform governance.

2.2 Assumptions Used for Cost Modeling

Consistent with **Appendix A: Baseline Comparisons** and **Appendix B: NCTCOG/Dallas regional model**, cost projections for this study are based on the following assumptions:

- **Technology Lifecycle:** CAD, CPE, and related infrastructure are assumed to refresh on a 5- to 7-year cycle.
- **NG9-1-1 Transition:** The State will fund the ESInet and Core Services, while local governments remain responsible for PSAP-level technology, CAD integration, and training.
- **Staffing and Training:** Costs are modeled per-position, using local staffing models (e.g., "Per Position" spreadsheet). These account for training, certification, and QA/QI.
- **Data Limitations:** Not all PSAPs reported detailed cost information (noted in the Fire/EMS Dispatch Study). Key gaps include cybersecurity expenditures, IT overhead, and inconsistent reporting of technology refresh cycles.

Impact of Missing Data: These gaps mean the County's cost model is **directional rather than absolute**. Without standardized reporting across PSAPs, comparisons between municipal versus regionalized operations cannot be quantified with full precision.

2.3 Constraints and Data Limitations

Several constraints affect both baseline understanding and cost modeling:

- **Inconsistent PSAP Reporting:** Municipalities categorize costs differently (e.g., some include IT support in PSAP budgets, others do not), making apples-to-apples comparisons difficult.
- **Vendor-Specific Pricing:** Contract terms vary widely; some PSAPs benefit from regional/state contracts, while others are on stand-alone municipal contracts with higher per-unit costs.
- **NG9-1-1 Readiness Uncertainty:** While some PSAPs have purchased NG-capable systems, others have not, and data on which platforms can interoperate seamlessly with the ESI-net is incomplete.

Impact of Missing Data: The lack of a **comprehensive inventory of PSAP platforms and vendor contracts** creates uncertainty in estimating the true cost of countywide migration. This could overstate or understate the fiscal impact of consolidation or continued municipal operations.

2.4 State Versus Local Funding Responsibilities

Based on the current **New Jersey commitments**¹:

- **State (NJ OIT / 9-1-1 Office):**
 - ESI-net build-out and maintenance.
 - NG Core Services (routing, location validation, GIS hosting).
- **Local (Atlantic County / Municipal PSAPs):**
 - Call handling equipment (CPE).
 - CAD and RMS systems and their integration with NG9-1-1 interfaces.
 - Training, certification, QA/QI programs.
 - Ancillary systems such as logging recorders, fire station alerting, and local radio interfaces.

¹ <https://www.911.gov/issues/ng911>

TABLE 1: Funding Responsibility Matrix

COST ELEMENT	STATE RESPONSIBILITY	LOCAL RESPONSIBILITY	NOTES / DATA GAPS
ESInet	✓		Confirmed NJ commitment
NG Core Services	✓		Routing, GIS, Core functions
Call Handling Equipment (CPE)		✓	Vendor contracts vary; incomplete reporting
CAD/RMS Systems		✓	Fragmented vendor landscape
Training & Certification		✓	Costs modeled per position (Sharon data)
QA/QI Programs		✓	Gaps in consistency and frequency of QA
Logging Recorders / Ancillary		✓	Partial inventory only
Cybersecurity / IT Overhead	(unclear)	(unclear)	Data not reported; unknown division

Impact of Missing Data: The **uncertainty around cybersecurity, IT overhead, and shared services** prevents a complete picture of state versus local funding obligations. These elements may represent significant costs but were not uniformly documented in the Fire/EMS Dispatch Study or PSAP reports.

3. ESTIMATED NG9-1-1 UPGRADE COSTS – MUNICIPAL MODEL

This section estimates the technology upgrade costs required for a “typical” Atlantic County PSAP to achieve NG9-1-1 readiness. It is based primarily on the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** and **Appendix A: Baseline Comparisons** document, supplemented by industry-standard cost data where local details are unavailable.

3.1 Required Technology Components

IP-Capable CPE (Call Handling Equipment)

- Section 3 of the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** identifies that most PSAP CPE in Atlantic County is **not IP-ready** and will require replacement or upgrade.
- Industry benchmarks: \$25,000 to \$30,000 per position. Assuming a typical PSAP has approximately four call-taking positions, the midpoint estimate is **\$112,000 per PSAP**.

GIS Readiness and Coordination

- Section 4 of the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** notes gaps in GIS maintenance and lack of countywide coordination.
- Estimated \$50,000 to \$75,000 per PSAP for system preparation, data cleanup, and interface work. Midpoint: **\$62,500 per PSAP**.

CAD Integration

- Section 4 of the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)**, Section 4 also notes that CAD systems in several PSAPs are fragmented and require NG interface upgrades.
- Estimated \$100,000 to \$150,000 per PSAP for integration, middleware, and vendor licensing. Midpoint: **\$125,000 per PSAP**.

Network Security Hardware

- Section 5 of the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** highlights cybersecurity vulnerabilities and lack of statewide standards.
- Typical PSAP upgrades: \$40,000 to \$60,000. Midpoint: **\$50,000 per PSAP**.

Multimedia Handling (Text, Video, Images)

- Section 3 of the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** notes that **no PSAP in Atlantic County is currently capable** of natively handling text, video, or image inputs.

- Estimated \$60,000 to \$80,000 per PSAP for hardware, software, and storage. Midpoint: **\$70,000 per PSAP.**

Logging Recorder Enhancements

- Section 4 of the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** notes that logging systems are operational but not NG-capable in all cases.
- Estimated \$40,000 to \$60,000 per PSAP. Midpoint: \$50,000 per PSAP.

TABLE 2: Estimated Upgrade Cost per Typical PSAP

TECHNOLOGY COMPONENT	COST RANGE (EST.)	MIDPOINT USED	SOURCE/NOTES
IP-Capable CPE (4 positions)	\$100k-\$120k	\$112k	Study + industry est.
GIS Readiness & Coordination	\$50k-\$75k	\$62.5k	Study, Sec. 4
CAD Integration	\$100k-\$150k	\$125k	Study, Sec. 4
Network Security Hardware	\$40k-\$60k	\$50k	Study, Sec. 5
Multimedia Handling	\$60k-\$80k	\$70k	Study, Sec. 3
Logging Recorder Enhancements	\$40k-\$60k	\$50k	Study, Sec. 4
Total per PSAP	\$390k-\$445k	\$470k	Rounded midpoint

Note: Values marked as estimates or extrapolations where detailed cost data was not provided in uploaded studies. Midpoints selected for planning purposes. Study refers to the **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)**.

3.2 Extrapolation for 13 PSAPs

To estimate countywide costs, the midpoint per-PSAP cost was applied across all 13 municipal PSAPs.

TABLE 3: Extrapolated NG9-1-1 Upgrade Costs for Atlantic County (13 PSAPs)

COMPONENT	MIDPOINT PER PSAP	13 PSAP TOTAL
IP-Capable CPE	\$112k	\$1.46M
GIS Readiness & Coordination	\$62.5k	\$812.5k
CAD Integration	\$125k	\$1.63M
Network Security Hardware	\$50k	\$650k
Multimedia Handling	\$70k	\$910k
Logging Recorder Enhancements	\$50k	\$650k
Total	\$470k	\$6.11M

3.3 Sensitivity Analysis – Funding Scenarios

Given uncertainty regarding **state versus local responsibilities** for NG9-1-1 upgrades in New Jersey, a sensitivity analysis was developed to illustrate potential cost burdens.

TABLE 4: Countywide Cost Scenarios for 13 PSAPs

SCENARIO	ASSUMPTIONS	TOTAL 13 PSAP COST
High Case (All Local)	Municipalities cover all costs (baseline assumption used above).	\$6.11M
Shared Cost	State covers CPE & ESInet core , locals cover GIS, CAD, security, multimedia, logging.	\$3.53M
Low Case (Strong State Support)	State covers CPE, ESInet, and CAD integration; locals cover GIS, security, multimedia, logging.	\$1.90M

Observations and Data Gaps

- **Staffing and Position Count:** The **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** did not provide consistent workstation counts across all PSAPs. Cost estimates assume four call-taking positions per PSAP; actual costs will scale higher in larger centers.
- **State Versus Local Funding:** The uploaded NG9-1-1 research outline notes uncertainty about New Jersey’s state-level commitments for CPE versus local responsibilities. Without state policy clarity, the “all local” estimate may **overstate the municipal burden**.
- **Lifecycle Costs:** Ongoing maintenance, licensing, and training costs are not included in these estimates. These will likely add approximately 20 to 25 percent annually.
- **Impact:** Missing detail on PSAP size and state funding distribution introduces variability; actual costs could be **20 to 30 percent higher or lower**.

Based on available studies, a typical Atlantic County PSAP will require approximately \$470,000 in NG9-1-1 upgrades. Extrapolated across 13 PSAPs, the countywide estimate is **approximately \$6.1 million one-time**. Depending on state participation, this burden could realistically range from **\$1.9 million to \$6.1 million**.

4. COST COMPARISON: MUNICIPAL MODEL VERSUS COUNTY CENTRALIZED MODEL

4.1 Recap of Centralized Model Costs

The **Atlantic County Fire/EMS Dispatch Feasibility Study (2025)** projected the cost of a centralized countywide dispatch center at **\$1.3 million to \$3.3 million annually** for operations, plus **\$1.5 million to \$2.5 million in technology investments** depending on scope and phasing.

- **Capital Costs:** Primarily new facility development, core NG9-1-1 systems, and shared infrastructure.
- **Staffing Costs:** Concentrated within a single center, allowing economies of scale.
- **O&M:** Centralized costs for support contracts, training, and system lifecycle management.

4.2 Municipal Model Aggregate Cost Projections

The **estimated upgrade cost per PSAP** includes NG9-1-1-ready CPE, GIS readiness, CAD integration, security hardware, multimedia handling, and logging recorder enhancements. Extrapolated across all **13 municipal PSAPs**, this produces an aggregate cost exceeding the lower-end centralized model projections.

- **Capital Costs:** Duplicated across each PSAP, without shared savings.
- **Staffing Costs:** No reduction in distributed staffing requirements.
- **O&M:** Higher aggregate maintenance and upgrade costs due to parallel systems.

(Note: Some data gaps remain, particularly in staffing and lifecycle O&M projections for municipal PSAPs. These gaps limit the precision of aggregate cost estimates. The comparison below therefore emphasizes relative differences rather than absolute totals.)

Key Cost Differences

- **Capital Costs:** Centralized model leverages shared investment; municipal model multiplies capital costs across PSAPs.
- **Staffing Costs:** Centralized model supports workload redistribution and supervisor role rebalancing; municipal model perpetuates fragmented staffing.
- **O&M:** Centralized model consolidates support contracts and system management; municipal model increases cumulative O&M due to duplicated infrastructure.

TABLE 5: Cost Comparison Summary Table

CATEGORY	MUNICIPAL MODEL (13 PSAPs)	COUNTY CENTRALIZED MODEL
Capital Costs	Higher – upgrades required at each PSAP (duplicated investment)	Moderate – facility + shared NG9-1-1 infrastructure (economies of scale)
Staffing Costs	Higher – no reduction in distributed staffing	Lower – staffing efficiencies possible with centralized operations
O&M Costs	Higher – multiple systems to maintain, varied vendor contracts	Lower – consolidated contracts and centralized lifecycle planning
Total Costs	Aggregate likely exceeds lower bound of centralized estimate (exact figures limited by data gaps)	\$1.3M–\$3.3M annually + \$1.5M–\$2.5M capital (per prior study)

Observations on Gaps

- **Staffing cost data** for the municipal model is incomplete in the uploaded documents. This constrains full life-cycle comparisons.
- **Lifecycle O&M data** for municipal PSAPs is not fully captured; long-term implications are noted qualitatively, not quantitatively.
- These gaps reduce precision but still demonstrate the **structural cost advantage of the centralized model**, especially when factoring in NG9-1-1 upgrade requirements.

5. CONSOLE SCALABILITY AND FUTURE GROWTH

5.1 Basic Growth Projection (Based on Call Volume/Population Trends)

Atlantic County's projected 9-1-1 call volumes remain relatively stable through 2040, with only modest growth expected. Table 6 below is derived from the 2023 call volume baseline and 2030/2040 projections, shows little indication that significant console expansion will be required solely due to population or call growth.

TABLE 6: Atlantic County 9-1-1 Call Projections (2023-2040)

YEAR	PROJECTED CALL VOLUME	% CHANGE VERSUS 2023
2023	Approx. 343,000	--
2030	Approx. 351,000	+2%
2040	Approx. 355,000	+4%

Implication: Under a municipal PSAP model, console requirements are unlikely to increase significantly based on call growth alone. However, **NG9-1-1 service expansion** (e.g., text, video, telematics) may drive demand for additional consoles, even if voice call volumes are flat.

5.2 Estimated Cost per Additional Console (Municipal Versus Centralized Model)

Industry benchmarks place the cost of a fully equipped NG9-1-1-ready console at **\$75,000 to \$100,000**, depending on vendor, feature set, and lifecycle services.

- **Municipal Model:** Each PSAP bears the full cost of new or replacement consoles. Across 13 PSAPs, this results in **fragmented procurement**, duplication of licenses, and inconsistent lifecycle upgrades.
- **Centralized Model:** A county-level facility requires fewer consoles overall due to shared resources but must account for **redundancy, specialty positions (tactical dispatch, training), and surge capacity**. While a baseline of nine consoles is sufficient for steady-state operations, **12 to 14 may be required** when redundancy and growth are considered.

TABLE 7: Estimated Console Costs – Municipal Versus Centralized Model

MODEL	ESTIMATED UNIT COST (per console)	ESTIMATED CONSOLES REQUIRED	TOTAL CAPITAL RANGE	NOTES
Municipal (13 PSAPs)	\$75K–\$100K	39–52 (3–4 per PSAP)	\$2.9M–\$5.2M	High duplication of licenses, O&M, training
County Centralized	\$75K–\$100K	12–14	\$0.9M–\$1.4M	Shared procurement, lower redundancy overhead

Key Insight: Centralization reduces capital investment by **approximately 70 to 80 percent** but requires careful planning for redundancy to ensure resilience.

Considerations for Staffing Flexibility and Interoperability

- **Staffing: 2,500 to 3,000 calls per FTE per year** is a typical range. With Atlantic’s call volumes, each municipal PSAP may not achieve efficient utilization, leading to **staffing inefficiencies**. Centralization allows for staffing pools to be aligned with actual workload, reducing idle time and improving scheduling flexibility.
- **Interoperability:** Under the municipal model, consoles are configured and maintained independently, limiting seamless multi-agency operations. Centralization supports **common CAD, logging, GIS, and multimedia handling platforms**, directly enhancing mutual aid, regional incident management, and disaster resilience.
- **O&M Costs:** Beyond capital, **ongoing maintenance, licensing, and training** costs are significantly higher in a municipal model due to duplication across 13 centers. Centralization provides economies of scale but must budget for higher availability requirements at a single site.

Gaps and Impact

- **Console distribution data** for each Atlantic County PSAP is not available in the uploaded documents. Without this, the municipal estimates assume a typical three to four consoles per PSAP, which may under- or overstate actual needs.
- **Detailed O&M costs** (licensing, service contracts, software upgrades) are not provided in prior studies; thus, the analysis focuses on **capital equipment** and notes likely duplication impacts qualitatively.

6. UNFUNDED OR OVERLOOKED TRANSITIONAL NEEDS

While capital investments in NG9-1-1 technology (e.g., CPE, CAD, GIS) are relatively well-documented, transitional and non-capital costs are frequently overlooked in planning documents. These costs, though less visible, are critical to a successful migration and carry significant financial risk if not proactively budgeted. This section consolidates transitional needs identified in the Atlantic County Fire/EMS Dispatch Feasibility Study (2025), supplemented by national benchmarks and research.

Training, Vendor Licensing, and Interface Adjustments

- **Training:** Dispatcher and supervisor retraining on NG9-1-1 systems, multimedia handling, and new operational procedures are required. Nationally, training represents **10 to 15 percent of total system implementation cost.**²
 - *Gap:* The data provided for the municipal PSAPs was limited, offering some insight but not sufficient details on training hours, curricula, or projected training costs. This restricts the ability to develop reliable cost projections.
- **Vendor Licensing:** Transitioning from perpetual to subscription-based licenses is common for NG9-1-1 platforms (e.g., CPE, GIS, CAD). Annual fees may increase as vendors move to SaaS/cloud service models.³
 - *Gap:* Vendor licensing information was provided in part but lacked sufficient detail on renewal schedules or fee structures across all 13 municipal PSAPs. This makes countywide licensing cost projections uncertain.
- **Interface Adjustments:** Rebuilding integrations (CAD-to-CPE, logging recorders, GIS feeds) during cutover adds project costs that are rarely capitalized. Benchmark studies suggest **interface redevelopment costs average \$20,000 to \$40,000 per interface.**⁴
 - *Gap:* While some interface information was available, it was too limited to generate a full inventory or associated costs, leaving this category underdeveloped in the analysis.

6.1 Temporary Dual-System Support Costs

Maintaining legacy and NG9-1-1 systems simultaneously is an unavoidable cost during transition. The FCC⁵ identifies “parallel operations” as a top transitional expense category.

² NENA NG9-1-1 Transition Handbook.

³ Carbyne Licensing Models.

⁴ NGA NG9-1-1 Funding Report, 2022.

⁵ FCC NG9-1-1 Strategic Plan, 2021.

- National case studies show **20 to 30 percent increases in O&M costs during transition years.**⁶
- *Gap:* O&M data was provided in a limited way by municipal PSAPs and did not include full budget or staffing allocations. This makes it insufficient for projecting parallel operations costs at either the individual PSAP or county level.

TABLE 8: Summary of Non-Capital Needs at Risk of Being Omitted

TRANSITIONAL NEED	TYPICAL SCALE (BENCHMARKS)	ATLANTIC COUNTY DATA STATUS	RISK OF UNBUDGETED
Dispatcher Training & Certification	10–15% of system implementation costs	Limited data; not detailed enough for projections	Reduced call handling quality; operational errors
Vendor Licensing (annual SaaS)	\$50k–\$150k per PSAP, depending on vendor	Partial data; renewal terms and fees unclear	Unanticipated recurring costs; contractual gaps
Interface Rebuilds	\$20k–\$40k per interface	Limited information on inventory of interfaces	CAD/GIS misalignment; call routing errors
Dual-System Operations	20–30% O&M cost increase	Limited O&M data; insufficient for projections	Budget overruns; extended cutover periods

6.2 Impact of Study Scope and Data Gaps

Because the data from the municipal PSAPs was limited, the study could not capture the necessary detail to model transitional costs in areas such as training, licensing, interface adjustments, and dual-system O&M. While some information was available, it was not sufficient to support reliable cost projections. This limitation risks underestimating transitional expenses by **hundreds of thousands of dollars** during the 2- to 3-year migration period and reduces the ability to meet state or federal grant requirements, which increasingly call for both capital and non-capital cost detail.

⁶ Case study: VA NG9-1-1 Deployment Reports; Case study: <https://mil.wa.gov/asset/608c31920f7ee> ; Case study: https://cdn.kingcounty.gov/-/media/king-county/depts/kcit/documents/kc-911_strategicplan_20171218.pdf.

7. STRATEGIC SUMMARY AND RECOMMENDATIONS

7.1 Investment Efficiency: Municipal Versus Centralized

Analysis of the two models highlights a clear difference in long-term investment efficiency. The **municipal model** requires each of Atlantic County's 13 PSAPs to independently fund NG9-1-1 upgrades—including IP-capable CPE, GIS readiness, CAD integration, and logging recorder enhancements. While this approach distributes control locally, it results in **duplicative capital investments** and higher aggregate operating costs. Estimates suggest per-PSAP upgrade costs ranging from \$1.4 million to \$1.9 million, leading to a collective investment of approximately **\$20 million to \$25 million** for the County's 13 PSAPs (estimated and extrapolated).

By contrast, the **centralized model**, as detailed in the *Atlantic County Fire/EMS Dispatch Feasibility Study (2025)*, consolidates resources, reducing the number of sites requiring upgrades and centralizing staffing, network, and security investments. Although initial capital expenditures for a centralized facility may appear higher at the outset (due to facility construction or retrofitting), the long-term operations and maintenance (O&M) costs are more efficient. Centralization also strengthens redundancy and interoperability, aligning with statewide NG9-1-1 goals.

TABLE 9: Comparative Summary of Models

CATEGORY	MUNICIPAL MODEL (13 PSAPs)	CENTRALIZED COUNTY MODEL
Capital Investment	\$20M–\$25M (estimated, extrapolated)	\$10M–\$15M (facility + shared upgrades; prior study baseline)
Staffing	13 separate PSAP teams, limited scalability	Centralized staff pool, cross-coverage efficiencies
Operations & Maintenance (O&M)	Higher aggregate due to duplication (13x systems, vendors)	Lower long-term cost through shared infrastructure
Technology Upgrades	Independent, risk of uneven adoption	Coordinated, standardized upgrades across County
Interoperability	Variable, dependent on each PSAP	Stronger alignment with NG9-1-1 and State ESInet
Transitional Costs	Each PSAP bears training, dual-system, vendor licensing costs	Centralized transition, fewer duplicated expenses

Note: Municipal model costs are extrapolated from available data; municipal PSAPs did not directly contribute detailed readiness/cost figures.

7.2 Suggested Next Steps for Municipal Coordination

Given the limited direct participation of the municipal PSAPs in the current study, **additional coordination and engagement** are necessary to validate assumptions and refine projections:

- **Structured Municipal Outreach Sessions:** Engage each of the 13 PSAPs to verify their current technology baselines, staffing levels, and projected upgrade needs.
- **Shared Cost Modeling Workshops:** Use Smartsheet or similar collaborative tools to test countywide and municipal funding scenarios with real data.
- **Governance Framework Development:** Establish a joint county/municipal governance body to address shared NG9-1-1 infrastructure, cybersecurity, and transition planning.

These steps will help close the information gaps identified, particularly regarding transitional costs, vendor licensing, and staffing flexibility.

7.3 Funding Strategy Alignment (Grants, Shared Resources)

The funding responsibility matrix indicates the State of New Jersey will cover **ESInet and core services**, while **local agencies remain responsible** for CPE, CAD, training, and interfaces. To avoid municipalities bearing disproportionate burdens, Atlantic County should pursue:

- **State and Federal Grant Alignment:** Leverage Homeland Security Grant Program (HSGP), NG9-1-1 grant programs, and New Jersey Office of Emergency Telecommunications Services (OETS) resources.
- **Shared Resource Procurement:** Coordinate regional purchases of CPE, recorders, and GIS systems to lower per-unit costs.
- **Phased Funding Requests:** Tie capital investments to documented transitional needs (training, dual-system operations) to ensure non-capital costs are not overlooked.

Gaps and Limitations:

- Municipal PSAPs provided **limited data** on technology baselines and upgrade costs, constraining the precision of municipal model projections.
- Staffing implications for either model could not be fully quantified without municipal workforce participation.
- Transitional non-capital costs (training, licensing, dual operations) remain **insufficiently documented** in available materials and must be validated through further stakeholder engagement.

APPENDIX

- A Baseline Comparisons**
- B NCTCOG/Dallas Regional Model**
- C NG9-1-1 Typical PSAP Cost Model**
- D Funding Responsibility Matrix**
- E Cost Comparison Table**

APPENDIX A: Baseline Comparisons

BASELINE: TYPICAL ATLANTIC COUNTY MUNICIPAL PSAP

Methodology

As part of the research into what is essential to be eligible to answer NextGen 9-1-1 calls, two NextGen capable county PSAPs were visited by ADCOMM to gather information on what will be required to equip and maintain a PSAP that meets the requirements to operate in the state of New Jersey. They were chosen because ADCOMM representatives had familiarity with them as consultants that worked on the projects or was a director of the 9-1-1 center. Though diverse in some ways, they are state of the art when it comes to the equipment in place to handle 9-1-1 calls. The centers were Charleston County, South Carolina and Hunterdon County, New Jersey. The directors were very open and willing to answer any additional questions that may not be answered here.

Charleston County was chosen, though it is larger than Atlantic County, because it is a coastal county with a large tourism component.

Hunterdon County was chosen, though it is smaller, has recently been updated to meet the NJ requirements and has dealt with the (lack of) funding issues in New Jersey.

Charleston County Consolidated Communications Center

The Charleston County Consolidated Communications Center was established in 2008. It is housed in a building that is home to the 9-1-1 Center and the Emergency Operations Center (EOC) for the Department of Emergency Management. Charleston County continues to upgrade and enhance their equipment and training to keep pace with the ever-changing technology of emergency services, including the use of Artificial Intelligence (AI).

The center serves a population of approximately 425,000 residents with 160,000 of them from the City of Charleston and the remainder in fifteen other municipalities spread over 918 square miles.

The dispatch room has 38 standard work consoles, with an expansion planned to change to pod type workstations and increasing the number to 42.

The dispatch room is divided between call takers and dispatchers for each of the services provided. The 9-1-1 department is authorized to have 112 positions, however only 87 of them are filled resulting in 25 vacancies. In 2024 Charleston County 9-1-1 handled 294,000 9-1-1 calls, 29,776 abandoned 9-1-1 calls, 389,430 administrative calls and 19,954

abandoned administrative calls, resulting in a total of 683,430 calls received by the center. It should be noted that in 2025 Charleston County has been proactive in using AWS cloud services to answer and redirect some administrative calls to bypass the dispatcher resulting in a decrease in the call volume. Technology is also being used to filter calls for the same incident (i.e. a major accident on the interstate) and reducing duplicate calls.

The following is a list of information gathered from Charleston County 9-1-1.

Equipment:

- Call Handling Equipment (CHE) – Carbyne
 - 73 work positions
 - Cloud based subscription service
 - \$679,000 annual fee
 - 9-1-1 call takers voices are prerecorded to initially answer the call in their own voice that takes preliminary information and adds it to the CAD as the live operator takes over.
 - Includes automatic translation for 36 languages resulting in the elimination of the need for translation services such as Language Line.
 - Some languages with different dialects can sometimes be a problem.
- Computer Aided Dispatch system – Central Square
- ESInet (Emergency Services IP Network) – INdigital
- Recorder – Eventide
 - Records everything
- Cloud Services – Amazon Web Services (AWS)
 - This service has virtually taken over the administrative calls by determining the nature of the calls and sending them to the appropriate agencies, websites or other areas.
- Workstations/consoles – currently Evans – changing to XYBIX
 - 38 standard consoles changing to 42 pods to accommodate the room size
- MARVLIS Deployment Monitor (Heat Map) – Bradshaw Consulting

- By combining Demand Monitor data, AVL and CAD information, traffic patterns, and vehicle status into a single interface, Deployment Monitor provides a unique overview of your current system status to efficiently manage resources and ensure that anticipated demand is adequately covered to meet your performance objectives.
- RapidSOS – information to CAD
 - centralizes NG911 data with calls, text, video, sensors and more.
- RapidDeploy – Radius
 - Radius Mapping unifies data and applications into a single, resilient pane of glass, speeding up call intake with location accuracy, while informing triage through enhanced situational awareness and modern communications with real-time access to text, video and critical data for additional context.
- Dispatch Protocol
 - Priority Dispatch
- Personnel
 - 112 authorized positions
 - 87 filled positions
 - 25 vacant positions
- Real Time Information Center
 - When an emergency call comes in and there is minimal information provided it will be copied to an operator who will search available databases such as social media to attempt to get additional information on the caller or location that will be added to the CAD incident and notification of first responders when appropriate.

Hunterdon County Communications Center

The Hunterdon County Communications Center was established in 1976. In 1977 it became the first countywide 9-1-1 center in the state of New Jersey. The original center was in an old farmhouse equipped with two consoles dispatching 25 of the 26 municipalities with the 26th coming onboard the following year.

Today it is housed in a building that was constructed in a field next to the farmhouse and expanded again in the early 21st century to become home to the 9-1-1 Center and

the Emergency Operations Center (EOC) for the Division of Emergency Management. In 2024-25 the county continues to upgrade and enhance their equipment and training to keep pace with the ever-changing technology of emergency services. At the time of the consultant's visit, they were still transitioning with some equipment upgrades and replacements.

The center serves a population of approximately 130,000 residents spread over 427 square miles.

In 2025 the dispatch room was upgraded to fifteen work consoles.

The Public Safety Telecommunicators (PST) are call taker/dispatchers with responsibility for answering, dispatching and handling calls for their assigned zones. The Communications Division is authorized to have 28 positions, however only 15 of them are filled resulting in 13 vacancies. Their PSTs work the Pitman 12-hour schedule with lots of overtime.

The county dispatches for all municipal police departments, volunteer and paid fire departments and volunteer and paid rescue squads, including the ALS units based out of the local hospital. All 9-1-1 calls are answered by the communications center 24/7. Except for the police departments that have daytime office staff, all police department lines are answered by the center after hours. Additionally, the county is responsible for answering all county administrative lines after hours. This includes, but is not limited to the road department, health department and any other department that provides a 24/7 number to the public.

Funding

In 2023, with the assistance of the New Jersey Association of Counties (NJAC) the county received a grant of \$1 million from the statewide 9-1-1 surcharge funds for the purposes of 9-1-1 infrastructure improvements and upgrades in anticipation of joining the statewide NG911 system.

In 2024 the county received \$196,184.43 from the State of New Jersey to be used for Public Safety Answering Point upgrades for the Emergency Services IP Network system (ESInet).

The remainder of funding for the 9-1-1 Center comes from the county tax base. The county does not charge municipalities or user agencies for the services provided.

It should be noted that there is no guarantee that funds will be forthcoming from the state on an annual or other regular basis.

Equipment and Personnel

In 2024 Hunterdon County 9-1-1 handled 40,277 9-1-1 calls, 2308 abandoned 9-1-1 calls, and 103,238 administrative calls, resulting in a total of 145,823 calls received by the center. Abandoned administrative calls are not tracked.

The following is a list of information gathered from Hunterdon County 9-1-1.

Equipment

- CAD
 - The current CAD was provided by Queues Enforth Development (QED), a system that has been in service since 1991.
 - In October of 2025 it will be replaced by CSI InfoCAD.
- CPE
 - Motorola Vesta
- Consoles
 - Evans (installed in 2025)
 - 15 positions
- Recorder
 - Eventide
 - Telephone and radio only
- ESInet
 - Lumen
- Cloud services
 - PowerDMS
 - Document Management
 - I Am Responding
 - paging and text messaging for first responders
- Mapping
 - ArcGIS through the county GIS department
- RapidSOS
 - Unite Platform
- Dispatch Protocol
 - APCO International EMD
- Personnel
 - 28 authorized positions
 - 15 filled positions

- 13 vacant positions

Summary of PSAP Technology and Readiness (Representative Cases – Hunterdon & Charleston)

Though very much different in size and operations, Charleston and Hunterdon County's are very much the same when it comes to answering 9-1-1 calls. Though Charleston uses separate call takers and dispatchers, Hunterdon telecommunicators handle the initial call and dispatch before turning it over to the proper zone.

Though the equipment and protocols may be branded differently, they all help the dispatchers handle emergency 9-1-1 calls in a quick and efficient manner. Technology such as Mobile Data Terminals (MDT) have greatly reduced the amount of voice transmission allowing proper and concise information to be relayed just once.

In both counties, as they were built, some agencies declined to take part because they wanted to do their own thing. It did not take long for those in power to see that in addition to the efficiency, the cost savings alone was enough to change their minds.

Assumptions Used for Cost Modeling (Representative Case – NCTCOG - Dallas)

Constraints and Data Limitations (where applicable – Atlantic Co NJ)

7. COST COMPARISON: MUNICIPAL MODEL VS. COUNTY CENTRALIZED MODEL

As stated in the previous report, Atlantic County currently has 23 municipalities, with 13 PSAPs operated by law enforcement agencies, each varying in terms of modernization, staffing, and operational efficiency. The cost of operating and maintaining these 13 PSAPs differs significantly, as some facilities are well equipped and adequately staffed, while others face challenges related to outdated equipment, staffing shortages, and underdeveloped infrastructure. These variations in operational readiness directly impact the costs for maintenance, technology upgrades, and staffing needs.

7.1 Current Costs Structure Multiple PSAPS

Operating 13 individual PSAPs incurs a variety of costs that can vary significantly based on the level of equipment and staffing in each. These costs include:

- Infrastructure and Facility Maintenance
- Staffing and Training
- Technology Upgrades and Integration
- Redundancy and Backup

7.2 NG9-1-1 Needs for 13 PSAPs

The current 13 PSAP systems may lack the necessary capabilities to support the advanced technologies required for the migration to NG9-1-1. Upgrades that are in compliance with [NENA-STA-010, NENA i3 Standard for Next Generation 9-1-1](#)¹, will be essential to ensure each PSAP can effectively connect to and operate within the State ESInet. Without an Assessment of each PSAP, it would be difficult to know exactly what technology capabilities are lacking.

If no form of consolidation occurs, each PSAP in Atlantic County will be responsible for incurring these costs. The following are required components at each PSAP for the migration to NG911:

¹ <https://www.nena.org/page/standards#NENA-STA-010>.

- IP-capable CPE (Call Handling Equipment), supporting voice, text, and multimedia communications
- GIS readiness, including an up-to-date mapping data base, standardized data formats, ongoing data maintenance and synchronization
- Upgraded CAD system and full integration with NG911 workflows, including Mobile Data Computers (MDCs)
- IP-capable and integrated logging recorder capable of capturing all media types (voice, text, video, data)
- Secure, high-availability broadband connection to the ESInet
- Network security infrastructure, including firewalls, intrusion detection/prevention, and monitoring tools
- Carrier interconnection and ESInet access costs
- Employee training on new systems, NG911 protocols, and cybersecurity awareness
- Built-in system and site-level redundancy for continuity of operations (COOP) and disaster recovery
- Policy and procedure updates to reflect NG911 operations and capabilities
- QA/QI program enhancements to monitor and evaluate NG911 performance and outcomes

7.3 Estimated NG9-1-1 Costs for 13 PSAPS

Note On Costs - It should be understood that the only way that exact costs can be provided would be through a competitive RFP bidding process where vendors provide current and projected costs based on today's market conditions. As such, exact cost estimates cannot be provided; however, our knowledge of the costs of similar projects allow us to provide a general range of the costs of a migration to NG9-1-1.

Because a comprehensive PSAP assessment has not yet been conducted, this assessment considers the critical factors that directly impact NG9-1-1 upgrade costs in each PSAP. Some of the key factors that influence the cost of upgrading a PSAP for NG9-1-1 capability include, but are not limited to, the following:

- System size and complexity
 - Existing infrastructure maturity
 - Scope of integration with other systems or agencies
- Number of Seats (Call taking/Radio Positions)
 - Directly impacts hardware, software, licensing and ongoing support costs

- CAD and CPE requirements
 - CAD upgrade or replacement needed
 - CPE needs (hardware/software) upgrade or replacement
- Network Connectivity
 - Cost to connect to the State ESInet
 - Redundancy and failover requirements
 - Bandwidth needs for multimedia (text, video etc.)
- Cybersecurity Enhancements
 - Meeting NG9-1-1 specific cybersecurity standards
 - Firewalls, intrusion detection systems, encryption
- Interoperability Requirements
 - Integration with neighboring PSAPs and shared services
 - Compatibility with state or regional call routing
- Training and Change Management
 - Training staff on new systems and processes
 - Cost of temporary staff backfill during training
- Licensing and Software Subscriptions
 - Annual fees for NG9-1-1 compatible applications
 - Ongoing vendor support and maintenance agreements
- Facility and Power Requirements
 - Space upgrades to accommodate new technologies
 - Backup power (UPS/generators) for high reliability
- Project Management and Consulting
 - Hiring experts to guide design, procurement and implementation

The table below outlines, at a minimum, estimated costs, without a PSAP assessment, to upgrade existing systems within all PSAPs, to ensure that each PSAP is NG9-1-1 capable to integrate with the State ESInet.

Estimated NG9-1-1 Upgrade Costs For 13 PSAPS

Component	Low Estimate (per PSAP)	High Estimate (per PSAP)	Total for 13 PSAPs (Low)	Total for 13 PSAPs (Average Midpoint)	Total for 13 PSAPs (High)	Notes
NG-capable CPE	\$150,000	\$500,000	\$1,950,000	\$4,225,000	\$6,500,000	Includes software, hardware, and multimedia support
CAD Upgrade + Integration	\$100,000	\$500,000	\$1,300,000	\$3,900,000	\$6,500,000	Includes MDCs, mapping, and integration
GIS Readiness	\$50,000	\$200,000	\$650,000	\$1,625,000	\$2,600,000	Data cleanup, formatting, synchronization
IP Logging Recorder	\$50,000	\$150,000	\$650,000	\$1,300,000	\$1,950,000	Multimedia/data recording
ESInet Connection	\$25,000	\$100,000	\$325,000	\$812,500	\$1,300,000	May include recurring costs
Carrier Interconnection	\$10,000	\$50,000	\$130,000	\$390,000	\$650,000	State/regional cost-sharing may apply
Cybersecurity Enhancements	\$25,000	\$100,000	\$325,000	\$812,500	\$1,300,000	Firewalls, intrusion detection, etc.
Redundancy / Backup Systems	\$50,000	\$200,000	\$650,000	\$1,625,000	\$2,600,000	Backup power, alternate site capabilities
Training (Initial NG911 Readiness)	\$2,000	\$5,000	\$26,000	\$45,000	\$65,000	Per employee (approx. 1 per PSAP used)
Ongoing Maintenance & Support	\$50,000	\$150,000	\$650,000	\$1,300,000	\$1,950,000	Annual software/hardware support
TOTAL:	\$512,000	\$1,995,000	\$6,656,000	\$16,035,000	\$25,415,000	

****Note on Costs See 7.3****

7.3 Cost Considerations for a Single Countywide PSAP

A single countywide PSAP, with a centralized operations hub for Fire/EMS and potentially law enforcement, would provide several cost efficiencies over maintaining multiple, independent PSAPs. These include:

- **Operational Efficiency**
 - Standardized Universal Call Handling: A single PSAP can implement consistent protocols, improving call processing times and emergency response consistency.
 - Streamlined Dispatching: Consolidation reduces the number of call transfers between PSAPs, leading to faster deployment of emergency services
 - Improved Resources Allocation: Centralized oversight allows for better distribution of dispatchers and first responders based on call volume and need,
- **Cost Savings**
 - Reduced Staffing redundancy: One center can operate with fewer total personnel than 13 separate centers, especially during overnight or low-volume shifts.
 - Lower Technology Costs: Shared CAD, CPE, and radio systems reduce duplicate hardware, software licenses, and maintenance contracts.
 - Facilities & Overhead Savings: Fewer physical locations mean reduced costs for buildings, utilities, insurance, and other fixed expenses.
- **Technology and Infrastructure**
 - Easier NG9-1-1 Implementation: Consolidated PSAPs are often better positioned to implement Next Generation 9-1-1 services like text, video, and location-based routing.
 - Improved Interoperability: Centralizing systems simplifies integration of 911, CAD, GIS, and radio networks across jurisdictions.
 - Enhanced Cybersecurity: One centralized PSAP can afford more robust cybersecurity protections than multiple smaller PSAPs.
- **Service Quality and Resilience**
 - Better Training & QA: A single PSAP can have a dedicated QA/training unit, improving performance and consistency.
 - Improved Staffing Coverage: to manage sick time, vacations, and peak coverage with a larger, centralized team.

- Greater Redundancy & Continuity: Consolidated centers can implement backup systems and redundant operations more easily than many small centers.
- Improved Incident Coordination: : Major events are easier to manage with centralized command and control.
- **Strategic & Long-Term Planning**
 - Scalability: One center can more easily scale operations as population or call volume grows.

14. Funding Opportunities: State and federal grants often prioritize regionalization or consolidation for cost efficiency and interoperability.

15. Better Public Perception: Demonstrates a commitment to modernization, efficiency, and improved public safety services.

7.4 Projected Savings and Future Costs

As stated in a previous report, the overall cost savings of transitioning to a single countywide PSAP would likely be significant, with potential reductions in both operational costs and infrastructure spending. However, transitioning from a multiple PSAP model to a single PSAP would require substantial initial investment in technology, staff training, and facility development. Over the long term, these initial costs would be offset by the reduced redundancy, more efficient staffing models, and streamlined technology systems.

The transition would also position Atlantic County to better access future funding opportunities, particularly those tied to NG9-1-1 and interoperability grants, which may be more accessible to centralized systems. Given that many of the law enforcement PSAPs are operating on varying levels of modernization, this countywide approach would also allow for standardization of technology and operations, which could unlock additional savings in maintenance and future system upgrades.

In comparing the costs of operating and maintaining 13 independent law enforcement PSAPs with a single countywide PSAP, the latter presents a more sustainable and efficient model. While initial costs for consolidation would be higher, the long-term savings in staffing, infrastructure, and technology upgrades would provide a more cost-effective solution. This approach not only benefits Fire/EMS operations but also prepares Atlantic County for future growth, ensuring scalability and interoperability with other agencies across the county.

APPENDIX B: NCTCOG/Dallas Regional Model

TEXAS

1. North Central Texas Council of Governments (NCTCOG)

NCTCOG transitioned from a Council of Governments (COG) to a District, allowing it to receive funding directly rather than through the state's 9-1-1 program. As a result, NG9-1-1 implementation within NCTCOG is now locally managed. While the state program ensures that 19 COGs are connected to the ESInet, the remaining 48 Districts across Texas are responsible for managing their own progress. The shift to District status primarily changed NCTCOG's funding authority—funds are now allocated directly and governed by its board of directors, rather than distributed through the Commission on State Emergency Communications (CSEC). This new structure offers greater autonomy and has improved financial stability, resolving previous challenges caused by biannual zeroed-out budgets that often-stalled capital projects.

NCTCOG has taken a phased approach to NextGen implementation. CAD, admin line integration, cost and current status of NextGen implementation, interconnectivity and data sharing, future backup plans, data centers and staffing. AI utilization and procurement, vendor solutions, and database and mindset changes.

NCTCOG covers 14 counties around Dallas, Tarrant, and Denton County, serving 40 PAPs and 2.3 million people, providing and maintaining 911 infrastructure. They have a unique in-house technology team that builds and maintains all systems, unlike other organizations that rely solely on vendors.

- **NextGen Implementation Phased Approach:** NCTCOG had a phased approach to NextGen implementation, beginning in 2008 by connecting PAPs and establishing a hosted remote ESInet, which included native IP-based call handling . This was followed by extensive work on GIS data cleanup to meet core service standards . They did a self-managed database . Their initial NextGen core services contract was a hybrid solution due to early commercial availability and legislative constraints, later transitioning to a fully IP I3 standard-based NG core services.
- **CAD and Admin Line Integration & Resiliency:** Each PAP in their region manages its own CAD and radio systems, though their organization facilitates CAD integration and admin line connectivity upon request, particularly for larger PAPs. To enhance resiliency, they implemented a microwave network, creating a three-tiered redundancy for their EZInet, which includes terrestrial, microwave, and LTE backup. The NCTCOG system is fully NextGen except for the ongoing Originating Service Provider (OSP) migration to SIP, which is pending FCC mandates.
- **Interconnectivity and Data Sharing :** 50 out of 76 911 entities in Texas are in an intermediate state, implying connectivity to other core services like AT&T, Motorola,

and their own, enabling data sharing across entities. NCTXOG confirmed daily use of this interconnectivity for call transfers, especially between the 21 different 911 jurisdictions in the Dallas-Fort Worth area.

- **Future Backup Plans and Past Outages:** A true backup plan with IP connectivity to Tarrant County 911 is on their roadmap, to ensure call handling in case of an outage, following a system-wide 911 outage in 2018. Such a plan was not feasible during the 2018 outage as no other entities had core services implemented at that time.
- **Data Centers and Staffing:** NCTCOG utilizes two geographically and technologically diverse commercial data centers for their services, a transition made from four PAP-hosted remotes due to human error concerns. Their 10-person technical staff, supported by a 7-person GIS team, is divided into three teams: field services (handling microwave, call handling, and repairs), systems, and network (including security).
- **AI Utilization and Procurement:** The NCTCOG organization widely uses AI in backend technology, such as network and security, as a supplemental tool to enhance services. They also have AI features in their mapping platform for translations, transcription, and video capabilities .
- **Vendor Solutions and Industry Evolution:** NCTCOG current vendors, including RapidDeploy (recently acquired by Motorola) for mapping and analytics, Comtech for core services, and Solocom (also acquired by Comtech) for call handling, with an RFP for call handling coming soon. They noted that while some vendors like Carbyne and Prepared 911 were previously distinct for their cloud and AI focus, major players are now offering similar AI-based cloud services, indicating a market convergence.
- **Database and Mindset Changes:** NCTCOG had significant changes in their database, moving to self-managed systems and implementing full I3 standards, which eliminated MSAGs and introduced a different way of doing business . They stressed that these changes required schema modifications and a shift in mindset.
- NCTCOG PSAPs range from 2 to 12 positions.

2. State of Texas

Texas NG9-1-1 implementation is locally driven, with the Commission on Emergency Communications (CSEC) -State, ensuring that 19 COGs are on the EZInet with NextGen core services, while the 48 Districts, including home rule cities manage their own progress.

The following table outlines Definitions for each status used in the table for each 9-1-1 entity in Texas:

Maturity State Definitions

Legacy

9-1-1 service is provided by the traditional incumbent local exchange carrier (ILEC) with circuit-switched infrastructure and Automatic Location Identification (ALI) circuits.

Foundational

The groundwork and planning for NG9-1-1 implementation is initiated. NG9-1-1 feasibility studies are performed, Geographic Information System (GIS) data preparation commences, and IP networks may be implemented. NG9-1-1 systems are not yet operational, and system procurement is either planned or underway.

Transitional

Services have migrated partially from the legacy environment and the 9-1-1 services are enabled by an IP infrastructure. The Emergency Services IP Network (ESInet) is in place and ESN routing is still being utilized. This is the first state in which certain Next Generation Core Service elements may be implemented. At this point, a governance model has been established.

Intermediate

The 9-1-1 Authority has implemented and made operational all i3 Core functions and all calls are routed per GIS boundaries and location information. Additionally, an i3 PSAP multimedia call handling system is implemented. Infrastructure and applications are being refined to incorporate advanced call- and data- delivery interfaces. Governance agreements are in place and the model is functioning. Systems in the Intermediate State are said to be NG9-1-1 READY.

End-State

The 9-1-1 Entity's PSAPs are served by i3 standards-based systems from ingress through multimedia "call" handling. Originating Service Providers are providing SIP interfaces and location information during call set-up time. Within the jurisdiction, ESInets are interconnected providing interoperability which is supported by established agreements, policies and procedures.

The following table outlines the status of each Texas 9-1-1 entity NG maturity as of July 2025:

NG9-1-1 Maturity States - Attachment 3

Texas 9-1-1 Entity	Maturity State (2022)	Maturity State (Jan 25')
Abilene/Taylor County 9-1-1 District	Legacy	Foundational
Austin County Emergency Communications District	Legacy	Foundational
Bexar Metro 9-1-1 Network	Intermediate	Intermediate
Brazos County Emergency Communications District	Foundational	Intermediate
Calhoun County 9-1-1 Emergency Communication District	Foundational	Foundational
Cameron County Emergency Communications District	Foundational	Transitional
Capital Area Emergency Communications District	Intermediate	Intermediate
Denco Area 9-1-1 District	Transitional	Intermediate
El Paso County 9-1-1 District	Intermediate	Intermediate
Emergency Communication District of Ector County	Legacy	Intermediate
Galveston County Emergency Communication District	Foundational	Intermediate
Greater Harris County 9-1-1 Emergency Network	Transitional	Intermediate
Gulf Coast Regional 9-1-1 Emergency Communications District	Foundational	Transitional
Henderson County 9-1-1 Communication District	Legacy	Transitional
Howard County 9-1-1 Communication District	Legacy	Legacy
Kerr Emergency 9-1-1 Network	Legacy	Intermediate
Lubbock Emergency Communication District	Transitional	Intermediate
McLennan County 9-1-1 Emergency Assistance District	Foundational	Intermediate
Medina County 9-1-1 Communications District	Legacy	Intermediate
Midland Emergency Communications District	Legacy	Transitional
Montgomery County Emergency Communication District	Foundational	Foundational
North Central Texas Emergency Communications District	Transitional	Intermediate
Potter-Randall County Emergency Communications District	Foundational	Intermediate
Rio Grande Valley Emergency Communications District	Intermediate	Intermediate
Smith County 9-1-1 Communications District	Foundational	Intermediate
Tarrant County 9-1-1 District	Foundational	Foundational
Texas Eastern 9-1-1 Network	Legacy	Legacy
Wichita-Wilbarger 9-1-1 District	Legacy	Foundational
City of Addison	Intermediate	Intermediate
City of Aransas Pass	Unknown	Foundational
City of Carrollton	Intermediate	Intermediate
City of Cedar Hill	Foundational	Foundational
City of Coppell	Intermediate	Intermediate
City of Corpus Christi	Unknown	Foundational
City of Dallas	Foundational	Intermediate
City of Denison	Foundational	Intermediate
City of DeSoto	Foundational	Foundational
City of Duncanville	Foundational	Foundational
City of Ennis	Legacy	Legacy
City of Farmers Branch	Intermediate	Intermediate
City of Garland	Legacy	Foundational
City of Glenn Heights	Unknown	Intermediate

Town of Highland Park	Legacy	Foundational
City of Hutchins	Legacy	Legacy
City of Kilgore	Foundational	Foundational
City of Lancaster	Unknown	Unknown
City of Longview	Foundational	Foundational
City of Mesquite	Legacy	Legacy
City of Plano	Foundational	Transitional
City of Portland	Foundational	Foundational
City of Richardson	Legacy	Foundational
City of Rowlett	Legacy	Legacy
City of Sherman	Foundational	Intermediate
City of University Park	Legacy	Legacy
City of Wylie	Foundational	Foundational
Dallas County SO	Unknown	Foundational
Town of Sunnyvale	Unknown	Legacy
Alamo Area Council of Governments	Transitional	Intermediate
Ark-Tex Council of Governments	Transitional	Intermediate
Brazos Valley Council of Governments	Transitional	Intermediate
Central Texas Council of Governments	Transitional	Intermediate
Coastal Bend Council of Governments	Foundational	Intermediate
Concho Valley Council of Governments	Transitional	Intermediate
Deep East Texas Council of Governments	Transitional	Intermediate
East Texas Council of Governments	Foundational	Intermediate
Golden Crescent Regional Planning Commission	Transitional	Intermediate
Heart of Texas Council of Governments	Transitional	Intermediate
Middle Rio Grande Valley Development Council	Transitional	Intermediate
Nortex Regional Planning Commission	Transitional	Intermediate
Panhandle Regional Planning Commission	Transitional	Intermediate
Permian Basin Regional Planning Commission*	Transitional	Intermediate
Rio Grande Council of Governments	Transitional	Intermediate
South East Texas Regional Planning Commission	Transitional	Intermediate
South Plains Association of Governments	Transitional	Intermediate
South Texas Development Council	Foundational	Intermediate
Texoma Council of Governments	Foundational	Intermediate
West Central Texas Council of Governments	Transitional	Intermediate

Key	
Maturity States	
Legacy	
Foundational	
Transitional	
Intermediate	
End	

APPENDIX C: NG9-1-1 TYPICAL PSAP COST MODEL

TABLE A-1: Estimated Typical PSAP Upgrade Costs

(based on extrapolations and industry sources; municipal PSAP data was limited, constraining precision)

TECHNOLOGY COMPONENT	ESTIMATED UNIT COST	NOTES / SOURCE
IP-Capable CPE	\$500,000 – \$700,000	Typical NG9-1-1 CPE replacement; extrapolation & NENA benchmarks
GIS Readiness & Coordination	\$150,000 – \$250,000	Costs vary by GIS maturity; coordination gaps
CAD Integration	\$250,000 – \$400,000	Includes interface upgrades; extrapolation
Network Security Hardware	\$100,000 – \$150,000	Firewalls, intrusion detection; extrapolation
Multimedia Handling (text, video, images)	\$200,000 – \$300,000	Based on NG9-1-1 upgrade requirements; extrapolation
Logging Recorder Enhancements	\$75,000 – \$125,000	extrapolation
Total per Typical PSAP	\$1.4M – \$1.9M	Extrapolated estimate

Source: NCTOG & TX vs2 090325; extrapolated based on industry averages and prior NG9-1-1 cost studies.

APPENDIX D: FUNDING RESPONSIBILITY MATRIX

TABLE B-1: NG9-1-1 Cost Responsibility (State Versus Local)
(based on documents provided; gaps noted where municipal detail was limited)

COST CATEGORY	STATE RESPONSIBILITY	LOCAL/MUNICIPAL RESPONSIBILITY
ESInet & Core Services	✓ Covered by State	X
IP-Capable CPE	X	✓ Local purchase/upgrade required
GIS Data Development/Coordination	Partial (state standards/oversight)	✓ Local maintenance & updates
CAD Integration & Interfaces	X	✓ Local cost
Network Security Hardware	X	✓ Local cost
Multimedia Handling Capability	X	✓ Local cost
Logging Recorder Enhancements	X	✓ Local cost
Staffing & Training	X	✓ Local responsibility
Transitional Dual-System Support	X	✓ Local responsibility

Source: Cost Comparison: Municipal Versus Centralized Model and prior Atlantic County study.

APPENDIX E: COST COMPARISON TABLE

TABLE C-1: Municipal Model Versus Centralized Model – Estimated Cost Comparison
(values synthesized from and extrapolated municipal model projections)

CATEGORY	MUNICIPAL MODEL (13 PSAPs)	CENTRALIZED COUNTY MODEL
Capital Investment	\$20M – \$25M (13 x PSAP upgrades; extrapolated)	\$10M – \$15M (centralized facility + shared upgrades; prior study baseline)
Staffing	13 separate teams; limited flexibility	Centralized pool, cross-coverage efficiencies
O&M Costs	Higher aggregate due to duplication	Lower long-term cost through shared infrastructure
Technology Upgrades	Independent, uneven adoption possible	Coordinated, standardized across County
Transitional Costs	Each PSAP bears training, licensing, dual-system costs	Centralized transition reduces duplication
Interoperability	Variable; depends on local PSAP adoption	Stronger alignment with NG9-1-1 and State ESInet

Source Extrapolations where municipal data was insufficient.