

Public Safety Answering Point Regionalization Study

Final Report

Prepared July 2023

Tarrant County 9-1-1 District, Texas



Acknowledgments

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We wish to acknowledge the engagement and commitment to improving public safety response to emergencies and non-emergency community needs. We appreciate the opportunity and trust the Tarrant County 9-1-1 District and PSAPs have placed in MCP to serve you.

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Executive Summary

The Tarrant County 9-1-1 District (District) engaged Mission Critical Partners, LLC (MCP) to explore how it can more effectively support its 37 public safety answering points (PSAPs) comprised of 26 primary, 4 secondary, and 7 backup centers¹ in meeting service delivery expectations, which are increasingly more demanding. To accomplish this task, MCP completed a comprehensive holistic assessment of 28 primary and secondary PSAPs'² current state of public safety communications services, including leadership and planning, revenue and expenses, operations, personnel and workforce management, technology and systems, and facilities. The overarching concern? *How does the county, with support from the District, maintain or improve service levels while supporting a system that is affordable*? Respectfully acknowledging that the provision of 9-1-1 and dispatch services is a local issue and the political realities within the District, the District's goal is to explore opportunities with PSAP stakeholders to improve services provided to the communities served by the District.

At the onset of this project, stakeholders highlighted their current challenges and desires:

- Being fiscally smart by reducing duplicate systems, equipment, and operations, and spending money to improve service levels.
- Improving communications and efficiencies, resulting in quicker response.
- Reducing the risk of errors by limiting transfers and routing callers to the correct PSAP initially.
- Offering stakeholders a look at the big picture.
- Being more intentional with telecommunicator health and wellbeing.
- Providing a level of quality for all agencies that they have not been able to achieve.
- Allowing all stakeholders to have a voice and be heard.

The expanding emergency communications ecosystem (Figure 1) is complex, quickly advancing, and always evolving. In many instances, data is increasing faster than agencies can keep up with, resulting in smaller PSAPs continuously being left behind. Regardless of size, PSAPs that are unwilling to explore their options run the risk of exacerbating the problem by creating holes in the ecosystem, increasing risk exposure, and introducing points of failure into what, on the surface, appears to be an efficient and effective system. This challenge is further complicated by the public's expectations of what advancing technologies can deliver to them, which directly impacts service delivery expectations.

¹ Four backup centers are controlled by the District and three by local municipalities.

² During the course of this study, Sansom Park and Westworth Village consolidated with White Settlement, changing the number of primary PSAPs from 28 to 26.



Figure 1: Emergency Communications Ecosystem

Essentially, there are 28 separate and independently operated ecosystems—each with their own priorities—operating 24 x 7, serving a dense population of more than two million people in the county. The public safety communications ecosystem as it exists today in the District has inherent challenges and areas of risk that are articulated throughout this report.

Another driver of this study is the need to build a roadmap that will provide the District with fiscal sustainability. Established in 1985, the District has never increased its fees for wireline phones, which are set at \$0.20 per line. Wireline fees throughout the state range from \$0.20 to \$1.85 per line. In addition to lower-than-average revenue from devices, the District is impacted by rising operating costs and exorbitant capital costs related to advancing technologies, specifically with the call-handling equipment (CHE). When this study began, District staff estimated that reserves would be depleted by 2025 and local governments will be forced to cover the gap of both operating and capital costs for their individual PSAPs that are currently covered by the District (e.g., CHE and infrastructure); however, the Board took action to ensure the District can support the 9-1-1 equipment and infrastructure.

The findings of MCP's analysis affirm the District's concerns regarding sustainability and operational efficiencies. This report provides a snapshot of the current conditions discovered during data gathering, process reviews, and operational analysis, which were conducted in the second half of 2022. It also contains recommendations—actionable initiatives—resulting from the key findings to achieve short-, mid-, and long-term

goals and objectives. Overall, the recommendations address the key findings noted below and lend themselves well to support the District's current activities and future planning efforts.

	Key Findings							
•	The PSAPs are supported by the District, with a Board of Managers (Board) consisting of appointed and elected officials, which provides technologies, training, and programs related to 9-1-1 call processing.		Administrative phone calls comprise more than 50% of the overall call volume and, in some cases, more than 85%.					
			Most PSAPs in the District perform call-taker duties simultaneously with dispatching and there					
•	Most PSAPs have flat organizational structures with little or no opportunity for career		are no clearly defined functions.					
	advancement.	•	The majority of PSAPs in the District are small, with one to two positions and a minimum of one					
•	There are opportunities throughout the District for		or two employees per shift.					
	disaster recovery [DR], change management, and cybersecurity).		PSAP staff reported significant challenges related to recruiting and retention, including wage disparity and low applicant pools.					
•	The District's wireline rates are some of the lowest in the state.	•	The low staffing limits the capacity potential of the majority of PSAPs in the District and creates an environment that may challenge a PSAP to					
•	If there is a major budget shortfall or capital expense, the District uses unrestricted reserves to		effectively manage a workload surge.					
	cover the costs.	•	It is a common practice throughout the District to have sworn personnel cover shortages when					
•	Leveraging technology and shared systems, some PSAP systems are already virtually		necessary.					
consolidated and supported by District infrastructure.		•	Calls are not set to rollover between PSAPs when a PSAP becomes overloaded. If a PSAP is overloaded, callers will get a fast busy tone when					
•	Current PSAP core technology could be		attempting a call.					
	interoperability between agencies (e.g., ability to route calls within the CHE and share incidents in	•	Misrouted wireless 9-1-1 calls are a common occurrence.					
	the computer-aided dispatch [CAD] system).	•	The majority of PSAPs in the District are classified as small and are at capacity for current					
•	Non-core (ancillary) functions that are not commonly found in PSAPs managed independently of law enforcement, fire, and emergency medical services (EMS) (e.g., detention/jail duties, walkup window, and other		operations with limited ability to expand without significant cost.					
		•	Many PSAPs lack the ability to support staff from another agency for a prolonged period.					
	administrative and records support duties) are prevalent throughout the District.	•	The majority of PSAPs have no viable long-term backup facility that could house mission-critical equipment and staff.					

A holistic quantitative and qualitative analysis of the above findings identified multiple areas in which service levels and operational and fiscal efficiencies could be gained and improved on a broader level through organic regionalization.

Organic regionalization occurs naturally without external forces (e.g., funded or unfunded government mandate) when stakeholders work collaboratively toward a common goal focused on improving emergency response outcomes. There are three categories or levels of organic regionalization that would improve operational efficiencies within the District: physical consolidation, policy and operations, and technology and shared systems, which can be achieved organically through a tiered approach:



Figure 2: Regionalization Tiered Approach

The three levels of organic regionalization can be executed concurrently or independently. Two levels (policy/operations and technology/shared systems) can be implemented as effective building blocks to full or physical regionalization.

The following reasons provide further support for a regionalization of the PSAPs operating under the purview of the District:

- Reduce 9-1-1 call transfers³
- Eliminate occurrences where one employee is on duty at a time
- Eliminate occurrences where unqualified personnel are working in the PSAP (e.g., sworn personnel without adequate training)
- Improve staffing to provide enhanced coverage 24 hours a day, seven days a week (24 x 7)
- Reduce staffing shortages

- Eliminate duplicative support services
- Decrease the number of points of infiltration for cybersecurity risks
- Eliminate cost duplication to operate the 28 separate and independent PSAPs assessed
- Provide a shared quality assurance/quality improvement (QA/QI) program
- Assure more consistent and effective service delivery
- Provide greater opportunities for interagency response, backup, situational awareness, and data sharing

³ Transfers cannot be eliminated unless all agencies join the consolidation effort.

- Eliminate call workflows that inherently include two or more 9-1-1 call transfers⁴
- Provide District-wide zero-minute response to most fire and emergency medical calls for service⁵
- Expand the workspace in the PSAP
- Reduce operational complexity of the combined call-taker/dispatcher position, which can improve training completion statistics
- Minimize budget competition between field and dispatch personnel

- Lead to operational and capital cost savings
- Provide for improved COOP and DR plans
- Improve radio communications and interoperability among responders
- Standardize processes to promote community education, trust, and support
- Adhere to training and QA requirements to improve service and reduce mistakes
- Adhere to Texas Commission on Law Enforcement (TCOLE)⁶ training requirements

Organic regionalization is not easy to accomplish and can often take years to achieve. Given the complexity of these opportunities, MCP recommends that the District, with valued input from PSAP staff and stakeholders, consider developing a long-term strategic plan to help guide organic regionalization.

- A strategic plan is essential to an organization's ability to achieve its long-term goals proactively and incrementally.
- A concise and well-formatted strategic plan, which establishes annual commitments (initiatives) and maintains a rhythm for alignment and accountability, can mitigate distractions that do not enhance emergency response.
- District stakeholders can benefit from an effective and executable strategic plan, factoring in MCP's findings and recommendations, to help improve public safety emergency response within the District.

Without regionalization, and without reducing the number of independent ecosystems operating in a compressed area, many PSAPs within the District are bound to the current state and constraints in their efforts to provide a higher, more efficient level of service. The most prevalent constraints throughout the District are a lack of viable candidates to fill operational vacancies and unavoidable increasing technology costs. These challenges would be difficult to mitigate without regionalization because of the sheer number of PSAPs that exist today in the District.

⁴ MCP has found that eliminating double transfers is a best practice. This finding is supported by states such as Florida that have such requirements incorporated into their state 9-1-1 plans. Florida E-911 Plan, Section 3.2.3(B) says the following about double transfers: "With a transferred call, the caller must never be procedurally required to talk with more than two people: the primary PSAP 911 call taker and the call taker at the remote agency. There shall be no inherent double transfers."

⁵ "Pre-Arrival Instructions (or PAI's) *[sic]* provide potentially life-saving, scripted instructions for callers trapped in a sinking vehicle or structure fire, water rescue incidents, a person who is on fire, a caller who is in danger but not trapped, or a situation where there is a HAZMAT danger. Collectively, these protocols and instructions are referred to as Dispatch Life Support Instructions. Dispatch Life Support Instructions make it possible for properly trained call takers to provide a Zero Minute Response™." Priority Dispatch, 2020. <u>https://prioritydispatch.net/emd-cardset/</u> Zero-minute response cannot be fully realized unless dispatch agencies in the county join the effort.

⁶ <u>http://www.tcole.texas.gov/content/training-requirements</u>

To be successful, MCP acknowledges that it is best when organic regionalization is initiated at the local level, outside the purview of the District; however, the District supports using this information and approach to promote the achievement of standards and best practices while advocating for actions that will result in efficiencies and provide consistent emergency communications throughout the region.

1 Introduction

The Tarrant County 9-1-1 District (District) contracted Mission Critical Partners (MCP) to perform a comprehensive assessment of the public safety answering points (PSAPs) operating within the District, including their operations, administration, technology, facilities, and operating expenses. District entities cover approximately 865 square miles.⁷ Within the District, and the purview of this study, are 37 PSAPs comprised of 26 primary, 4 secondary, and 7 backup centers. Collectively, the PSAPs serve the region's approximately 2.1 million residents, numerous law enforcement, fire/rescue, emergency medical services (EMS) transport agencies, and countless visitors.

A primary PSAP is the initial point of entry for all 9-1-1 calls that originate within its service area. Typically calls requiring law enforcement, fire, or EMS response are received and then directly dispatched by a PSAP without the need for call transfers. The demographics for the respective PSAPs are shown in the table below.

PSAP Location	Primary Workstation	Population	Square Miles (rounded)	Annual 9-1-1 Volume (2022)	Percentage of 9-1-1 Call Volume
Arlington PD ⁹	28 plus 11 backup	392,786	96	283,733	14.20%
Azle PD	2	13,518	9	7,073	0.35%
Bedford PD	4	49,187	10	26,581	1.33%
Benbrook PD	4	24,605	11	11,970	0.60%
Burleson PD	4	51,618	28	19,626	0.98%
Crowley PD	2	19,333	7	7,917	0.40%
Dalworthington Gardens DPS ¹⁰	2	2,24711	1.8	1,669	0.08%
Dallas Fort Worth Airport (DFW)	5 plus 3 backup	63 million customers annually ¹²	N/A	31,846	1.59%
Euless PD	6	60,500	16	27,979	1.40%

Table 1: PSAP Demographics⁸

¹⁰ Department of Public Safety

⁷ <u>https://www.census.gov/quickfacts/tarrantcountytexas</u>

⁸ Ibid

⁹ Police Department

¹¹ Dalworthington Gardens, Texas Population 2023 (worldpopulationreview.com)

¹² Dallas/Fort Worth International Airport | Visit Dallas

PSAP Location	Primary Workstation	Population	Square Miles (rounded)	Annual 9-1-1 Volume (2022)	Percentage of 9-1-1 Call Volume
Fort Worth FD ¹³	9 plus 6 backup	938,508	347	83,145	4.16%
Fort Worth PD	35 plus 21 backup			767,799	38.43%
Grand Prairie PD	16 plus 6 backup	197,347	73	116,711	5.84%
Grapevine PD	7	50,872	32	29,368	1.47%
Hurst PD	6	40,055	32	25,691	1.29%
Irving FD ¹⁴	5 plus 3 backup	254,198	67	21,414	1.07%
Irving PD	16 plus 8 backup			154,316	7.72%
Lake Worth PD ¹⁵	3	6,922 ¹⁶	2.5	9,791	0.49%
Mansfield PD	6	74,368	37	40,103	2.01%
MedStar Mobile Healthcare ¹⁷	10	1.14 million	483	133,921	6.70%
NETCOM ¹⁸	7	112,000	66	37,425	1.87%
North Richland Hills PD	9 plus 4 backup	70,209	18	73,050	3.66%
Pantego PD	2	2,467 ¹⁹	1	2,093	0.10%
River Oaks PD	2	7,524	2	2,865	0.14%
Saginaw PD	3	24,011	8	10,538	0.53%
Tarrant County Regional Communications ²⁰	2	6,067	2	13,824	0.69%

¹³ Fort Worth Fire Department is a secondary PSAP.

 ¹⁴ Irving Fire Department is a secondary PSAP.
 ¹⁵ Includes call volume and population for Blue Mound Police Department, which will be joining the Lake Worth PSAP on or before June 1, 2023. Blue Mound's population is 2,359 with 678 annual 9-1-1 calls.

 ¹⁶ Lake Worth, Texas Population 2023 (worldpopulationreview.com)
 ¹⁷ MedStar is a private for-profit secondary PSAP. https://www.medstar911.org/

¹⁸ Northeast Tarrant Communications Center

 ¹⁹ Pantego, Texas Population 2023 (worldpopulationreview.com)
 ²⁰ Forest Hill consolidated with Tarrant County Regional Communications (formally Everman) on January 18, 2023. Forest Hill serves a population of 13,883 and has 10,901 9-1-1 calls annually.

PSAP Location	Primary Workstation	Population	Square Miles (rounded)	Annual 9-1-1 Volume (2022)	Percentage of 9-1-1 Call Volume
Tarrant County SO ²¹	8	2.1 million	865	39,272	1.97%
Westover Hills PD	2	635 ²²	0.7	226	0.01%
White Settlement PD ²³	4	25,995 ²⁴	6	17,745	0.89%
Total	209	2.1 million ²⁵	865 ²⁶	1,997,691	100%

Based on the size categories described in the National 911 Program's *Next Generation 911 Cost Estimate: A Report to Congress* published in 2018²⁷, 18 PSAPs included in this study are considered small (1 to 6 positions²⁸), eight are considered medium (7 to 20 positions), and two are considered large (21 to 50 positions). The 28 PSAPs assessed have anywhere from one to approximately 26 telecommunicators on duty on any given shift.

It is not unusual for small PSAPs to be assigned ancillary duties that are not related to services critical to 9-1-1. These typically include answering 10-digit administrative lines and handling after-hours requests from individuals seeking other administrative or routine municipal services. Almost all the PSAPs within the county require their telecommunicators to conduct other work, such as records and administrative tasks, outside of answering emergency phone calls, analyzing information, dispatching, and accounting for field responders (see Section 3.3.1).

²¹ Sheriff's Office

²² Westover Hills, Texas Population 2023 (worldpopulationreview.com)

²³ Westworth Village consolidated with White Settlement on October 25, 2022. Westworth Village has a population of 2,590 (<u>Westworth Village, TX - Profile data - Census Reporter</u>) and approximately 1,083 9-1-1 calls annually. Sansom Park is shuttering its doors and moving to White Settlement in late May 2023.

²⁴ U.S. Census Bureau QuickFacts: White Settlement city, Texas

²⁵ Total population for Tarrant County, Texas

²⁶ Total square miles for Tarrant County, Texas

²⁷ Next Generation 911 Cost Estimate Report to Congress 2018.pdf

²⁸ A position, otherwise known as a workstation, is the physical console that the telecommunicators sit at to answer emergency calls and dispatch.

2 Methodology

This was a collaborative effort by the District, Board of Managers (Board), and stakeholders. Serving as the project core team for this engagement, District staff assisted MCP in its assessment by coordinating introductions, supporting data gathering efforts, and overcoming obstacles. During the study, MCP focused on five factors, shown in Figure 3, with special attention on determining opportunities to achieve efficiencies that would mutually benefit the collective 37 PSAPs as well as field responders and citizens.

Data Collection

A success factor of this project is the input of respective PSAP and District staff, and the data provided by all participants. Studies such as these require a significant amount of historical and current data that allows MCP to assess each factor.

This PSAP regionalization study spanned ten months. During this time, MCP collected data, thoughts, and ideas in several manners, including a review of historical District and PSAP data, individual stakeholder interviews, regional town hall sessions, focus group sessions, virtual PSAP tours, and in-person tours.

The current and historical data MCP elicited from each PSAP and interviews and town halls focused on the areas outlined below. Each area is a critical component of a PSAP and, when reviewed, opportunities to reduce risk and improve operational efficiencies often can be identified.

Leadership and Planning	Operations	Workforce	Technology	Facilities
 Organizational structure Governance Budget Strategic planning Continuity of operations Change management 	 Policies, procedures, and protocols Quality assurance (QA) and performance management 	 Recruiting Hiring Training Retention Staffing Workload Compensation 	 Redundancy Maintenance and replacement Interoperability 	 Primary Backup Expansion capabilities Infrastructure

Figure 3: Regionalization Feasibility Focus Areas

Individual Interviews with Stakeholders

To gain an in-depth understanding of key issues, MCP invited select stakeholders and staff, identified below, with subject-matter-specific responsibilities from each entity to participate in remote interviews.

- Elected and appointed officials
- District and PSAP executive leadership
- PSAP managers and supervisors
- PSAP operations
- Support staff (information technology [IT], finance, human resources [HR])

Follow-up sessions were conducted periodically with staff to clarify data.

Regional Town Hall Sessions

MCP invited PSAP staff and stakeholders from each entity to participate in multiple town hall sessions over the course of three different in-person visits to the District. Participants were guided through introductions, an overview of the project, and keys to success. Each session was led by an MCP facilitator who worked with participants from the PSAPs and District to identify challenges and areas where opportunities exist for efficiencies. The information gained from the town hall sessions was balanced with other data and information outlined in this section to identify realistic recommendations.

Town hall participants included:

- Elected officials, Tarrant County (County) administration, and municipality administrators
- District Board and staff
- PSAP executive leadership
- Managerial and supervisory personnel
- Front-line staff
- Training personnel
- IT and other support staff
- Finance staff
- HR staff

PSAP In-person Tours

The MCP team toured selected PSAPs to observe operations, inspect facilities and equipment, and interview staff.

Online Data Collection

Data was requested from the District so that conclusions could be drawn and recommendations made. The data requested included financials, telephone statistics, and technology information.

Data was also requested from the PSAPs through an online survey tool for detailed information related to staffing, operations, technologies, facilities, and other factors relevant to the study. After extensive outreach and follow up, of the 28 PSAPs solicited to participate, 22 (67%) responded (hereafter referred to as survey respondents).

Findings and Analysis

The findings and analysis section of this report contains information garnered through data collection and research, which details the current state of the PSAPs, as well as the analytical portions of the study that measure findings to national standards and best practices, as well as MCP's industry experience and knowledge.

 Standard – something established by authority, custom, or general consent as a model or example²⁹

²⁹ "Standard," Merriam-Webster, 2020. <u>https://www.merriam-webster.com/dictionary/standard</u>

- Best Practice a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption³⁰
- Industry Experience primarily involves a minimum of ten years of combined education, work experience, and specialization in a respective industry or market segment

The data and information provided ranged from hard numbers (quantitative data) to opinions and anecdotal input (qualitative data). For data that was more quantitative, MCP relied on established public safety metrics to assess and evaluate factors related to PSAP operations. Where data was qualitative or metrics have not previously been established, MCP drew on its collective industry experience and awareness of best practices to create those metrics and assess the status of the PSAPs.

Throughout this report, MCP endeavors to make clear where analysis and findings are based on measurable, quantitative data and where MCP necessarily draws its findings from inherently more subjective evaluations. MCP's years of experience have demonstrated that subjective assessments—backed by thoughtful and unbiased comparisons with public safety and private industry best practices, along with industry exposure—are just as meaningful and important as hard, quantitative evaluations. Subjective input is properly utilized when the assessors critically review the input and do not settle for the regurgitation of unsubstantiated opinions. Both play a role in identifying where the PSAPs stand today and where they should place their priorities in crafting a plan to address critical areas at risk—whether that be in the form of shared services opportunities or through consolidation.

Findings Summary

These summaries convey conclusions from the facts or information presented and reviewed. The content highlights the main points or key messages learned or understood from something MCP reviewed, experienced, or observed.

Report and Presentation

A draft report was developed and submitted to the project team; shortly thereafter, MCP met with the project team to answer questions and discuss items that required further explanation or added content.

Within a specified period, the final report was presented to all key stakeholders and staff with a focus on inclusion, feedback, and proposed next steps.

³⁰ "Best Practice," Merriam-Webster, 2020. https://www.merriam-webster.com/dictionary/best%20practice

3 Current State Findings and Analysis

To make practical and actionable recommendations in the future state, MCP analyzed the current state of the PSAPs throughout the District, which provided an occasion for the project team, staff, and stakeholders to identify opportunities to improve emergency response outcomes. The goal of this study and specifically the key findings and recommendations, well-position the District and its entity PSAPs to make future decisions that mitigate risk and minimize costs while maintaining the highest level of service delivery for field responders and the citizens served.

3.1 Leadership and Planning



Key Findings

- All PSAPs except Burleson, MedStar, and Tarrant County Regional Communications are a division under a law enforcement or fire agency, which means they are governed at the municipal level; Burleson and Tarrant County Regional Communications (formerly Everman) are overseen by a civilian department head (see Table 2).
- The District is governed by a Board comprised of appointed and elected officials.
- The PSAPs are supported by the District, which provides technologies, training, and programs related to 9-1-1 call processing.
- Most PSAPs have flat organizational structures with little or no opportunity for career advancement.
- Outside of the District-provided contingency, 14% of the PSAPs³¹ do not have one or more of the following plans in place—strategic, continuity of operations (COOP), disaster recovery (DR), change management, and cybersecurity (see Table 4).
- There is little to no joint strategic planning between the PSAPs.

An organization's leadership and planning have a direct and crucial effect on the success or failure of a public safety entity. Leadership and planning go together—without proper leadership, the best plans often go awry, and without proper planning, the best leaders often falter. Sir Winston Churchill is credited with the saying, "*He who fails to plan is planning to fail.*" This is as true in each branch of public safety—including public safety communications—as it is in any business.

Management, administrative oversight, and governance of public safety communications operations and systems are separate issues. Management involves day-to-day PSAP operations, administrative oversight involves policy that establishes and is accountable for overall municipal system performance, while governance involves an even higher level of supervision, generally in a multi-jurisdiction environment.

In a 9-1-1 system serving multiple jurisdictions, management, in whatever form it takes, must be able to allocate funds, prioritize

Leadership:

- Establish a clear vision
- Share the vision
- Provide information, knowledge, and methods
- Coordinate and balance conflict

³¹ This percentage does not include seven PSAPs that did not respond to the survey.

operations, and generally carry out the PSAP's mission and vision. To provide assurance that this is possible, some form of governance is necessary.

These factors become important as the nation and the District move away from analog technology and toward a Next Generation 9-1-1 (NG9-1-1) environment where strategies for virtual regionalization focus on sharing data and services.

3.1.1 Governance and Organizational Structure

The District is governed by a Board comprised of two members appointed by the City of Fort Worth and one each appointed by the Commissioners Court, the City of Arlington, the City of Grand Prairie, the City of Irving, and the Tarrant County Mayor's Council. One non-voting member represents the major service supplier. The District will influence or be influenced by one or more policy-making boards or some other governing body. Varying agency by agency, region by region, and state to state, policy-making bodies, whether formally or informally formed, differ in their purpose, composition, roles, responsibilities, authority, and legislative capabilities, to name a few.

The District's mission is to "continuously provide reliable, accurate, responsive, and effective emergency communication networks and services to our member jurisdictions ensuring the protection of life and property for citizens in our community."³²

Each District member is a separate legal and administrative entity apart from its membership in the District. Each public safety agency is responsible for providing 9-1-1 service to its respective community through the operation and management of a PSAP, also known as a 9-1-1 center, dispatch center, or emergency communications center (ECC). All PSAP personnel, 10-digit non-emergency and administrative telephones, radios, computer-aided dispatch (CAD) systems, and facilities are managed and funded locally.

MCP found the PSAPs to be well supported by the District, which exerts strong leadership influence by virtue of its Board, which as previously noted, is comprised of elected and appointed officials by County commissions and city/town councils of the communities in which the District serves. The District has direct control over its offerings of PSAP training, geographic information system (GIS) services, and delivery of emergency telephone systems and related technology to its entity agencies. It can encourage and support PSAPs by providing operational best practices and guidelines but cannot require entities to change how they operate.

At the local level, all but three PSAPs (Burleson, MedStar, and Tarrant County Regional Communications) within the District are a division within the organizational structure of law enforcement or fire departments, which means they are governed at the municipal or county level and directed by a police chief, fire chief, or sheriff (see Table 2).

Table 2: PSAP Authority

Authority	PSAP
Fire Chief	Fort Worth FD and Irving FD
Police Chief	Arlington, Azle, Bedford, Benbrook, Crowley, Dalworthington Gardens, DFW, Euless, Fort Worth PD, Grand Prairie, Grapevine, Hurst, Irving PD, Lake Worth,

³² https://www.tc911.org/culture/missionobjectivegoal/

Authority	PSAP				
	Mansfield, NETCOM, North Richland Hills, Pantego, River Oaks, Saginaw, Westover Hills, White Settlement				
Sheriff	Tarrant County				
Other	Burleson, MedStar, Tarrant County Regional Communications				

PSAPs that are divisions or units within law enforcement or fire departments are generally supervised by sworn command staff. Even with supervisory support provided by civilian dispatch supervisors, this structure can be challenging at times because field resource needs usually take priority over PSAP needs. PSAP organizational structures in smaller agencies, or within another department, are generally flat, with little or no opportunity for career advancement. Alternatively, PSAP organizations that operate independently are generally more vertical, with more internal support and career growth opportunities. A lack of career growth opportunities can result in high turnover and loss of experienced staff as individuals desiring leadership advancement and higher levels of financial compensation seek employment elsewhere.

There are several active initiatives in the region where there is clear leadership influence for technological advancements and physical consolidation initiatives:

- Interoperable radio system
- Tarrant County call-handling equipment (CHE) system and infrastructure
- Past and recent consolidations

The outcomes of these initiatives, noted below, and others are the result of effective and collaborative relationships between management, administration, and the governing body, which can result in operational efficiencies leading ultimately to improved emergency response:

- Standardization of operations and equipment
- Improved quality and reliability of the 9-1-1 system
- ۲ Cost savings through the sharing of resources
- Standardization of services (e.g., T-CPR³³, EMD³⁴, call processing times, call drops, limited or no call transfers) and establishing customer expectations
- Funding leverage and accountability
- Purchasing power, plus improved and/or coordinated purchasing decisions
- ۲ Faster adoption of new technology
- ۲ Greater level of overall cooperation and coordination

³³ Telecommunicator cardiopulmonary resuscitation; instructions provided to bystanders over the telephone. Telecommunicator CPR | American Heart Association CPR & First Aid ³⁴ Emergency medical dispatch

Through governance and organizational structures, MCP found a broad range of leadership influence within the county. MCP also found a strong sense of ownership, deep silos, competition between PSAPs for employees, and many competing public safety priorities (e.g., staffing and capital [technology, facilities, other capital needs]).

- Reduced response times
- Decreased loss of life and property

With 28 independent PSAPs of various sizes, a PSAP leader's ability to support the effective implementation of quality care by achieving buy-in from stakeholders, building trust as leaders, and using local data to support their decision-making processes is difficult. Although it may be challenging for these leaders to stay engaged and be effective in persuading executives, getting buy-in for PSAP needs such as staffing, funding, technology, facilities, and access to external resources is critical. It is common for PSAPs to compete with other priority public safety needs that are more visible to the public.

The modern public safety communications ecosystem is a technologically sophisticated environment that is essential to effective emergency response operations. With the direction in which the public safety communications ecosystem is headed, more than ever before, consistent, stable, and dedicated 9-1-1-focused leadership is essential to PSAP success. Dedicated leaders with a commitment to 9-1-1 possess qualities that allow them to overcome barriers faced in leadership efforts. Placing individuals in positions of oversight to gain experience across all levels of an organization can be problematic, especially for PSAPs.

The diverse independent operations of the primary and secondary PSAPs assessed along with the backup centers, combined with the mission of public safety, is why it is so important to implement cybersecurity governance. Cybersecurity governance is concerned with all information processes—physical and electronic—regardless of whether they involve technology, people, or relationships with external partners. Cybersecurity is concerned with the comprehensive aspects of information and overall protection at all points within the lifecycle of information used within the organization. When implemented, cybersecurity governance will answer four questions:

- Are we doing the right things?
- Are we doing them the right way?
- Are we getting them done well?
- Are we seeing the expected benefits?

Given the interrelationship and integration between public safety technologies and systems, governance, and planning play an integral role in protecting PSAPs and other county and city agencies that may be impacted downstream if there is an attack. This can be seen every day across the country when a department falls victim to a cybersecurity attack and the ripple effect affects other agencies. A close-to-home recent example of the level of risk involved and the subsequent fallout is the ransomware attack that occurred in Dallas in May 2023. More than 200 servers and functional areas of local government and infrastructure, including Dallas PD and dispatch, were impacted.³⁵

3.1.2 Leadership and Planning

An essential prerequisite to leadership and planning is a shift from passive to active governance. Active governance is an ideal that is often difficult to achieve. The governmental process characteristically involves people who bring their ideas, experiences, preferences, and other strengths to the policy-making table. Active governance is achieved through an ongoing discourse that attempts to capture all considerations involved in assuring that stakeholder interests are reasonably addressed and reflected in policy.

³⁵ City of Dallas impacted by ransomware attack, police computer dispatch system down (fox4news.com)

Formal planning for the PSAP includes but is not limited to strategic (including short- and long-term financial planning), change management, and continuity of operations. Figure 4 defines change and identifies the related steps to achieving the desired outcomes.





Throughout the District, MCP found opportunities for more planning—independently and jointly. The following table includes common plans that, according to best practice, would be part of a PSAP operation and whether they are in place at the respective PSAPs.

PSAP Location	SOPs ³⁶	Strategic Plan	Change Management Policy	COOP Plan	Cybersecurity Plan	Security Plan	
Arlington PD	Yes	Yes	No	Yes	Yes	Yes	
Azle PD	In Development	Yes	Yes	Yes	Yes	Yes	
Bedford PD	Not Reported (N/R)						
Benbrook PD	No – Use Training Manual	No	No	Yes	Yes	Yes	
Burleson PD	Yes	No	No	Yes	Yes	Yes	
Crowley PD	Yes	Yes	Yes	Yes	Yes	Yes	
Dalworthington Gardens DPS	Yes	Yes	No	Yes	Yes	Yes	
DFW	Yes	Yes	Yes	Yes	Yes	Yes	
Euless PD	N/R						

Table 3: Leadership Planning Summary

³⁶ Standard operating procedures

PSAP Location	SOPs ³⁶	Strategic Plan	Change Management Policy	COOP Plan	Cybersecurity Plan	Security Plan
Fort Worth FD	Yes	Yes	Yes	Yes	Yes	Yes
Fort Worth PD	Yes	Yes	No	Yes	Yes	Yes
Grand Prairie PD	Yes	Yes	No	Yes	Yes	Yes
Grapevine PD	In Development	Yes	Yes	Yes	Yes	Yes
Hurst PD	Yes	Yes	No	Yes	Yes	Yes
Irving FD			N/	R		
Irving PD	Yes	Unknown	Unknown	Unknown	Unknown	Unknown
Lake Worth PD	Yes	Yes	No	No	Yes	Yes
Mansfield PD	Mansfield PD Yes Yes		No	No	Yes	Yes
MedStar Mobile Healthcare	Yes	Yes	Yes	Yes	Yes	Yes
NETCOM	Department General Orders/SOPs	Yes	Yes	Yes	Yes	Yes
North Richland Hills PD	Yes	Yes	No	Yes	Yes	Yes
Pantego PD	Yes	Yes	No	Yes	No	No
River Oaks			N/	R		
Saginaw PD	Yes	Yes	No	Yes	No	Yes
Tarrant County Regional CommunicationsYesNo		No	Yes	Yes	Yes	
Tarrant County SO	N/R					
Westover Hills PD	Yes	Yes	No	Yes	Yes	Yes
White Settlement PD			N/	R		

The most commonly missing planning element is the lack of a change management policy, with 14 of the 22 (64%) survey respondents advising they did not have one (and covering 10.6% of the overall missing elements).

This is followed by three PSAPs reporting they do not have a strategic plan. MCP did not ask if the strategic plans were PSAP-specific or incorporated into the broader department or municipal strategic plan. MCP's experience, however, would venture that the latter is the case, leaving the PSAPs (especially when combined with the lack of a change management policy) in a state of limbo except for the support provided by the District.

Strategic Planning

A strategic plan is essential to an organization's ability to achieve, proactively and incrementally, its long-term goals. Of the 22 survey respondents, 18 have a formal written strategic plan for their organization.³⁷ The public safety communications ecosystem is a technologically sophisticated environment that is essential to effective emergency response operations. The more complex the ecosystem becomes and the faster it expands, the harder it is to maintain clarity of direction and alignment. There are multiple components of PSAP operations that should be included in short- and long-range planning to sustain current operations and plan for and meet future budgetary needs (e.g., facility, technology, equipment, etc.).

Outside of some PSAPs with neighboring jurisdictions, there is a lack of District-wide strategic planning between the PSAPs. This has created challenges with regionalization planning because plans are handled at the local level and between a limited number of agencies, which tends to have a silo effect on the outcomes. In other words, planning is limited to a small number of neighboring jurisdictions and is not a coordinated effort across the District, which is a missed opportunity because of the commonalities between the PSAPs.

Except for managing initiatives within established budgets, on schedule, and providing the outcomes established in the scope, much of what is considered best practice from an organizational leadership perspective is subjective. The ability to execute initiatives is partly due to leadership's influence and effectiveness in navigating the political landscape to meet mission-critical needs, such as approvals for additional employees, technologies, facilities, funding, and access to support resources.

Change Management Planning

The change management process is a series of tasks outlined for a seamless transition from a current state to a future state without obstructing the workflow or suffering any damage. Of the 22 survey respondents, seven have formal change management plans for technology and security upgrades, but not for operational and policy changes.

A change management plan is an essential tool that helps determine if policy changes and initiatives will provide value to the organization. While providing clarity, it also maintains alignment of projects and initiatives with the organization's strategic goals and objectives and helps mitigate mission-creep and change fatigue.

If using effective organizational leadership tools such as a strategic plan and change management workflow, leaders should have the foundation to effectively execute initiatives. The absence of these tools does not mean that leaders cannot be effective; however, introducing ideas in alignment with an organization's strategic plan and an established change management plan help staff view initiatives as positive to their mission performance with minimal disruptions, keep mission-creep to a minimum, and protect staff from change fatigue. To garner

³⁷ Key staff from 12 PSAPs were interviewed, and they were unaware if a strategic plan exists for their organization.

commitment and support, leaders that are effective typically engage a diverse group of staff, including line-level personnel, to review initiatives.

COOP and DR Planning

Continuity is defined as "[t]he ability to provide uninterrupted services and support, while maintaining organizational viability, before, during, and after an event that disrupts normal operations."³⁸ A COOP plan is a tool intended to aid an organization in preparing for, responding to, and recovering from a disruptive event. Unfortunately, as with other essential services, public safety personnel, facilities, equipment, and communication infrastructure are susceptible to a wide range of digital and physical threats. As such, the public safety sector is one of 16 critical infrastructure sectors defined under Presidential Policy Directive (PPD) 7 and PPD 21 and addressed by the National Infrastructure Protection Plan (NIPP).

COOP and DR planning identify how critical operations will continue under a broad range of circumstances. Of the 22 survey respondents, 19 have a formal COOP plan; most had phone reroutes and limited evacuation plans. Several PSAPs have no or very limited mission-critical capabilities at their evacuation or overflow locations and, in some cases, calls roll to jurisdictions that have limited staff on duty to manage a surge.

It is likely that gaps exist between the current plans and the common elements, which highlights the importance of not only planning on an individual level, but jointly to ensure that calls can get to the field responders as expeditiously as possible. This underscores the complexities of 28 independent PSAPs, which can be difficult with little joint planning. Communities place a high level of trust in 9-1-1 systems and the ability of public safety agencies to deliver services regardless of emergency circumstances.

Cybersecurity Planning

Cybersecurity threats have increased exponentially in recent years. It is no longer a matter of if but when an agency will be directly or indirectly involved in a cyberattack. PSAPs are a vulnerable and valuable target for attacks; effective and strategic cybersecurity planning, in addition to proper training, mitigation strategies, and protections, is necessary to sustain operations. Cybersecurity planning should be supported and initiated at the top of any organization, as it impacts all aspects of the organization. Of the 22 survey respondents, 19 reported having a cybersecurity plan. The level of cybersecurity planning, however, varies greatly between PSAPs. Given the condition and age of some of the mission-critical systems and equipment in use, there are likely vulnerabilities that could be mitigated through additional planning, policies, and protections.

Although the District has robust cybersecurity measures in place to protect the CHE, there is a line of demarcation where cybersecurity from the District services ends, and municipal services begin; it is in this space that the PSAPs are vulnerable to various cyber threats. Any major cyberattack on one PSAP is likely to have an impact on the other PSAPs, especially if the attack impacts core operations (answering emergency phone calls and dispatching field responders), requiring a neighboring PSAP to take over core duties.

With proper planning, a regionalization effort that combines resources can eliminate potential attack vectors or points of entry into the organization and ultimately reduce risk. When strategically planned and implemented, this type of alignment can maximize resources—both technical and personnel—further enhancing the cybersecurity posture and keeping the cybercriminals at bay.

³⁸ Federal Continuity Directive 1 - January 17, 2017 (fema.gov)

Joint planning and ongoing cybersecurity awareness training can be key here. Given the level of threat to public safety from cyberspace, there are numerous standards and best practices that may be used for cybersecurity planning. These can be found in Appendix B.

3.2 Revenue and Expenses



Key Findings

- The District's wireline rates are some of the lowest in the state.
- Wireline revenue is 31% of the District's revenue.
- If there is a major budget shortfall or capital expense, the District uses unrestricted reserves to cover the cost.

Funding is a key area of concern for PSAPs nationwide. Without appropriate funding, PSAPs are not able to upgrade technology as required, schedule staffing appropriately, or complete day-to-day operations efficiently. Funding can be identified from multiple sources, but without adequate funding, PSAPs become stagnant and the efficiency of the provision of 9-1-1 and emergency services suffers.

In many cases, PSAPs have been forced to seek alternate sources of funding as local and/or state funding is not adequate to support operations. Grant funding, while not as plentiful as in years past, is a viable source of funding especially for technology projects such as NG9-1-1 system implementation or radio system replacement. However, once the grant period of performance ends, agencies must be prepared to continue funding operations and maintenance. Funding can also be in the form of cost savings, particularly from realizing economies of scale. A purchase made by multiple entities to benefit all (cost-sharing) tends to reduce the cost to each individual PSAP versus purchases made separately. Cost savings can also be made by using existing contract vehicles, where appropriate, to reduce funding needs.

3.2.1 District Funding

In Texas, by statute³⁹, the wireless 9-1-1 service fee is collected and distributed by the Commission on State Emergency Communications, while the wireline fees are set and collected locally. Annually, the District receives approximately \$18 million in revenue. The District's income from wireline fees, is 31% of its income and at \$0.20, the wireline rate is the lowest in the state, which ranges from \$0.20 to \$1.85. Incidentally, as of 2021, it is also one of the lowest in the country—in the bottom seven states.⁴⁰ District leadership have been advocating at the state legislative level for a wireless device rate increase, which is set at \$0.50 statewide, to \$0.85 per wireless device (an increase of \$0.35). According to the Federal Communications Commission (FCC), wireline/Voice over Internet Protocol (VoIP) rates in the state of Texas range from:

The District's current operating expenses are approximately \$24 million annually, which means its operating expenses are exceeding its revenue—by approximately \$6 million this budget year.

 Residential: \$0.20 to \$1.44; 6% to 8% of the base rate of charges of predominate telecommunications provider

³⁹ Health & Safety Code Section 771.0711

⁴⁰ 9-1-1 Surcharge - User Fees by State - National Emergency Number Association (nena.org)

- Business: \$0.75 to \$5.58; 6% to 8% of the base rate of charges of predominate telecommunications provider
- Trunks: \$0.50 to \$8.33; 6% to 8% of the base rate of charges of predominate telecommunications provider⁴¹

Nationally, there is a wide variance between states for surcharge rates and user fees (see Appendix C).

In fiscal year 2023, the District's operating expenses are budgeted for \$15.3 million; in addition, \$9 million is budgeted for Next Generation Core Services (NGCS), bringing the total to \$24.3 million. This means the total expenditures are exceeding revenue by approximately \$5.5 million for this budget year.



Figure 5: District Budget 2021 to 2023

Staff reported that there are no reserves for special purposes, as all surplus revenue goes into general (unencumbered) reserves during the budget process and the Board determines how the reserves will be spent.

According to staff, in 2010, there was a surplus of reserve funds, and the Board decided to provide a one-time reimbursement to each primary PSAP, which totaled approximately \$1 million. The allowable use of 9-1-1 fees under the assistance program, based on state legislation, was for "local agencies and states to fund any communication system, technology or support activity that directly provides the ability to deliver 911 voice and data information between the 'entry point' to the 911 system and the first responder." The Board eventually decided to establish an assistance program that would provide funds to the primary PSAPs annually. The assistance program funding was allocated based on population; however, each PSAP was guaranteed a minimum of \$5,000 regardless of its population. In 2014, the District created a second assistance fund, using approximately \$2 million in surplus revenue, to support radio interoperability. All cities that maintain a radio system were eligible for interoperability funding, which was also based on population size, with a minimum of \$5,000 provided to each city participating in the program. In both scenarios, the assistance programs were at a

⁴¹ Fourteenth Annual Fee Report State Filings | Federal Communications Commission (fcc.gov)

flat rate and not based on a percentage of the surplus or budget. Due to rising operating costs and the migration to NG9-1-1, a moratorium was placed on both assistance funds in October 2022 to provide the Board some time to reassess the impacts of the programs long term. In April 2023, the Board decided to eliminate both programs indefinitely.

The surplus that both assistance programs pulled from is the same reserve fund that is used to cover budget deficits and any unforeseen major capital expenses. To put this into perspective, the CHE will need to be upgraded and replaced in 2027. This upgrade is outside of the NG9-1-1 migration project. Staff estimate that the cost to upgrade the CHE and replace outdated equipment will be approximately \$40,000 per position. With 330 positions, the cost impact is approximately \$13.2 million, which does not include network costs and backroom equipment. This could have a significant impact on PSAPs locally if the District does not have the revenue to cover the expenses.

The migration to NG9-1-1 will be a substantial investment. As noted above, it is anticipated that the capital costs of the migration will be covered by a grant; however, the maintenance costs (outside of year one) will likely exceed \$9 million annually to support both the network and NGCS. Based on the current operating budget, this will increase expenses by more than \$9 million and expedite the depletion of reserves two-fold if revenue is not increased at the state level. To prepare for the costs of migrating to NG9-1-1, the District has had to reduce its budget by almost \$3 million. District staff reported that the largest reductions to the budget have centered around the network, training, and public education.

Aside from advancing technology costs due to NG9-1-1, the District is facing a potential facility need because of an eminent domain situation, which will further strain reserves and reduce surplus revenue.

Although the District has taken incremental steps to alleviate the impacts of rising costs with stagnant outdated device fees revenue from the state, the cost of technology has continued to outpace the District's ability to support it, which has created a sense of urgency to shift the paradigm. The Board decision to dissolve the assistance program is the first step to support the 9-1-1 infrastructure.

3.2.2 PSAP Operating Budgets

Since most PSAPs operate as a division under a law enforcement agency, their budgets are embedded into the law enforcement budgets, which makes it difficult to determine true operating expenses. Most agencies reported little overhead and other costs, with personnel costs totaling the largest portion of their overall operating budget expenses. All PSAPs subsidize operating budgets with general funds because the 9-1-1 funding only pays for the CHE and basic training and does not pay for workforce expenses (telecommunicator wages and benefits).

A common factor to examine for fiscal efficiencies is the cost per 9-1-1 call. In other words, how much does it cost the PSAP to deliver services on a per-call basis? The same calculation can be factored on a per-capita basis.

Only 11 of the survey respondents provided budget information and, in some cases, the information was not entirely complete because of how integrated the budgets are within their respective department budget. Of the

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PSAPs that responded, the range was \$14.00 per call to \$177 per call when the operating budget was divided by the number of 9-1-1 calls. In MCP's experience, an optimal cost is less than \$40 per 9-1-1 call.

The following table includes a cost-per-call sampling based on the 9-1-1 call volume reported by the District and the budget information submitted through the survey. Many PSAPs included only personnel costs so all other costs to operate are not factored into the cost per 9-1-1 call calculation. In most cases, an assumption can made that the cost per call is higher than what was reported, not only because some PSAPs only included the personnel costs but also because of how much of the operating budget is covered by the department budget that the PSAP falls under.

PSAP Location	Annual 9-1-1 Volume (2022)	Reported Operating Budget	Cost per 9-1-1 Call (rounded)	Notes
Arlington PD	283,733	\$10,937,979	\$39	Personnel, overhead, and other costs included.
Azle PD	7,073	\$502,351	\$71	Personnel and other costs included; does not include IT support.
Bedford PD	26,581	\$985,450	\$37	Budget estimate based on 13 full-time employees at \$56,151 annual wage + 35% benefits. This estimate does not include overhead.
Benbrook PD	11,970	\$893,055	\$75	Personnel and other costs included.
Burleson PD	19,626	\$1.5 million	\$76	Budget estimate based on 22 full-time employees at \$50,014 annual wage + 35% benefits. This estimate does not include overhead.
Crowley PD	7,917	\$626,440	\$79	Personnel costs only.
Dalworthington Gardens DPS	1,669	\$345,263	\$207	Budget estimate based on 4 full-time employees at \$46,500 annual wage + 35% benefits. This estimate does not include overhead, other costs, or the additional 2 full-time employees it would take to cover a 24 x 7 shift.
DFW	31,846	5,638,710	\$177	Personnel costs only.

Table 4: PSAP Cost per Call Sampling



PSAP Location	Annual 9-1-1 Volume (2022)	Reported Operating Budget	Cost per 9-1-1 Call (rounded)	Notes
Euless PD	27,979	\$1.1 million	\$39	Budget estimate based on 13 full-time employees at \$64,093 annual wage + 35% benefits. This estimate does not include overhead.
Fort Worth FD	83,145	\$4,823,992	<mark>\$58</mark>	Personnel and other costs included.
Fort Worth PD	767,799	\$10,394,963	\$14	Personnel costs only.
Grand Prairie PD	116,711	\$4,454,047	\$38	Includes personnel and overhead budget; does not include IT budget.
Grapevine PD	29,368	\$2 million	\$68	Budget estimate based on 23 full-time employees at \$64,522 annual wage + 35% benefits. This estimate does not include overhead.
Hurst PD	25,691	\$920,000	\$36	Includes personnel, overhead, and operating budget; PSAP reported significant staffing shortages impacting the budget.
Irving FD	21,414	\$1.7 million	\$79	Budget estimate based on 20 full-time employees at \$65,532 annual wage + 35% benefits. This estimate does not include overhead.
Irving PD	154,316	\$5.3 million	\$34	Budget estimate based on 60 full-time employees at \$65,532 annual wage + 35% benefits. This estimate does not include overhead.
Lake Worth PD	9,791	\$533,625	\$55	Personnel costs only; PSAP noted all other costs covered by PD.
Mansfield PD	40,103	\$2.1 million	\$52	Budget estimate based on 24 full-time employees at \$65,500 annual wage + 35% benefits. This estimate does not include overhead.
MedStar Mobile Healthcare	133,921	\$2,816,590	\$21	Personnel costs only.

PSAP Location	Annual 9-1-1 Volume (2022)	Reported Operating Budget	Cost per 9-1-1 Call (rounded)	Notes
NETCOM	37,425	\$1.6 million	\$43	Budget estimate based on 21 full-time employees at \$56,243 annual wage + 35% benefits. This estimate does not include overhead.
North Richland Hills PD	73,050	\$1,845,672	\$25	Personnel, other costs, and overhead included.
Pantego PD	2,093	\$290,250	\$139	Budget estimate based on 4 full-time employees at 47,500 annual wage + 35% benefits. This estimate does not include overhead.
River Oaks PD	2,865	\$319,950	\$112	Budget estimate based on 6 full-time employees (covers one position 24 x 7) at \$39,500 annual wage + 35% benefits. This estimate does not include overhead.
Saginaw PD	10,538	\$765,566	\$73	Personnel and other costs included.
Tarrant County Regional Communications	13,824	\$1,466,864	\$106	Personnel and other costs included. These numbers were reported prior to consolidation with Tarrant Co Fire Alarm.
Tarrant County SO	39,272	\$1.6 million	\$41	Budget estimate based on 24 full-time employees at \$50,003 annual wage + 35% benefits. This estimate does not include overhead.
Westover Hills PD	226	\$336,150	\$1,487	Budget estimate based on 6 full-time employees (covers one position 24 x 7) at \$41,500 annual wage + 35% benefits. This estimate does not include overhead.
White Settlement PD	17,745	\$1.3 million	\$73	Budget estimate based on 18 full-time employees at \$54,700 annual wage + 35% benefits. This estimate does not include overhead.

3.3 **Operations**



Key Findings

- Non-core (ancillary) functions that are not commonly found in standalone PSAPs include detention/jail duties, a walkup window, triaging administrative calls, and other law enforcement-related administrative and records support duties.
- Administrative phone calls comprise more than 50% of the overall call volume and, in some cases, administrative phone calls comprise more than 85% of the volume.
- With support from the District, the PSAPs provide an average of 15 to 36 hours of continuing education annually.
- Fifteen survey respondents reported having a quality assurance/quality improvement (QA/QI) program.
- Twelve survey respondents reported they provide EMD.
- The majority of PSAPs in the District cross-train their telecommunicators to answer emergency calls and dispatch police and/or fire/EMS, with most telecommunicators performing call-taker duties simultaneously while dispatching with no clear separation of functions.

Functions, Workload, and Duty Assignments

Combined, the PSAPs process more than two million 9-1-1 calls annually. In addition to core functions (emergency call processing, analyzing of data, dispatching, and accounting for field responders), the PSAPs also have non-core (ancillary) functions that range from administrative duties to booking and jail duties. Non-core functions that are being performed today include:

- Jail duties include receiving and processing inmates, pat downs, serving meals, jail checks, and supervising inmates.
- Security includes monitoring interior and exterior security cameras, including remote city facilities and parking lots.
- Administrative duties include administrative call triaging and processing administrative-related requests and inquiries (internal and/or external).
- Walkup window includes actively staffing the main lobby/walkup window of the police department and handling requests, processing transactions involving cash, requests for records, and fingerprinting.
- Vehicle releases include all administrative duties related to towed and impounded vehicles.
- City/county services include supporting the police department and other city departments (e.g., animal control, public works) and providing related services and/or making notifications (e.g., medical examiner, funeral homes, and other county/city departments).
- Early warning system notifications (tornado sirens/mass notifications) include activating the severe weather sirens, making related notifications, and conducting other mass notifications.
- Warrants/Records include tasks related to entering, modifying, removing, and/or processing warrants, sex offender registries, and other protective orders; processing bonds; issuing and logging court dates; and criminal history inquiries.



MCP found the non-core functions to be more prevalent in the PSAPs that are a division of a law enforcement agency. Non-traditional PSAPs, such as DFW, have more unique (airport-specific) non-core functions such as access control, increased camera monitoring, and public address notifications. MedStar has a unique ancillary duty related to processing non-emergency requests for ambulance transports, which includes capturing billing information. The most common non-core duties in the region are administrative, warrants/records, security camera monitoring, walkup window, and support services, as shown in the table below.

PSAP Location	Jail Duties	Security (Active Monitor)	Administrative Duties	Walkup Window	Vehicle Releases	City/County Services	Early Warning System Notifications	Warrants/Records
Arlington PD								 Image: A second s
Azle PD	~	~	~	~	✓	~	 Image: A second s	 Image: A second s
Benbrook PD		~	-	~	~	× -		 Image: A second s
Burleson PD	v	~	~		~	A	 ✓ 	~
Crowley PD	A	~	-	~	~	× -	 Image: A second s	 Image: A second s
Dalworthington Gardens DPS	~		~	•				~
DFW		~	 Image: A second s					 Image: A second s
Euless PD				None re	eported			
Fort Worth FD			-			~	 Image: A second s	 Image: A second s
Fort Worth PD		~	>					~
Grand Prairie PD		~	-			× -	 Image: A second s	 Image: A second s
Grapevine PD	v	~	~	~		A	 ✓ 	~
Hurst PD	A	~	× -				 Image: A second s	 Image: A second s
Irving PD						√		~
Lake Worth PD	-	-	-	-		-	 Image: A second s	-
Mansfield PD		√	~			√		✓

Table 5: Non-Core Duties

MissionCriticalPartners

PSAP Location	Jail Duties	Security (Active Monitor)	Administrative Duties	Walkup Window	Vehicle Releases	City/County Services	Early Warning System Notifications	Warrants/Records
MedStar Mobile Healthcare			•					
NETCOM		√					<	~
North Richland Hills PD	~	~	~			-		•
Pantego PD	~		√	 Image: A start of the start of				✓
River Oaks PD				None R	eported			
Saginaw PD	~	✓		✓		 Image: A start of the start of		~
Tarrant County Regional Communications			•	~	~	*	~	•
Tarrant County SO	None Reported							
Westover Hills PD		√		 Image: A second s	 Image: A second s			
White Settlement PD		None Reported						

While it is not unusual for PSAP staff to be assigned ancillary duties, especially when the PSAP is a division of a law enforcement agency, it can significantly impact the utilization rate⁴² of telecommunicators and, at times, be particularly challenging for telecommunicators to juggle the non-core duties with higher priority emergency communications. Further, agencies that require their telecommunicators to perform certain jail duties may create scenarios (e.g., direct inmate interaction) where the telecommunicator is taken away from their primary duties of answering emergency calls, dispatching, and accounting for field responders, which is inherently risky if there is only one telecommunicator on duty.

Approximately 46% of the PSAPs in the District operate with a minimum of one or two telecommunicators per shift.⁴³ Many PSAPs in the District cross-train their telecommunicators to answer emergency calls and dispatch police and/or fire/EMS. Cross-training can benefit PSAPs in many ways, including increasing productivity, allowing for more effective succession planning, and reducing staffing needs; however, PSAPs integrating call-

⁴² Utilization is the percentage of time each shift that staff are *available* to do their respective job.

⁴³ This calculation includes some assumptions for agencies that did not respond to the survey.

taker duties simultaneously with dispatching are prone to mishaps due to the lack of separate or clearly defined functions.

An area of particular concern that was noted during the town hall discussions and staff interviews is the workload from handling non-emergency and administrative calls. As shown in the table that follows, almost 76% of the PSAPs report administrative call volumes in excess of 50% of their overall call volume. For 31% of those PSAPs, the administrative call volume (70% or greater) far exceeds the emergency call volume.

It is common for administrative calls to take longer for call processing than emergency calls, as sometimes they can be more involved and complex than simply gathering the location and nature, then dispatching field responders. Based on industry experience, MCP estimates that administrative calls range from 120 to 150 seconds per call and 9-1-1 calls on average range from 90 to 100 seconds. The more involved administrative calls can be taxing on PSAPs that have only one telecommunicator on duty who is also handling emergency calls and dispatching field responders. Administrative call processing often requires telecommunicators to place people on hold while they handle higher priority tasks, which contributes to longer call processing times or can unintentionally delay the answering of emergency calls or radio transmissions.

PSAP Location	Annual 9-1-1 Volume (2022)	10-Digit Call Volume	Admin ⁴⁴ Call Volume	Total Call Volume	Emergency Call Volume (% of total)	Admin Call Volume (% of total)
Arlington PD	283,733	9,844	181,315	474,892	62%	38%
Azle PD	7,073	153	41,393	48,619	15%	85%
Bedford PD	26,581	925	59,688	87,194	32%	68%
Benbrook PD	11,970	140	22,789 34,899		35%	65%
Burleson PD	19,626	500	27,572	47,698	42%	58%
Crowley PD	7,917	380	18,497	26,794	31%	69%
Dalworthington Gardens DPS	Dalworthington1,669532Gardens DPS		256	2,457	90%	10%
DFW	31,846	149	103,427	135,422	24%	76%
Euless PD	27,979	451	75,429	103,859	27%	73%
Fort Worth FD	83,145	1,885	76,055	161,085	53%	47%
Fort Worth PD	767,799	27,012	584,332	1,379,143	58%	42%

Table 6: 2022 9-1-1 and Administrative Call Volume Overview

⁴⁴ Administrative

PSAP Location	Annual 9-1-1 Volume (2022)	10-Digit Call Volume	Admin ⁴⁴ Call Volume	Total Call Volume	Emergency Call Volume (% of total)	Admin Call Volume (% of total)
Grand Prairie PD	116,711	4,798	190,571	312,080	39%	61%
Grapevine PD	29,368	174	78,232	107,774	27%	73%
Hurst PD	25,691	1,984	53,753	81,428	34%	66%
Irving FD	21,414	2,568	29,307	53,289	45%	55%
Irving PD	154,316	1,730	314,817	470,863	33%	67%
Lake Worth PD	9,791	324	30,426	40,541	25%	75%
Mansfield PD	40,103	590	68,089	108,782	37%	63%
MedStar Mobile Healthcare	133,921	0	148,912	282,833	47%	53%
NETCOM	COM 37,425 291		26,606	64,322	59%	41%
North Richland Hills PD	73,050	2,602	141,125	216,777	35%	65%
Pantego PD	2,093	272	7,522	9,887	24%	76%
River Oaks PD	2,865	146	18,204	21,215	14%	86%
Saginaw PD	10,538	87	39,028	49,653	21%	79%
Tarrant County Regional Communications	Tarrant County13,824684RegionalCommunications		45,829	60,337	24%	76%
Tarrant County SO	39,272	345	132,735	172,352	23%	77%
Westover Hills PD	226	71	806	1,103	27%	73%
White Settlement PD	ement 17,745 339 4,16		4,166	22,250	81%	19%
Total	1,997,691	58,976	2,520,881	4,577,548		

3.3.1 Call Transfers

When there are multiple PSAPs operating near each other, there are inherent call transfers. Whether the emergency call came in on a cellular line that was misrouted or there is a need to route the call elsewhere for police, fire, or EMS to be dispatched, transfers are routine. In 2022, callers (including on 9-1-1 lines) were transferred between PSAPs throughout the District approximately 340,680⁴⁵ times, which is 39 call transfers an hour. The following table breaks down the call transfers and includes the most common PSAPs that calls were transferred to or from.

PSAP Location	Transfer To	Transfer From	Total Transfers	Common Transfer Locations
Arlington PD	13,225	11,524	24,749	City of Dallas, Fort Worth PD, Grand Prairie PD, Mansfield PD
Azle PD	1,228	2,301	3,529	Fort Worth PD, Lake Worth PD, Tarrant County SO, Tarrant County Regional Communications
Bedford PD	2,364	2,316	4,680	Euless PD, Grapevine PD, Fort Worth PD, Hurst PD, NETCOM
Benbrook PD	1,277	2,187	3,464	Fort Worth PD, Tarrant County SO, MedStar
Burleson PD	1,647	5,248	6,895	Crowley PD, Fort Worth PD, MedStar, Tarrant County SO
Crowley PD	952	722	1,674	Burleson PD, Fort Worth PD, Tarrant County SO
Dalworthington Gardens DPS	431	65	496	Arlington PD
DFW	1,023	2,494	3,517	Euless PD, Grapevine PD, Irving PD
Euless PD	2,448	3,267	5,715	Bedford PD, Fort Worth PD, Grapevine PD, Hurst PD, Irving PD, NETCOM
Fort Worth FD	82,588	39,584	122,172	Fort Worth PD, Lake Worth PD, MedStar, Saginaw PD
Fort Worth PD	33,044	177,454	210,498	Arlington PD, Bedford PD, Benbrook PD, Burleson PD, Crowley PD, Euless PD, Fort Worth FD, Grand Prairie PD, Hurst PD, Lake Worth PD, Mansfield PD, MedStar, NETCOM, North Richland Hills PD, River Oaks PD, Saginaw PD, Sansom Park (White Settlement beginning June 2023), Tarrant County

T	able	7:	District	Call	Transfers
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⁴⁵ This number represents outbound transfers only.
PSAP Location	Transfer To	Transfer From	Total Transfers	Common Transfer Locations
				SO, Tarrant County Regional Communications, White Settlement PD
Grand Prairie PD	7,796	9,714	17,510	Arlington PD, City of Dallas, Fort Worth PD, Irving PD, Mansfield PD
Grapevine PD	3,213	1,203	4,416	DFW, Euless PD, Irving PD, NETCOM
Hurst PD	2683	4,046	6,729	Bedford PD, Euless PD, Fort Worth PD, NETCOM, North Richland Hills PD
Irving FD	20,581	477	21,058	Irving PD
Irving PD	4,389	25,544	29,933	Arlington PD, City of Dallas, DFW, Euless PD, Grand Prairie PD, Irving FD
Lake Worth PD	1,139	3,752	4,891	Fort Worth PD, Fort Worth FD, MedStar, Tarrant County SO
Mansfield PD	2,546	3,560	6,106	Arlington PD, Fort Worth PD, Grand Prairie PD, Tarrant County SO
MedStar Mobile Healthcare	133,082	2,271	135,353	Benbrook PD, Burleson PD, Tarrant County Regional Communications, Fort Worth FD, Fort Worth PD, Lake Worth PD, North Richland Hills PD, River Oaks PD, Saginaw PD, Sansom Park, Tarrant County SO
NETCOM	1,633	3,697	5,330	Fort Worth PD, Grapevine PD, Hurst PD, North Richland Hills PD
North Richland Hills PD	4,659	10,530	15,189	Fort Worth PD, Hurst PD, MedStar, NETCOM
Pantego PD	714	199	913	Arlington PD
River Oaks PD	526	835	1,361	Fort Worth PD, MedStar
Saginaw PD	856	3,204	4,060	Fort Worth PD, Fort Worth FD, MedStar
Tarrant County SO	2,810	15,539	18,349	Azle PD, Benbrook PD, Burleson PD, Crowley PD, Fort Worth PD, Mansfield PD, MedStar, Sansom Park, Tarrant County Regional Communications

PSAP Location	Transfer To	Transfer From	Total Transfers	Common Transfer Locations
Tarrant County Regional Communications	12,500	5,536	18,036	Azle PD, Fort Worth PD, MedStar, Tarrant County SO, White Settlement PD
Westover Hills PD	37	45	82	Fort Worth PD, MedStar
White Settlement PD	1,289	2,115	3,404	Fort Worth PD, MedStar, Tarrant County SO
Total	340,680	339,429	680,109	

Based on MCP's industry experience, call transfers generally take approximately 90 seconds on average. Transfers have inherent risk because callers may be lost in the transfer or may be transferred to multiple locations—either because they were sent initially to the wrong PSAP or the call had to be transferred a second or third time because it involved other agencies. Often, callers must convey their information to call-takers more than once because they were transferred to another agency for dispatch, which can extend the amount of time it takes to get proper field responders dispatched. Using a factor of 90 seconds to calculate the time it takes to transfer approximately 340,000 calls annually is a staggering 8,500 hours of work.

3.3.2 Training

All survey respondents report they have a structured training program; they are predominantly homegrown programs not developed from national standards or best practices. Most of the smaller PSAPs conduct new hire training with on-the-job training (OJT) and very little to no classroom training.

The Texas Commission on Law Enforcement (TCOLE) requires telecommunicators in the state to be licensed.⁴⁶ The District is a contracted training provider for TCOLE and offers both initial basic training for telecommunicators and continuing education classes. Telecommunicators in the state must complete a minimum of 20 hours of continuing education every two years. The national standard recommends a minimum of 24 hours every two years.⁴⁷ Agencies, however, reported an average of 15 to 36 hours annually for continuing education. While agencies generally reported that they are willing to send veteran employees to any available training, they are limited by staffing constraints. The District reported that PSAPs routinely take advantage of their training offerings. All courses offered by the District are in-person and free of charge. TCOLE's licensure program for telecommunications aligns with the Association of Public-Safety Communications Officials (APCO) International standard *APCO ANS Minimum Training Standards for Public Safety Telecommunicator*⁴⁹ and the National 911 Program's *Recommended Minimum Training Guidelines for the Telecommunicator*⁴⁹.

- ⁴⁷ APCO ANS Minimum Training Standards for Public Safety Telecommunicators
- 48 Ibid

⁴⁶ <u>Telecommunications Officers | Texas Commission on Law Enforcement</u>

⁴⁹ Recommended 911 Minimum Training for Telecommunicators | 911.gov

3.3.3 Standard Operating Procedures

As noted in Table 3, 14 survey respondents reported they have SOPs or standard operating guidelines (SOGs). Four PSAPs reported having no SOPs or are developing them. Some smaller PSAPs have SOPs that fall under their host law enforcement agency but apply to emergency call processing and dispatching.

A well-researched SOP is one that relies on information gathered from agencies or sources outside one's own. A well-designed SOP is one that covers the information it claims to and should be confined to a limited topic and not drift into other areas. A well-written SOP is one that is easy to understand and follow; it should have a logical flow and not use confusing language. A key to good SOPs is that they must be well-trained to be effective. Training on SOPs can take several forms, including using software programs that track the status of employee reviews, and can vary depending on the level to which an agency is already trained.

Current and accurate are the final two components of good SOPs. Even the best-written SOP manual will become obsolete if it is not regularly reviewed and updated, which necessitates a policy that defines the timeframe and how SOPs will be reviewed and updated if necessary. An annual review of every policy is generally a best practice. Relevancy, content, accuracy, and applicability should be considered, as should changes in the organization's technology, structure, and size.

It is essential to risk management that PSAPs have clearly defined SOPs that present a set of uniform procedures for every member of the agency to follow. In addition to being well-researched, well-designed, well-written, well-trained, current, and accurate, it is important the SOPs are readily available and accessible to all staff, preferably in electronic format.

PSAPs are unique and require SOPs that are applicable to actual PSAP operations, technologies, and facilities. SOPs are directly tied to performance management, service levels, and risk mitigation. Efficiencies may be gained in the District by developing model templates that can be easily adapted and applied to PSAPs in need of SOPs.

3.3.4 Use of Call Processing Protocols and T-CPR

Twelve of the survey respondents use commercially available structured protocols for emergency medical incidents. Several PSAPs transfer callers to other PSAPs and agencies that provide EMD and are responsible for dispatching medical responders. As not every PSAP offers EMD and there may be a transfer or no EMD provided at all, there is disparity in EMD services offered to callers across the District. A resident or visitor driving through the District cannot be confident that they will receive this potentially lifesaving service that has become an expected level of service and standard of care across the country. The ability to provide EMD is further complicated by the fact that some PSAPs have only one telecommunicator on duty (see Section 3.4.1), which is not a best practice and makes it challenging to work through an extended medical call.

Conversely, and not considered a standard of care, no PSAPs utilize commercially available structured protocols for law enforcement (EPD⁵⁰) opting to rely on SOPs. Only Fort Worth FD uses structured protocols for fire incidents (EFD⁵¹).

Whether commercially available or built in-house, a clearly defined, standard procedure for call-taking is important to PSAP operations as it promotes uniformity of process, reinforces training, and reduces errors. Standardized protocols (i.e., EMD) were first developed for emergency medical calls to provide consistent zero medical-response-time guidance by asking questions in the proper order, thereby maximizing caller information

⁵⁰ Emergency police dispatch

⁵¹ Emergency fire dispatch

and improving field response, while also providing pre-arrival instructions until field responders arrive.⁵² The provision of EMD has become an expected standard of care by the public. Whether an organization uses a third-party set of protocols or has developed its own, it is important that the protocols and any pre-arrival instructions are clearly defined and align with standards, even voluntary standards such as those developed by the American Society for Testing and Materials (ASTM).

In September 2021, Texas passed House Bill 786 requiring all dispatchers and telecommunicators to receive and complete training in T-CPR; however, the State does not mandate that T-CPR will actually be provided to callers. In addition to the 12 PSAPs that use a structured EMD protocol, Dalworthington Gardens DPS noted it provides T-CPR. This is an area where service levels could be more consistently provided across the District; the newly signed T-CPR requirement is a step in the right direction.

3.3.5 Quality Assurance and Performance Management

Fifteen of the survey respondents use metrics and/or QA to monitor and improve the performance of their overall operation and personnel. Performance management, including QA, provides for holistic organizational success and includes everyone in a PSAP from telecommunicators to managers and directors. The process is cyclical and is a means to assure that everyone understands their respective roles and responsibilities, has the resources to complete them, be successful, and meets expectations. The performance management cycle includes five elements: plan, monitor, review, improve, and measure.

One of the easiest ways to evaluate an organization using this cycle is to review key performance indicators (KPIs). KPIs are a set of quantifiable performance measures used by an agency to gauge progress toward





meeting its strategic and operational goals. KPIs— such as abandoned call rate (see 3.4.2), 9-1-1 call wait times, pick up to queue, queue to dispatch, non-emergency call-wait times, and total call processing times—can all be used to measure PSAP performance. Using these measurements, an organization's leadership can begin to evaluate if emergency and non-emergency requests for service are processed in a timely manner. If the numbers fall outside of what would be considered the norm for a PSAP—National Emergency Number Association (NENA) and National Fire Protection Association (NFPA) call answering standards, for example—leadership can establish processes or procedures to help move these values more toward the norm. Once implemented, leadership can re-evaluate the statistics to determine if there has been an improvement.

QA is another way the performance management cycle can be applied. According to the American Society for Quality (ASQ), QA is "part of quality management focused on providing confidence that quality requirements will

⁵² "Pre-Arrival Instructions (or PAI's) [sic] provide potentially life-saving, scripted instructions for callers trapped in a sinking vehicle or structure fire, water rescue incidents, a person who is on fire, a caller who is in danger but not trapped, or a situation where there is a HAZMAT danger. Collectively, these protocols and instructions are referred to as Dispatch Life Support Instructions. Dispatch Life Support Instructions make it possible for properly trained calltakers to provide a Zero Minute ResponseTM." Priority Dispatch, 2020. <u>https://prioritydispatch.net/emd-cardset/</u>

be fulfilled.³⁵³ In a PSAP, this equates to "all actions taken to ensure that standards and procedures are adhered to and that delivered products or services meet performance requirements.⁵⁴

Other KPIs should be integrated into a QA program to monitor and improve the overall performance of personnel and the PSAP as a whole. It is important for PSAPs to monitor and measure various KPIs with the intent of improving performance. It is also important to establish a standardized QA and effective feedback process for telecommunicators. This is a best practice that can identify areas that are consistently meeting the expectations of the organization and those that are falling short.

There are several national standards that can be used to establish and support performance measurement and QA programs:

- APCO/NENA ANS 1.107.1.2015, Standard for the Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points
 - This standard requires that at least 2% of all calls for service are reviewed (call-taking and dispatch for a single incident are conducted under separate review processes), unless prohibitive.
- APCO ANS 3.106.2-2017, Core Competencies and Minimum Training Standards for Public Safety Communications Quality Assurance Evaluators (QAE)
- APCO ANS 1.118.1-2020, Key Performance Indicators for Public Safety Communications Personnel

Performance measurements and QA can improve the efficiencies of the PSAPs and the overall service levels of the region by providing agencies with quantifiable and qualifiable data and information on where adjustments are needed. It can often be difficult for smaller PSAPs to proactively perform QA and monitor other performance metrics because of limited support staff.

⁵³ "Quality Assurance vs. Quality Control." American Society for Quality. <u>https://asq.org/quality-resources/quality-assurance-vs-control</u>

⁵⁴ "Standard for the Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points." APCO/NENA ANS 1.107.1-2015. <u>https://cdn.ymaws.com/www.nena.org/resource/resmgr/Standards/APCO-NENA_ANS_1.107.1.2015_Q.pdf</u>

3.4 Personnel and Workforce Management



Key Findings

- The majority of PSAPs in the District are small, with two positions and a minimum of one or two employees per shift.
- PSAP staff reported significant challenges with disparate telecommunicator wages across the District that cause competition for limited applicants.
- The average starting wage range for telecommunicators in the District is approximately \$46,711 to \$63,007.
- For the PSAPs that have one to two telecommunicators on duty, the capacity potential is limited and may make it difficult to effectively manage a call surge.
- It is a common practice throughout the District for the smaller PSAPs to have sworn personnel cover shortages when necessary.
- The majority of PSAPs experience challenges related to hiring and retaining qualified applicants.

Today, organizations throughout the world face many challenges in the management of their personnel—their human capital—and public safety agencies are no exception. Personnel management is different from organizational leadership and involves a variety of functions that encompass more than just staffing, including personnel planning, development, and compensation to name a few.

The HR function in any organization is important. Without proper attention, even the best organizations can falter. One of the most critical HR functions within any PSAP is that of personnel management. Personnel are an agency's greatest asset, and proper management must be exercised to maintain an effective and efficient operation. Personnel management is a specialized aspect of an organization's overall HR management practices that focuses on those policies and practices by which the agency hires and develops its workforce.

Many PSAPs across the country are struggling with staffing shortages. Tenured employees are retiring, while others simply leave for any number of reasons—shift work, the hours, childcare issues, stress, and better pay in the private sector. In addition to limited applicant pools, often-stringent job qualifications (e.g., background checks, prior drug usage) disqualify many, as do the lengthy application processes; it is not unusual for many PSAPs to have processes that take upwards of six months from application to start date. Thus, PSAPs often find themselves with a revolving door for staff; unfortunately, many are not able to fill the vacancies before more staff leave, creating an even larger gap.

3.4.1 Staffing

As shown in the following table, the majority of PSAPs in the District have one telecommunicator on duty at any given time. Throughout the District, dispatch positions are covered by mostly civilian telecommunicators; however, Fort Worth FD dispatch and Irving FD are solely sworn firefighters.

PSAP Location	TCs⁵⁵ (Authorized Strength)	Minimum Staffing per Shift (TCs)	Optimal Staffing per Shift (TCs)	Current Retention
Arlington PD	88	15 to 20	19 to 24	80%
Azle PD	8	2	3	100%
Bedford PD	13	2 ⁵⁶	2	85%
Benbrook PD	8	1	1	62.5%
Burleson PD	18	2 to 3	4	83%
Crowley PD	9	1	2	89%
Dalworthington Gardens DPS	4	1	1	75%
DFW	37	2	4	53%
Euless PD	13 ⁵⁷	2	2	N/R
Fort Worth FD	27	5	6-8	96%
Fort Worth PD	166	26 (average)	31 (average)	84%
Grand Prairie PD	40	8 to 9	11	90%
Grapevine PD	23	3	6 – Days 5 – Evenings	70%
Hurst PD	12	2	3	75%
Irving FD	20	3 ⁵⁸	3	100%
Irving PD	60	8	11	67%
Lake Worth PD	6	1	2	100%
Mansfield PD	24	4	5	89%

Table 8: Staffing and Turnover

⁵⁵ Telecommunicators

⁵⁶ Bedford PD did not respond to this question. Based on an authorized strength of 13, MCP assumed a minimum of two telecommunicators per shift.

⁵⁷ Euless PD did not respond to the survey. Based on call volume, MCP estimated approximately 13 telecommunicators to fill two positions 24 x 7.

⁵⁸ This information was not provided by Irving FD. Based on an authorized strength of 20, MCP assumed a minimum of three telecommunicators on duty per shift.

PSAP Location	TCs⁵⁵ (Authorized Strength)	Minimum Staffing per Shift (TCs)	Optimal Staffing per Shift (TCs)	Current Retention
MedStar Mobile Healthcare	43	5 to 8 depending on shift	7 to 12 depending on shift	89%
NETCOM	21	3 to 4	5	81%
North Richland Hills PD	25	3 to 4	5 to 6	84%
Pantego PD	5	1	1	100%
River Oaks PD ⁵⁹	6	1	1	N/R
Saginaw PD	7	1	2	86%
Tarrant County Regional Communications	15	4	5 to 6	87.5%
Tarrant County SO ⁶⁰	24	4	4	N/R
Westover Hills PD	4	1	1	100%
White Settlement ⁶¹	18	3	3	N/R

The majority of telecommunicators working throughout the District are cross-trained and there are very few PSAPs with a separation between the call-taker and dispatcher roles. In other words, most often the call-taker is also responsible for dispatching the call and handling other non-core duties. The low staffing levels in the smaller PSAPs limit the capacity potential of the majority of PSAPs and create an environment that may be challenging if a PSAP needed to manage a workload surge and/or call overflow from neighboring agencies.

Staff from smaller one-seat PSAPs reported that it is common practice to have sworn personnel (e.g., law enforcement officers) cover a primary call-take/dispatch position when there is an unforeseen vacancy or call surge requiring additional manpower. This is not considered an industry best practice and may present a significant risk to the system if the sworn personnel do not have the same training as the civilian licensed telecommunicators.

⁵⁹ River Oaks did not respond to this question. Based on call volume, MCP assumed a minimum of six to staff one position 24 x 7.

⁶⁰ Tarrant County SO did not respond to the survey. MCP assumes, based on call volume, that there is a minimum of four on duty and an authorized strength of 24.

⁶¹ White Settlement did not participate in the survey. Based on call volume, MCP assumed a minimum of 18 to staff three positions 24 x 7.

3.4.2 Abandoned Call Rate

Another metric to determine optimal staffing levels is the abandoned call rate. An abandoned call is defined by NENA as "[a]n emergency Call in which the caller disconnects before the Call can be answered by the PSAP (Public Safety Answering Point)."

The District's abandoned call rate has hovered between 10.88% (2022) and 14.93% (2021) for the last two years.

Every center will experience abandoned calls; the goal is to keep them as low as possible. There are many reasons for abandoned calls, including those who "pocket dial," realize they have misdialed, or become frustrated waiting for an answer and hang up. When staff are on another line, incoming calls cannot be answered right away. Regardless of the reason, this creates additional work as staff must try to re-establish contact with the caller to determine if there is an actual emergency.

There is no industry metric for a "normal" number of abandoned calls. In MCP's experience, an abandoned call rate of 8% or less is attainable when a center is appropriately staffed. In the 2021 Talkdesk Global Contact Center KPI Benchmarking Report, the average abandonment rate for government and the public sector in 2020 was 7.44%. MetricNet, a performance benchmarking company in McLean, Virginia, for IT and call centers, suggests an optimal range for abandoned calls is between 4% and 7%. While the focus of these companies is on the service industry, not the 911 industry, there is a correlation between the two. The industries are answering calls from the public in response to their stated mission or objective.

More recently, 8% to 10% is the average abandonment rate for some industries, which is where the District as a whole was in 2022.

3.4.3 Supervision and Span of Control

The span of control guidance in general used to be clear with three to seven direct reports per supervisor, with five considered ideal. However, new guidance regarding the span of control is how many people can be effectively managed, leaving it up to each agency to determine the number.

The International Customer Management Institute (ICMI) notes, "In contact centers, somewhere between 8 and 12 agents per supervisor makes sense in many centers. But a 5:1 or 20:1 ratio may be equally justifiable – there's simply no alternative to understanding your own unique environment and making a decision that is right for you."

In the District, supervision is most commonly the responsibility of law enforcement command personnel, supported by a frontline supervisor or PSAP manager. Some of the larger PSAPs have dedicated supervisors and executive-level civilian oversight. It is common for PSAPs throughout the District to have working supervisors that are part of minimum staffing and assist with emergency call processing and dispatching police, fire, and/or EMS. When supervisors are not available, opportunities for training, performance monitoring and feedback, and correction are inhibited. This puts undue stress on employees and leaves the organization vulnerable to risk due to lapses in service. This is particularly important where the telecommunicator has other ancillary duties.

In cases where there is one telecommunicator on duty without dedicated supervision, this leaves the responsibility for handling problems to the lone telecommunicator, no matter their level of experience.

3.4.4 Recruiting

It is becoming increasingly more difficult to recruit candidates for the position of telecommunicator within the state of Texas and across the nation. There is great concern that the staffing shortages in public safety

communications will increase in the NG9-1-1 environment and will be exasperated by a workforce that desires more work-life balance. Staff interviewed reported low interest in the position and reduced viable applicant pools. In some cases, PSAPs are receiving a sparse two viable applicants per job posting, which is not sustainable. This is a common issue in all sectors of public safety, which was exacerbated by COVID and "the great resignation." Having 28 PSAPs in the District creates unnecessary competition for applicants among the PSAPs in addition to the private sector.

The process of hiring is often long and arduous, especially when compared to the private sector, and many District entities reported that they are trying to streamline the hiring process and reduce the application-to-hiring time. Each PSAP is approaching this independently and at significant duplication of effort and costs when considering that those who leave typically do so within three to six months, at which point the PSAP must initiate the hiring process all over again.

While there are no recruiting or hiring standards, several best practices can help PSAPs achieve success in choosing the right applicant for the position and onboarding them. NENA and APCO both offer courses, staffing and retention reports, and related occupational standards geared toward PSAP staffing.

An effective recruiting program engages a broad spectrum of outreach sources, is reflective of the community's makeup, and considers external influencers, particularly those along municipal and jurisdictional lines. When assessing recruiting practices, agencies should consider:

- Use of social media and external websites
- Application source tracking
- Currency of eligibility requirements
- Response to job postings
- Dedicated and staffed recruiting program
- Pipeline approach to recruitment
- Use of self-elimination tools
- Use of value propositions
- Diversity of recruiting opportunities
- Continual posting strategies

Establishing and maintaining an effective recruiting process is another program that can often be difficult to maintain with limited resources.

3.4.5 Retention

Employee retention is a challenge that continues to strain PSAPs across the nation and the District is no exception. Only eight survey respondents reported they were at authorized telecommunicator strength. All survey respondents listed low applicant pools as a top challenge. Low applicant pools and significant challenges with retention dominated interviews and focused discussions. Almost every staff person interviewed noted that staffing has not been consistent year to year.

A 2017 update to APCO's previous staffing and retention study concluded that the average retention rate for PSAPs is 71%.⁶² The average retention rate in the District, based on survey responses, is 86%; however, there

⁶² Project RETAINS: Staffing and Retention in Public Safety Answering Points (PSAPs): A Supplemental Study." APCO Project Retains, APCO International. <u>https://www.apcointl.org/resources/staffing-retention/project-retains/</u>

are several PSAPs that have a retention rate below 70%, which causes significant operational challenges with staffing the number of employees to handle the workload. As highlighted in Table 8, numerous PSAPs are operating below their optimal staffing level because they cannot fill the vacancies.

An earlier APCO Project RETAINS report stated, "The strongest and best predictor of a high retention rate was having all authorized positions filled and being fully staffed."

According to SHRM, direct replacement costs can be as high as 50% to 60% of an employee's salary but when factoring in indirect and direct costs such as unemployment, COBRA administration, and overtime to make up lost productivity, the total cost per individual can skyrocket to up to 200%.

When queried, the PSAPs highlighted the following areas as

having the most challenging direct impact on retention (in order of most prevalent):

Work-Life Balance	Employees are unwilling or unable to work the shifts needed to meet service level demand in a 24 x 7 operating environment.
Performance and Workload	New hires cannot meet minimum performance expectations and service levels.
Viable Applicants	Applicant pools for telecommunicator positions are too low to recruit qualified candidates.
Wages and Benefits	Wages and benefits are not competitive enough to recruit and retain qualified candidates and employees.

Figure 7: Direct Impacts on Retention

Based on MCP's experiences and numerous interactions with PSAPs and industry professionals, an effective retention program is one in which the organization is consistently within 5% of filling all authorized positions and can achieve an outcome where 80% of employees still are on the job three years later.

The long-term implications of continued turnover open the door for more people to leave. Unfortunately, smaller PSAPs often are impacted to a greater degree than larger centers that have more staff to absorb the resulting vacancy.

The more work demanded, the less desirable the working conditions, and the more turnover created. The more turnover created the higher the budgetary impacts. When more turnover is created, this leads to more work being demanded from existing staff and less desirable working conditions. It can increase to the point that a PSAP may never see a "full staff" level again. However, not all turnover is bad. "Some turnover is healthy because it weeds out the disengaged ..."⁶³

Turnover is expensive. According to the Society for Human Resource Management (SHRM)⁶⁴, direct replacement costs can be as high as 50% to 60% of an employee's salary but when factoring in indirect and direct costs such as unemployment, Consolidated Omnibus Budget Reconciliation Act (COBRA) administration,

⁶³ Fox, Adrienne. "Drive Turnover Down." SHRM. July 1, 2012. <u>https://www.shrm.org/hr-today/news/hr-magazine/pages/0712fox.aspx</u>

⁶⁴ Retaining Talent: A Guide to Analyzing and Managing Employee Turnover (shrm.org)

and overtime to make up lost productivity, the total cost per individual can skyrocket to up to 200%. Based on those statistics and a telecommunicator's annual salary in the District of \$46,711 on average, excluding benefits, (see Section 3.4.6), the cost to an agency of losing and replacing a single telecommunicator can range between \$23,356 and \$93,422.

The problem in public safety, however, is that with an industry annual turnover rate between 25% and 30%, PSAPs are not replacing single positions, rather they are in a state of constant recruiting and hiring. A state that can no longer even be considered cyclical and cannot be managed through traditional HR means.

Based on PSAP data (Table 8), with 720 telecommunicators District-wide—an average of 26 per agency experiencing an average 14% turnover (Table 8), PSAPs may at any point be actively recruiting for approximately 101 positions District-wide (four per agency). Using the same average salary example (\$46,711) and multiplying that out, the cost of turnover ranges District-wide from \$2,358,906 to \$9,435,622 (\$84,247 to \$336,987 per PSAP on average).

3.4.6 Salaries and Benefits

According to the United States (U.S.) Bureau of Labor Statistics and U.S. Department of Labor, the median wage for police, fire, and ambulance dispatchers is \$46,670 or \$22.44 an hour (2021).⁶⁵ Wage ranges in the District PSAPs are generally at or above the national median range (see Appendix D). The average starting wage for telecommunicators in the District is approximately \$46,711. The average top-out wage in the District is approximately \$63,007. The average wages do not include the wages for the Fort Worth FD PSAP because sworn firefighters staff the PSAP and their wage range is significantly higher than telecommunicators (\$63,806 – \$88,697) and even Fort Worth PD dispatchers.

Given the proximity of the PSAPs, there is competition among them when it comes to hiring. Those agencies that lag below the average are prone to losing employees to other 9-1-1 centers that may pay more or have more desirable benefits. Alternatively, several PSAPs have comparable wages to other PSAPs in the District, and if their workload is lower than a neighboring PSAP but the wages and benefits are similar, a candidate may find the position more desirable.

There is also considerable risk with competition from private sector companies for the PSAPs that are at the low end of the scale. This disparity and competition include benefits, which significantly impact a PSAP's ability to attract and retain employees, especially given the level of responsibility, volume of work, and requirement to work shifts outside of normal business hours.

During town halls, staff and stakeholders reported significant raises and adjustments to the starting wages were made by some larger PSAPs; in some cases, this resulted in an increase of 20% or more. These increases further exacerbated the existing challenges caused by having 28 PSAPs operating and competing in the District and the overall recruiting market in the region. While in general PSAP staff have traditionally been underpaid nationwide, the impacts of what essentially have become "bidding wars," as PSAPs respond by making similar adjustments, negatively impact retention for others because they lose employees to higher paying PSAPs. This highlights the importance of regionalization efforts, regular compensation studies that determine comparative salaries and benefits within the District, as well as an opportunity for District entities to establish common compensation ranges—otherwise the PSAPs will continue to compete against each other for finite applicant pools.

⁶⁵ Police, Fire, and Ambulance Dispatchers: Occupational Outlook Handbook: U.S. Bureau of Labor Statistics (bls.gov)

3.5 Technology and Systems in Use



Key Findings

- The PSAP CHE systems are already virtually consolidated and supported by District infrastructure.
- An Emergency Services Internet Protocol (IP) network (ESInet) exists between all District CHE hosts and the PSAPs.
- Current core technology could be leveraged to improve situational awareness and interoperability between agencies (e.g., ability to route calls within the CHE and share incidents in CAD).
- Calls do not automatically reroute to other PSAPs during surges or overflows. However, to
 mitigate against 9-1-1 calls going unanswered during 9-1-1 network outages and PSAP
 problems, calls can be manually rerouted to another PSAP through a make-busy switch
 located at each PSAP.
- Misrouted wireless 9-1-1 calls are a common occurrence.
- Radio coverage is not a barrier to regionalization as all District field responders use a common Motorola 800-megahertz (MHz) radio system, which is not provided by the District.
- In addition to shared talkgroups, each PSAP operates its own dispatch talkgroup for law and fire/EMS.

Public safety dispatch operations are heavily dependent on IT infrastructure, computer systems, and multiple applications. Mission-critical systems include 9-1-1 CHE, CAD systems, radio dispatch consoles, GIS databases and mapping, and data/voice logging recorders. This IT infrastructure is critical to the daily public safety mission and provides interoperability with other PSAPs and field responders.

Interoperability: The ability of two or more systems or components to exchange information and to use the information that has been exchanged.

Critical systems and infrastructure can be very costly to acquire and maintain. Increasing technology costs have become a primary issue, often driving funding needs and dispatch regionalization efforts in the U.S. Officials in many jurisdictions have pursued PSAP regionalization to reduce capital expenditures and operating costs. Software maintenance agreements and upgrades increase the total cost of ownership over the life of a system. Reducing the number of PSAPs often is intended to eliminate the need to purchase and maintain multiple systems within the same geographic area. Appendix E contains a table summarizing the various technologies and systems deployed in the PSAPs that completed the survey. The Motorola VESTA® 9-1-1 CHE was not included in the table because it is already in all participating PSAPs.

The core technology systems in use by District entities and the network that supports these applications lay the foundation for regionalization. As further described in this section, all PSAPs share the same CHE, radio system, and GIS.

3.5.1 Call-Handling Equipment

The District provides Motorola VESTA 9-1-1 CHE to all its agencies. It maintains the CHE servers connected by a primary ESInet. When this study began in August 2022, the CHE was not NG9-1-1-compliant; however, this changed in March 2023—as part of a separate project managed by the District, the last PSAP was upgraded to VESTA version 7.9, which is compliant.

The District also operates a lab CHE system for testing configuration changes and software upgrades prior to production deployment.

The CHE supports roaming profiles, which means a user from one PSAP can go to another PSAP on the same system⁶⁶, log in, and have all their own 9-1-1 lines (and administrative lines if those lines are not down at the home PSAP). The challenge lies in the fact that a neighboring PSAP may not have space to accommodate additional telecommunicators.

The ANI/ALI⁶⁷ database is provided by Intrado. While the District has worked with cellphone carriers to update the cell tower routing to the correct PSAP, staff reported that misrouted wireless calls are still a common occurrence.

All PSAPs provide text-to-9-1-1.

PSAP administrative phone lines are a mix of standalone systems with some integrated into the 9-1-1 CHE.

3.5.2 Computer-aided Dispatch and Records Management Systems

The District does not provide CAD systems for its PSAPs. Each agency selects its own CAD system and records management system (RMS). The following CAD systems are currently in use:

- Central Square (ONESolution, TriTech, Zuercher)
- CRIMES⁶⁸
- CrimeStar
- Hexagon
- Motorola-Spillman
- Superion
- Tyler

The District provides a serial converter to allow the CHE to deliver the CAD spill to the respective CAD system. The use of mobile data terminals (MDTs) varies by agency.

3.5.3 Geographic Information Systems

The District has a full-time GIS coordinator and currently uses 911Datamaster tools to manage the GIS data and ALI/MSAG⁶⁹ data. The GIS coordinator receives information from the PSAPs regarding new address ranges and streets as well as ALI discrepancies and coordinates with Intrado to have the updates added to the ALI/MSAG databases. The District manages updates to the GIS map.

⁶⁶ The District maintains two systems (system one and system two) for live PSAP traffic and a third system (system three) testing prior to implementation.

⁶⁷ Automatic number identification/Automatic location identification

⁶⁸ Criminal Research, Information Management, and Evaluation System

⁶⁹ Master street address guide

Secondary wireless location services are provided by RapidSOS, either in an over-the-top (OTT) manner or integrated with VESTA 9-1-1.

3.5.4 Radio

The primary radio system in use within the District's service area is the North Texas Interoperable Radio Network⁷⁰ (NTIRN) Project 25 (P25) Phase II⁷¹ Motorola 800 MHz trunked radio system. The system includes individual, group, and mutual aid talkgroups. The system supports police, fire, EMS, and public works users. A majority of the law enforcement and fire agencies are dispatched on individual dedicated primary agency talkgroups. Agencies operate on shared talkgroups. Additional shared talkgroups are used for automatic mutual aid. Fire agencies operate on automatic mutual aid and use a law interoperability calling talkgroup for a common response channel. The City of Dallas operates on a separate system and is currently working with Tarrant County to join the two systems to improve interoperability, particularly along their common border.

Some EMS calls are handled by private EMS resources. The PSAPs have no direct radio communications with these units.

The majority of the PSAPs utilize Motorola MCC 7500 consoles. One PSAP indicated it uses Zetron consoles and several did not provide a response. The PSAPs have the ability to share resources or have backup profiles created. Each PSAP has a backup consolette radio in the event of a console failure.

3.5.5 Logging Recorder

The PSAPs use a variety of logging recorders. The majority use the Eventide platform; NICE and Higher Ground recorders are also deployed in the region. The PSAPs procure the logging recorders for their specific agency needs and record 9-1-1 lines, administrative lines, 10-digit emergency lines, call transfers to administrative lines, and field responder radio traffic. Most solutions are digital; five solutions are analog only.

The VESTA 9-1-1 system logs all 9-1-1 calls and provides instant recall recorder (IRR) functionality at the consoles.

3.5.6 Other Systems and Software

Many PSAPs support closed-circuit television (CCTV) camera feeds from the respective police department facility, jail, community facilities, or schools. Telecommunicators are sometimes responsible for the remote control of jail or police station doors and, in some cases, fire department bay doors.

3.5.7 Alert and Warning Systems

Several fire station alerting (FSA) systems are deployed in the region, including Locution, Motorola, US Digital Designs (USDD), Westnet, and Zetron. ActiveAlert (formerly Active911) and PageGate are also used for alerting some fire departments in the region.

Some PSAPs use SirenGPS for outbound alerting to schools and businesses of emergency situations nearby.

3.5.8 Network and Technical Support

The network backbone for the District is provided by an Ethernet network as a primary ESInet that supports CHE. An Ethernet network also connects the four hosts to each other, and a mix of Ethernet and other network

⁷⁰ Formerly Fort Worth Regional Network

⁷¹ Project 25 - APCO International (apcointl.org) Interoperability Standard

connectivity connects the respective PSAPs to the hosts. A wireless network provides backup connectivity to the PSAPs.

District system administrators support all PSAPs' CHE.

3.6 Facilities



Key Findings

- Except for Irving FD and MedStar, all remaining PSAPs are in a law enforcement facility.
- Of the 28 PSAPs assessed, 18 are classified as small, with two to six positions, and are at capacity for current operations with limited ability to expand without significant cost.
- The majority of PSAPs have no viable long-term backup facility that could house missioncritical equipment and staff.
- The four RBU centers have a total of 41 backup CHE positions.
- Many PSAPs lack the in-house ability to accommodate staff from another agency for a prolonged period.
- The District controls four backup facilities for 9-1-1 call processing.

3.6.1 Primary Facilities

Except for Irving FD and MedStar, all PSAPs are located within law enforcement facilities. Each facility is supported by a backup generator and individual uninterruptible power supply (UPS) units for mission-critical equipment. Of the existing PSAPs, most are not suitable for hosting a regional communications center. Some of the larger agencies have available space for expansion, but that is largely because they are understaffed and running with fewer employees (DFW, Irving PD, and Fort Worth PD).

Based on the size categories described in the National 911 Program's *Next Generation 911 Cost Estimate: A Report to Congress* published in 2018, 18 PSAPs are classified as small, eight are medium, and two are large.

Table 9: PSAP Sizes

PSAP Size	PSAP Locations
Small – 2 to 6 Positions	Azle PD, Bedford PD, Benbrook PD, Burleson PD, Crowley PD, Dalworthington Gardens DPS, DFW, Euless PD, Hurst PD, Irving FD, Lake Worth PD, Mansfield PD, Pantego PD, River Oaks PD, Saginaw PD, Tarrant County Regional Communications, Westover Hills PD, White Settlement PD
Medium – 7 to 20 Positions	Fort Worth FD, Grand Prairie PD, Grapevine PD, Irving PD, MedStar, NETCOM, North Richland Hills PD, Tarrant County SO
Large – 21 to 50 Positions	Arlington PD and Fort Worth PD

As highlighted in Sections 3.3.2 and 3.4.1, most PSAPs operating in the District have limited capacity to handle overflow or significant call surges for any extended period of time, requiring additional staffed positions.

The PSAPs that have two to three workstations (Azle PD, Crowley PD, Dalworthington Gardens DPS, Lake Worth PD, Pantego PD, River Oaks PD, Saginaw PD, Tarrant County Regional Communications, and Westover Hills PD) are very limited in their capacity to take on additional workload.

3.6.2 Backup Facilities

The District has three of the four backup sites capable of taking inbound 9-1-1 calls: RBU Northeast (12 positions), RBU Northwest (14 positions), and RBU South (11 positions). Some RBU centers are located in District facilities and others in secured local government buildings.

The VESTA 9-1-1 CHE supports roaming profiles that allow a user from any agency on the same system (system one or system two) to log in at any other location and have access to their home agency's 9-1-1 lines and administrative lines (if connected to the CHE). There are radio consoles at each RBU but no station alerting equipment. Without connectivity back to the respective CAD system, there is no access to CAD. This highlights the limited capabilities throughout the District.

The RBU centers provide viable backup locations for call routing. However, there are problems with call delivery to field responders because the RBU centers are not equipped with CAD or station alerting.



4 Future Opportunities and Considerations

Since 9-1-1's inception in 1968, public safety officials have continued to leverage technology advancements to make emergency responses more efficient and effective. The counterbalance is these advancements occurred in distinct silos that unintentionally developed within the emergency communications ecosystem such as enhanced 9-1-1 service, CAD, and digital radio networks.

Today, the industry stands on the precipice of another technology transformation—NG9-1-1. As public safety moves through this transformation to NG9-1-1 over the next several years and beyond, it is more critical than ever before that PSAPs begin thinking of the ecosystem holistically.



Figure 8: Emergency Communications Ecosystem

In many instances, data is evolving faster than agencies can keep up, resulting in smaller PSAPs continuously being left behind. Regardless of size, those that are unwilling to explore their options run the risk of exacerbating the problem by creating holes in the ecosystem, increasing risk exposure, and introducing points of failure into what, on the surface, appears to be an efficient and effective system.

The District is continuously focused on its mission to "provide reliable, accurate, responsive, and effective emergency communication networks and services to its member jurisdictions ensuring the protection of life and property for citizens in its community." Changing technology creates opportunities for regional partnerships between the District's PSAPs as NG9-1-1 functionality supports a larger platform of interoperability than the legacy phone system could.

NG9-1-1 will be a facilitating factor for the operational advantages that regionalization affords, such as improved roaming profiles, better COOP and DR plans, and increased sharing of data, software, and radio channels—



possibly offering an opportunity to reduce the number of PSAPs in the District. This will require a greater amount of group participation, collaboration, administrative oversight, and governance. Just the fact that the District and entity PSAPs included in this study recognize the value of exploring alternative operating solutions, and even though the process of being assessed can be uncomfortable, benefits will be realized. Benefits include the opportunity to learn where PSAPs currently reside within the ecosystem, receive insight into where the ecosystem is going locally and nationally, and discover how the District and entity PSAPs can best leverage each agency's strengths to provide a best-in-class solution to serve the constituents and field responders across the District.

Essentially, there are 28 ecosystems serving a compressed population of more than two million people in the county, which has inherent challenges and areas of risk that have been articulated throughout this report.

Regionalization has the potential to help mitigate risk throughout the District and improve operational and fiscal efficiencies. There are real opportunities with regionalization to improve operational efficiencies, including fiscal and economies of scale.

There are three symbiotic elements of organic regionalization that, based on the findings and recommendations contained in this report, would offer operational efficiencies within the District:

- Policy and operations
- Technology and shared systems
- Physical (facility-based)

The three elements of regionalization are interrelated and may be executed sequentially or concurrently. As more initiatives are deployed within each element, the benefits will be experienced exponentially.

Future state opportunities and considerations establish a baseline that allows leadership and stakeholders involved with the District to have a clear vision, goals to attain that



vision, and metrics by which success can be measured. Findings and recommendations to offer operational efficiencies for the PSAPs operating within the District have been explained throughout this report. A holistic analysis of the findings and recommendations has identified additional opportunities within the District to improve service levels and operations through organic rather than mandated regionalization.

The goal of this section is to focus on how the District and entity PSAPs, through organic regionalization, can transform challenges and risks into opportunities. It is important to keep the following five factors at the forefront, as these were consistently emphasized during interviews with District stakeholders:



Financial stability

- Adequate support from the State through appropriate per-device fees
- Optimal operational budgets, including competitive wages

Adequate capital reserves

Operational efficiency and excellence

- Employing a sustainable workforce
- Leveraging advancing technology
- Meeting service level expectations (citizens and field responders)

Local control

- Informed and joint decision-making
- Organic regionalizationAcknowleding political realities

Qualified workforce

- Sustainable and adequate staffing
- Training and standards compliance
- Competitive wages and benefits

Advancing technology and systems

- NG9-1-1 deployment
- Technical interoperability
- Increased expectations and demands



4.1 Organic versus Inorganic Regionalization

"Regionalization can be defined as two or more communities (or organizations, or agencies) that join together in a formal, mutually-beneficial working relationship to optimize services provided to the customers of their communities (or organizations, or agencies)."⁷² This can be achieved inorganically, which occurs when there are outside forces at play (e.g., state mandate such as in Illinois and Ohio) or it can occur organically. Organic regionalization is more natural and evolves out of a voluntary, cooperative effort to improve the emergency response, such as in Nebraska and Palm Beach County, Florida, where no mandates exist. Given the local control and the political climate in Texas, inorganic regionalization is unlikely in the near future, so the challenge is how to encourage agencies to put aside politics and focus on what they have to gain—rather than speculating

⁷² NASNA - 911 Regionalization - Tools and Information (nasna911.org)

on what they have to lose—and come together to achieve organic regionalization for the greater good of emergency communications services that are delivered daily throughout the District.

A study conducted in 2010 by the Communications, Security, Reliability and Interoperability Council (CSRIC)⁷³ identified five values of consolidation, shown in Figure 11; regionalization has the same values. These values not only hold true today, but they are also areas identified in this report where opportunities exist to gain efficiencies and improve services throughout the District. The values highlighted below can be leveraged through organic regionalization in the form of policies and operations, technologies, and facilities. The challenge is how to encourage agencies to put aside politics and focus on what they have to gain rather than speculating on what they have to lose—and come together to achieve organic regionalization for the greater good of emergency communications services that are delivered daily throughout the county.





- Shared Resources Shared resources include policies, operations, and any other support services (e.g., IT, GIS, administration, HR).
- Elimination of Duplicate Costs Duplicate costs related to administration, operations, technologies, and facilities may be significantly reduced and, in many cases, eliminated through organic regionalization.
- Coordinated Responses Coordinated responses address joint responses, including automatic and mutual aid, and other shared responses that would be coordinated from the same PSAP rather than 28 individual entities. Examples include multi-jurisdictional responses to grass fires, pursuits, and mass casualty incidents, all of which require a coordinated response.
- Greater Interoperability Interoperability expands with regionalization, enabling the sharing of mission-critical equipment and technologies (e.g., CHE, CAD, radio).
- Effective and Efficient Service Efficiencies will often occur, and service levels improve, when
 regionalization is properly executed. Call transfers are often reduced as the number of PSAPs
 decreases as there is less opportunity for misroutes, and situational awareness is improved through
 regionalization. There are often improvements that can be gained in all functional areas of a PSAP

⁷³ WORKING GROUP 1A (fcc.gov)

(workforce, operations, personnel and workforce, training, performance management, leadership and planning, technology, facilities, and organizational structure) as the number of PSAPs decreases.

A key to organic regionalization is recognizing that there are efficiencies to be gained, and then working to establish shared and common practices throughout the District. District entities—the PSAPs and their respective agencies—must realize the benefits far outweigh any perceived and imagined losses.

The following sections outline a vision for a tiered approach that supports organic regionalization of the PSAPs in the District that includes the three elements (policy and operations, technology and shared systems, and physical [facility-based]).





4.1.1 Physical Consolidation – Tier 1

On the positive side, when this study was initiated, there were 33 primary and secondary PSAPs in the District. Over the course of this project, MCP has watched that number decrease to 26. The most recent PSAPs in the District to physically co-locate, consolidate, or a combination thereof are:

- Co-location and Consolidation: Tarrant County Fire Alarm first co-located with Everman to become Tarrant County Regional Communications followed by Forest Hill consolidating with Tarrant County Regional Communications
- Consolidation: Sansom Park, Westworth and White Settlement

There are other PSAPs (Azle PD and Lake Worth PD) that are adding new agencies and continuing to explore consolidation because they recognize the opportunities with organic regionalization and have expressed an interest in developing joint operations with other PSAPs in the area. Lake Worth PD will be bringing on Blue Mound and Azle will be adding Pelican Bay as agencies served before June 1, 2023. These two moves are due to Sansom Park PD closing its PSAP doors and contracting with White Settlement PD for 9-1-1 and dispatch services.

Although the decision to regionalize remains a local decision, based on industry standards and best practices, there are criteria that can serve as key indicators as to whether a PSAP should consider regionalization. These criteria should be viewed as a starting point for building a PSAP consolidation roadmap and for collaborative



and educational discussions with stakeholders on how to improve service levels and increase operational and fiscal efficiencies (see Appendix F). MCP has broken these down into two categories as follows:

Category One Criteria	Category Two Criteria
 Population served is less than or equal to 25,000. 	 Population served is less than or equal to 50,000.
• 9-1-1 call volume is 1% or less than the total call volume in the District.	• 9-1-1 call volume is 2% or less than the total call volume in the District.
• The cost per 9-1-1 call exceeds \$40 per call.	• The cost per 9-1-1 call exceeds \$30 per call.
 The agency has no more than two primary workstations. 	 The agency has no more than four primary workstations.
• The minimum staffing per shift is two or less.	• The minimum staffing per shift is four or less.
• Agency retention is less than or equal to 75%.	• Agency retention is less than or equal to 80%.
• Outbound transfers are greater than or equal to 25% of the total call volume.	 Outbound transfers are greater than or equal to 25% of the total call volume.
EMD to provide pre-arrival instructions is provided in house.	 EMD to provide pre-arrival instructions is provided via transfer.
• Total administrative call volume is greater than the 9-1-1 call volume.	 Total administrative call volume is greater than the 9-1-1 call volume.

If a PSAP has five or more Category One attributes, it meets the criteria for MCP to strongly recommend exploring a physical consolidation and alliance with a neighboring PSAP. This is not to say that the agency that meets this benchmark should be absorbed by another PSAP as there could be numerous factors, including available opportunities for facility expansion, available funding, and others that could drive such decisions away from what, on the surface, may appear obvious. Agencies that meet a combined total of five Category One and Category Two attributes are not as strongly recommended to explore physical consolidation but are encouraged to maintain a watchful eye for opportunities to participate in an alliance.

The following survey respondents reported having some potential for expansion in their current or planned facilities.

PSAP Location	Expansion Potential
MedStar	MedStar has an area slightly larger than the current PSAP that could be viable for expansion. Classrooms upstairs could also be converted to house dispatch/call center operations.

Table 10: PSAP Facilities with Space/Expansion Potential

PSAP Location	Expansion Potential	
Lake Worth PD	Lake Worth PD is purchasing replacement consoles. Lake Worth PD also reported the potential to expand into a common area of the facility for a larger expansion project.	
Benbrook PD	Benbrook is planning a new police facility but has not begun formal programming.	
Arlington PD	There is potential at Arlington PD, with vacant space in the operations center; however, it would require furniture replacement with smaller consoles and a different furniture configuration.	
NETCOM	NETCOM has plans to expand the facility in the future.	
Grand Prairie PD	Grand Prairie PD can host several additional call-takers and dispatch positions.	
Grapevine PD	Grapevine PD can add new positions and possibly expand with remodeling.	
Mansfield PD	Mansfield PD is planning a new facility.	
Dalworthington Gardens DPS	Dalworthington Gardens DPS is working on a building rebuild currently.	
North Richland Hills PD	Two administrative call-taking stations can be outfitted to fill positions.	
Azle PD	Azle PD can reconfigure the layout of the center, and there is a possibility to relocate the center to another part of the building that has more space.	
Tarrant County Regional Communications	Yes.	

As highlighted by one of the stakeholders in a town hall session, the term "regionalization" has the propensity to be misinterpreted by some because of other regional efforts at the local level. Physical regionalization should be viewed as a consolidation involving multiple jurisdictions and the goals should be efficiency while maintaining or exceeding current service levels.

In discussing real-world examples with PSAPs in the District that have already consolidated, there are ways to overcome common barriers to consolidation if agencies are willing to work together. For example, Tarrant County Regional Communications discussed in a town hall the importance of including an advisory board, which is made up of representatives from the agencies served, so the agencies continue to have a voice and control over the operation. They also discussed the importance of QA post-consolidation to ensure there has been no degradation of services provided. These are only two best practices in a long list of strategies that make consolidations across the country successful. Physical consolidations are very complex, and the planning can be extensive. If coordinated and planned properly, there are many advantages to physical consolidation, as highlighted throughout this section of the report.

Given that the decision to regionalize remains at the local level in Texas, regionalization (including consolidation) will continue to expand voluntarily. Based on lessons learned both in the region and nationwide, when it comes to the likelihood that a consolidation effort will be viewed as successful or not, MCP encourages stakeholders to consider building a consolidation alliance profile to identify those agencies that may be considered a better fit both operationally and culturally. Appendix G provides an outline of an alliance profile that considers numerous factors beyond the original Category One and Category Two benchmark criteria.

4.1.2 Technology and Shared Systems-based Regionalization

Outside of physical consolidation or collocation, another form of regionalization that can be leveraged to improve emergency response is a technology and systems-based regionalization.

Although there is room to expand the program, the District is already engaged in technology and systems-based regionalization. These alternatives are foundational forms of regionalization that can help pave the way to physical consolidation and, at the same time, reduce costs and risks inherently associated with maintaining 28 independent primary and secondary PSAPs and backup centers and move toward improving emergency response.

Technology and shared systems-based regionalization have already made considerable progress in the District with the CHE and regional radio system. While this is a great start, virtualization can also include other systems such as logging recorders, CAD systems, and FSA systems. In most cases, an FSA system can be expanded to cover neighboring departments by adding the station hardware and some licenses and configuring the additional department into the FSA system and the CAD system (the department may already be in the CAD system, just not enabled to the FSA system). Cloud technologies and hosted software eliminate the need for in-house servers and the associated building space, utility expense, and IT maintenance and support. With the shared systems already in place, operations would be enhanced by allowing the current PSAP operational design to remain the same, with an additional layer of failover and redundancy. The governance is already in place within the District to provide for sharing of technology costs.

For PSAPs that are unwilling or unable to participate in physical consolidation by coming together under one organizational structure and/or co-locating in a single structure, leveraging the technology and shared systems already in place as well as future enhancements could help to improve emergency response outcomes and reduce operating costs in some cases. For example, call transfers, which are highlighted in Section 3.3.2, may be reduced through CAD-to-CAD capabilities or by consolidating select CAD systems.

As highlighted during the governance town hall meeting, there has been an emphasis in recent years on how people can contact 9-1-1 using a variety of methods outside of making traditional wireline phone calls. There must continue to be a focus on how calls can be answered remotely, which would be more appealing for employees and more competitive with certain private sector jobs. The traditional way of tethering employees to a workstation for 8-, 12-, or 16-hour shifts is not as tolerated as it was just a few years ago and the industry should continue to leverage emerging technology that can support a different way of processing calls.

Strengths and challenges related to a virtual (technology-based) regional consolidation are outlined in the following table.

	Strengths	Challenges
Economics	 It is a service option for any agency that is not ready to commit to physical consolidation Potential cost savings for participating agencies 	 Requires capital expenditure; cost savings may not be immediately realized Shared systems are more complex than standalone systems Will have related cost impacts to consolidate systems and technologies
Service	 Retains agency autonomy Participating entities can serve as a backup Reduces/eliminates call transfers 	 Governance may not agree on data to be shared
Mutual-aid Communication	 Shared situational awareness, mapping, and other systems if governance allows data to be shared Interoperability is improved CAD-to-CAD and other integration and interfaces are leveraged 	 May be disagreements on systems and configuration Not all users are on the same CAD system
Other Considerations	May provide a foundation for physical consolidation	 More sophisticated cybersecurity is needed on shared systems as there are more points of entry

Table 11: Virtual Regionalization Strengths and Challenges

A redundant, resilient, sustainable network is the foundation of shared technology. The District has built a robust network that is capable of supporting additional applications beyond the CHE. Such additional network traffic would require appropriate engineering to ensure the traffic did not intermingle or disrupt CHE traffic. Such traffic might include regional CAD, FSA, PSAP-to-PSAP ringdown lines, and other IP-based public safety applications. As with any change to a production network or system, the addition of any application or traffic to the network will require careful planning and management.

4.1.3 Policy and Operations-based Regionalization

The third option for improving emergency response through regionalization for those that are not quite ready to entertain physical or technology-based regionalization or are looking to supplement the region from a broader perspective, is policy and operations-based regionalization.

There are three elements of policy and operations-based regionalization: operations, support, and the workforce. Based on the findings highlighted in this report, MCP determined multiple areas where policy and operations-based regionalization could offer operational efficiencies throughout the District regardless of any individual agency's move to or plans for physical consolidation.



Figure 12: Policies and Operations-based Regionalization

Support

Support Services

Support services are those tasks that are outside of the primary operation of answering emergency calls and dispatching field responders, such as:

- IT hardware and software support for systems that are not already supported by the District.
- GIS support for mapping systems outside of the District.
- Radio systems support for the radio systems and infrastructure.
- Performance management QA and other performance areas related to the PSAP, including personnel.
- Training any initiatives related to training new or veteran telecommunicators and support staff.
- Administrative, clerical, and facilities HR, administrative, facilities maintenance, and other services not covered above.

A key success factor noted by stakeholders for this project was the goal of improving service levels and improving regional cooperation and joint planning. Support services is an area where collaboration and cooperation can be leveraged to centralize responsibilities and achieve both goals. Shared support services opportunities include the following:

- IT support for the technology that is not currently supported by the District would improve performance and security.
- Support for mapping systems and GIS outside of the District would enhance a PSAP's ability to locate incidents and field responders.
- Support for performance management may provide a consistent level of services throughout the District as PSAPs work cooperatively together.
- Support for more accessible training would enhance the knowledge and performance of telecommunicators and supervisors.
- Administrative support, including facilities, may address gaps that currently exist.
- Any regionalization involving support services has the potential to reduce operating costs.

Performance Management

Performance management focuses on improving a PSAP's output through continual improvement of internal processes. QA programs and other programs that establish and measure KPIs are essential in a PSAP. As noted in Section 3.3.6, there is a need to improve performance management, particularly QA, in the District. Examples of how performance management can be regionalized include the following:

- Regional performance management policies and procedures, based on industry standards and best practices, can establish benchmarks throughout the District that could make service delivery levels more consistent and reduce risk.
- Performance management templates, including rating criteria, would provide PSAPs with an objective means to measure operational performance and personnel. This also would provide more statistical data on how the District performs as a whole (e.g., call-handling statistics).
- Other performance management opportunities exist that are related to shared support services.

Operations

Policies and Procedures

Effective policies and procedures are essential to PSAP risk management. There are opportunities in the District to establish more uniform policies and procedures based on industry standards and best practices. Developing regional policies and procedures in common operating areas, especially those that involve overlapping service areas and mutual aid, may provide the following opportunities:

- Improved coordinated responses and service levels.
- Close or narrow the gap for agencies in the District that do not currently have SOPs.
- Increased consistency of services throughout the District.
- Reduced errors and risk exposure.

Memoranda of understanding (MOUs) or similar types of agreements to support organic regionalization will be necessary to achieve the intended outcomes.

Protocols

Establishing regional protocols is another example of policy and operations-based regionalization. Protocols or call guides support the call-handling process. These tools, especially EMD, provide pre-arrival instructions when warranted and, in many cases, improve the safety of citizens and field responders. The use of protocols provides structure that can be objectively assessed by the agency through a QA program. Regionalizing and establishing uniform protocols may provide the following opportunities:

- Improved service level consistency and standards of care throughout the District (e.g., citizen and responder safety, pre-arrival instructions).
- Reduced errors and risk exposure.
- Decreased trainee washout rates.
- Uniform call processing procedures that can be objectively measured.

Planning

Regionalized planning and development of regional templates have the potential to benefit multiple agencies. Such actions may provide the following opportunities:

- Developing regional COOP plans in common operating areas, especially operational areas that involve overlapping jurisdictions and mutual aid, may improve coordinated responses.
- Developing regional templates in common operating areas would close or narrow the gap for PSAPs that do not currently have a COOP plan.

Workforce

Hiring and retaining an adequate workforce to effectively manage the workload remains one of the greatest challenges in public safety communications today. Cost impacts of benefits such as Family Medical Leave Act (FMLA) compliance, healthcare and pensions, and steady turnover has crippled PSAPs across the country. As mentioned in Section 3.4.5, hiring and onboarding processes are time-consuming and costly. As highlighted throughout this report, it is anticipated that challenges related to sustaining a stable workforce, especially in 28 individual primary and secondary PSAPs, will only increase as technology advances and public expectations continue to grow. These challenges, especially for smaller agencies with a limited workforce and resources, are detrimental.

In analyzing the current state of the PSAPs within the District, MCP identified several areas where regionalization may bring operational efficiencies.

Recruiting and Hiring

Using best practices for recruiting, selection, and hiring can improve retention and, thus, reduce the costs of onboarding. Maintaining starting pay in a similar range within a region could deter job hopping. A "one-stop shop" for recruiting and selecting applicants, including the development of a common regional application that can be submitted online could be considered as a shared and/or outsourced resource with the final hiring and progression left to a respective PSAP. Examples of how the PSAPs can improve hiring efficiencies include the following:

- Develop a recruitment repository for sharing recruiting materials among jurisdictions.
- Develop a regional recruiting consortium, including shared services for hiring (e.g., joint applicant testing/screening).

There is significant competition among the PSAPs from a recruiting standpoint as the PSAPs continue to compete against each other with a limited applicant pool. To improve retention, several PSAPs in recent years have substantially increased their wages—some more than 20%. It was reported by staff and stakeholders during the town hall meetings that this impacted some of the smaller PSAPs that could not compete with the wage increase and lost trained telecommunicators that were incentivized to leave for a higher wage. PSAPs should work to calibrate wages in the District to reduce recruiting competition.

Training

There is consistency among PSAPs regarding training, with substantial support from the District. As noted in this report, the State already has minimum training requirements that align with national standards and best practices; the District provides that training at no cost to the PSAPs. Although the number of hours may vary, common operating environments and structures exist, as well as common training content. Regionalizing and consolidating the already robust training offered through the District is an area that can be expanded throughout

the region, with the goal of a more centralized approach because there are continuing education requirements and other training needs outside of basic certification. Improving the training approach would provide the following opportunities:

- Leveraging the training provided by the District and developing joint training curriculums and other training resources can improve the overall telecommunicator success rate and performance.
- Joint training initiatives can reduce cost impacts on individual PSAPs through shared staff and by combining resources to administer training (e.g., shared classes).
- Centralized training can reduce duplicate training efforts that currently occur.

Staffing

Although internal policies, procedures, and tools may vary, the job of a telecommunicator is similar throughout the District. Other components of policy and operations-based regionalization can provide a foundation for efforts related to staffing.

Many PSAPs operate with minimal staffing, which can be a challenge when unforeseen vacancies occur. PSAPs rely on neighboring PSAPs to support their operations in the event of an evacuation or other significant event resulting in call surge, with little to no training on agency-specific procedures.

Staffing opportunities exist to improve operational efficiencies and continuity of operations. Several PSAPs operate with one or two telecommunicators on duty at any given time, which can make it very challenging to manage the workload during a call surge or an event in a neighboring community that spills over into the PSAP.

Policy and operational regionalization may provide the following staffing-related opportunities:

- Shared staff can provide a level of consistency that does not exist today.
- Shared staff could offer cost-savings when there are unforeseen vacancies or surges in workload requiring supplemented staff.
- Where supported by technology, shared staff may provide an opportunity to supplement staffing in centers with a very low call volume.

4.2 Funding

At the District and State level, there is more work to be done to continue to advocate for an increase in the wireless per-device fee. Although the District is fiscally sound today, the District has identified significant capital impact costs coming in the future, including NG9-1-1 deployment and the need for a new facility as it is faced with the sale of the current space.

4.3 Organic Regionalization Strategic Plan

Organic regionalization is not easy to accomplish and with the number of PSAPs in the District it will likely take years to achieve. However, with every consolidation, as has been demonstrated, the public safety communications ecosystem in the District becomes stronger, more resilient, and more operationally efficient—paving the way for more improvements in the future.

Given the complexity of these opportunities, MCP recommends that the District, with valued input from PSAP staff and stakeholders, consider developing a long-term strategic plan to guide organic regionalization.

Collaborative development of a regionalization strategic plan can effectively establish goals for results focused on improving emergency response outcomes throughout the region. A regionalization strategic plan will:

- Establish commitment to regionalization.
- Align District entity PSAPs with industry best practices.
- Provide accountability.
- Improve transparency and relationships.
- Develop consensus among leadership for any participating PSAPs.
- Promote stability of purpose and priorities.
- Memorialize the vision and direction beyond current leadership.
- Provide support and direction for the development and execution of any policy and operations, technology and shared services, and physical regionalization initiatives.

The most prevalent constraints throughout the District are a lack of qualified candidates to fill vacant telecommunicator positions and increasing technology costs. Without regionalization, many PSAPs within the District are bound to the current state and constrained in their efforts to provide a higher, more efficient level of service. Rising technology costs may, at some point, diminish the District's ability to continue to support current technologies and services, which means costs will need to be covered locally. A strategic plan will help set a course for the District and the PSAPs to expand regionalization efforts and, most importantly, collaboratively develop a roadmap that includes a sustainable funding model to support future operations.

PSAPs across the country, including in Texas, are following similar paths as the District to explore regionalization as agencies recognize the value and efficiencies of sharing technologies, services, and common practices.

MCP acknowledges that organic regionalization is initiated locally, outside of the District's purview; however, the District supports using this information and approach to promote the achievement of standards and best practices while advocating for actions that will result in efficiencies and provide consistent emergency communications throughout the region.

4.3.1 Cybersecurity Governance

Given the sophistication of the public safety ecosystem and the continual threat that exists for the PSAPs, it is imperative to implement cybersecurity governance. This will ensure that a comprehensive cybersecurity strategy will be integrated within the operational environment and prevent interruptions from cyberattacks or any other threats. By embracing, adopting, and enacting cybersecurity governance, the PSAPs can ensure that they are doing things the right way, getting them done well, and seeing the expected benefits. When realigning any type of resources through a regionalization effort, having that strategy in place will ensure that all resources work together in harmony.

5 Conclusion

Daily, dedicated communications staff in each of the District's entity PSAPs work to assure that all field responders and members of the community are served when emergencies arise. For years, staff have done this under more than challenging conditions. Based upon MCP's interaction with the PSAPs during the course of this study, it is clear that leadership at all levels desires a public safety communications system that provides reliable and consistent services to the community and field responders.

There are significant concerns about the ability to sustain what the District and municipalities have today, but also how to enhance it and mitigate those occurrences where minimum service levels are not being met. There are additional challenges with providing similar services throughout the District, which is difficult to do with a collective of 37 different primary and secondary PSAPs, and associated backup centers, operating independently. This can impact the public because depending on where you are in the District, and which PSAP your call is routed to, you may receive different services than someone else in another part of the District. For example, not all the PSAPs provide EMD without a transfer and some PSAPs do not provide T-CPR, which results in disparate levels of service depending on where the call originated. How does this disparity get aligned? The other factor in all of this is the human factor. The workforce itself is not sustainable and falls far short of being adequate to meet the workload, which is taxing on the employees that do stay.

Organic regionalization will take time but can help the District achieve shared reliable and consistent services. The tasks currently being worked on, along with the overall recommendations presented, lend themselves well to support the current activities and future regionalization planning efforts. To help guide success over the long term, MCP encourages the District and its entity PSAPs to move forward with the next steps expeditiously. For the PSAPs, this includes reviewing the recommendations articulated in Section 3 of this report and engaging in efforts to explore efficiencies locally; for the District, it includes working with PSAPs and stakeholders to develop a regionalization strategic plan.

While there are great strides being made in various aspects of the public safety communications systems in the District, there are many areas where improvements will be beneficial for the continued success of the region. Acting on the areas of improvement will move the region towards the "regionalized" state and improve emergency response outcomes.

Appendix A: Standards, Accrediting Organizations, and State Rules

Throughout the country, PSAPs adopt and use industry standards and best practices to promote the effectiveness of the 9-1-1 center and provide the best possible service to citizens and field responders. Measurable standards create an objective view of 9-1-1 operations and provide for consistent interactions with the public and field responders.

Standards and best practices most often used in PSAPs are from APCO and NENA as well as NFPA, specifically NFPA 1225, *Standard for Emergency Services Communications*, and standards from CALEA, particularly *Standards for Public Safety Communications Agencies*. NENA, APCO, and NFPA are each an American National Standards Institute (ANSI)-accredited standards development organization (SDO).

Standards Organizations

APCO

The Association of Public-Safety Communication Officials International (APCO) "is the world's oldest and largest organization of public safety communications professionals ... The association supports its members – and the general public – by providing industry expertise, professional development, technical assistance, advocacy and outreach."⁷⁴ APCO has undertaken many projects over the years. Two notable projects are Project 25 (P25), the development of standards for digital telecommunications technology, and Project 33, the development of a telecommunications training standard. In Project 33, APCO collaborated with NENA "to evaluate what type of standardized training programs (if any) each state had. This information helped APCO build the foundation for APCO ANS 3.103.2: Minimum Training Standards for Public Safety Telecommunicators, which is the minimum standard used today."⁷⁵

NENA

The National Emergency Number Association (NENA), a non-profit corporation, is dedicated to a "public made safer and more secure through universally available state-of-the-art 9-1-1 systems and trained 9-1-1 professionals."⁷⁶ NENA's mission is to improve "9-1-1 through research, standards development, training, education, outreach, and advocacy."⁷⁷ NENA has several topic-specific committees that develop PSAP-related recommendations and standards and other information documents pertaining to PSAP operations. NENA recommendations and standards give PSAPs the tools needed to maintain a consistent level of service and work in relation to their peers in neighboring counties and states.

NENA-STA-020.1-2020, *NENA Standard for 9-1-1 Call Processing*, states, "Ninety percent (90%) of all 9-1-1 calls arriving at the Public Safety Answering Point (PSAP) SHALL be answered within (\leq) fifteen (15) seconds. Ninety-five (95%) of all 9-1-1 calls SHOULD be answered within (\leq) twenty (20) seconds."⁷⁸

⁷⁴ About APCO - APCO International (apcointl.org)

⁷⁵ Projects - APCO International (apcointl.org)

⁷⁶ "NENA's Mission," National Emergency Number Association, <u>http://www.nena.org/?page=Mission.</u>

⁷⁷ Ibid.

⁷⁸ "NENA Standard for 9-1-1 Call Processing," National Emergency Number Association," April 16, 2020, <u>https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/nena-sta-020.1-2020_911_call.pdf</u>, page 8 of 26.

NFPA

Also, a non-profit organization, the National Fire Protection Association (NFPA) "delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach, and advocacy ..."⁷⁹ NFPA 1225 (Edition 2022) Chapter 15 sets forth the standards for PSAP operations.⁸⁰ Chapter 15.4 addresses operating procedures.

Section 15.4.1 states, "Ninety-percent of events received on emergency lines shall be answered within 15 seconds, and 95 percent of events shall be answered within 20 seconds."

NFPA further defines call processing times. Section 15.4.3 states, "Call processing time shall include the time from call answer to initial notification of the responding ERU(s)." (ERU is defined as emergency response unit.) Explanatory material for this section states, in part:

Transfers, especially multiple transfers, have the impact of making compliance with the overall processing time standard nearly impossible. Given the life safety implications for critical incidents, PSAPs should make every effort to reduce/eliminate transfers, thereby reducing the amount of time required to answer, process, transfer, and dispatch alarms.

Section 15.4.4 states, "Emergency event processing for the highest prioritization level emergency events ... shall be completed within 60 seconds, 90 percent of the time." Sections 15.4.4.1 and 15.4.4.2 provide the highest prioritization call types.

NFPA does not address law enforcement call processing and dispatching times, allowing the jurisdictions to establish time frames for dispatch in accordance with respective SOPs.

Chapter 15.1 addresses management.

Section 15.1.1 states, "All system operations shall be under the control of a manager, director, or supervisor of the jurisdiction served by the system."

Section 15.1.3 states, "Personnel in supervisory roles shall receive supervisory training as defined by the AHJ." (AHJ is defined as the Authority Having Jurisdiction.)

15.1.4 states, "The AHJ shall be responsible for initial and ongoing training in supervisory skills for personnel in supervisory roles."

Chapter 15.3 addresses staffing.

Section 15.3.1 states, "There shall be a minimum of two qualified telecommunicators on duty and present in the communications center at all times."

Section 15.3.4 states, "Supervision shall be provided when more than two telecommunicators are on duty."

Explanatory material for this section states:

The supervisor position(s) in the communications center are provided in addition to the telecommunicators positions. Although supervisory personnel are intended to be available for problem solving, the supervisor position is permitted to be a working position.

⁷⁹ NFPA overview

⁸⁰ All quoted material that follows for NFPA 1225 Chapter 15 and annex material is attributed to the standard, which can be found here: <u>NFPA 1225: Standard for Emergency Services Communications</u>.

Section 15.3.4.1 states, "Supervision shall be provided by personnel located within the communications center who are familiar with the operations and procedures of the communications center."

Section 15.3.4.2 states, "The supervisor shall be allowed to provide short-term relief coverage for a telecommunicator, provided that the telecommunicator does not leave the communications center and is available for immediate recall as defined in the policies and procedures of the AHJ."

Accrediting Organizations

Accrediting organizations also develop standards with which agencies applying for respective accreditation must comply.

CALEA

Communications centers can seek independent accreditation through the Commission on Accreditation for Law Enforcement Agencies (CALEA) Public Safety Communications Accreditation Program, which includes 207 standards.

The Public Safety Communications Accreditation Program provides a communications center, or the communications unit of a public safety agency, with a process to systemically review and internally assess its operations and procedures.

This program requires organizations to collect and analyze important data for the purpose of making sound operational and administrative business decisions, creating leadership and practitioner-accountability.

In addition, the focus is on quality assurance, interoperability, emerging technologies, risk analysis, asset security, resources access, contemporary training, and a range of other operational functions.⁸¹

CAAS

The Commission on Accreditation of Ambulance Services (CAAS) is the accrediting body for ambulance services. CAAS is an independent commission that "established a comprehensive series of standards for the ambulance service industry."⁸² The CAAS standards are designed to help increase operational efficiency and decrease risk and liability across the entire spectrum of the organization, often exceeding standards established at the local or state level. While CAAS does not accredit PSAPs, Section 204 of the standards addresses communications centers, stating, "efficient call taking, effective resource deployment, and continuous communications capabilities are required to maintain an effective EMS agency."⁸³ There are seven applicable areas within Section 204:

204.01 – Policies and Procedures 204.02 – Contingency Plans 204.03 – Preventive Maintenance 204.04 – Training 204.05 – Licensure

⁸¹ Communications | CALEA® | The Commission on Accreditation for Law Enforcement Agencies, Inc.

⁸² About CAAS – Commission on Accreditation of Ambulance Services (CAAS)

⁸³ Standard Summaries – Commission on Accreditation of Ambulance Services (CAAS)

204.06 – Communications Inter-Agency Dialogue 204.07 – Communications Performance Improvement

IAED

The International Academies of Emergency Dispatch (IAED) "sets and maintains a set of universal standards for emergency responders to ensure consistent, high-quality care worldwide. It supports the advancement of certified emergency dispatchers who, with proper education and training, can serve their communities with utmost technical competence and integrity."⁸⁴

Entities that utilize the IAED's internationally recognized protocols, available through Priority Dispatch Corporation (PDC), can apply to become an Accredited Center of Excellence (ACE).

Protocols

The IAED defines a protocol as "a highly-defined procedure placed into a reference system...designed to lead the call-taker through a predictable, repeatable, and verifiable process for a specific situation."⁸⁵ "Protocols have become an integral part of modern day, emergency dispatch operations. Protocols reduce variance, ensure a continuity of care, reduce liability, standardize response decisions, and provide a basis for performance measurement and quality improvement efforts."⁸⁶

Protocols involve a set of scripted questions designed to elicit as much information from the caller as possible.⁸⁷ At case entry, essential information is gathered in a standardized format, including the address of the incident, the caller's phone number and name, and the problem. Once the problem or chief complaint has been identified, questioning continues to help assess scene safety, prioritize the response, select appropriate instructions for the caller, and provide pertinent information for responders. The questions are designed to be asked verbatim and in order. Where the answer is obvious, questions may be skipped. Post-dispatch instructions are designed to provide for responders' and the caller's safety. If necessary, pre-arrival instructions—potentially lifesaving, scripted instructions— are provided.

The pros of dispatch protocol include standardization, the ability to provide uniformed instructions and the ability to prioritize responses. A structured protocol can provide consistent answers to pre-determined questions that may improve the way dispatchers communicate with units in the field. Even more importantly, it has been shown to save lives.

Yet some industry experts prefer to rely on a dispatcher's experience when handling a situation. They feel that stringent use of protocols may lead dispatchers to becoming more of a robot— or at least feeling like ... a robot— than a skilled professional. Increased scrutiny of a dispatcher's performance can also lead to negative morale issues.⁸⁸

⁸⁴ About the IAED - IAED (emergencydispatch.org)

⁸⁵ The National Academies of Emergency Dispatch[®] (2011) *Emergency Telecommunicator Course Manual,* Edition 3. Salt Lake City, Utah: Priority Press.

⁸⁶ "Protocol Use in Emergency Dispatch: An Evolving Standard of Care," 911 Magazine.com, May 13, 2011, http://dispatchingdiscussions.blogspot.com/2013/05/protocol-use-in-emergency-dispatch.html.

⁸⁷ While there are numerous vendors for dispatch protocols, the terminology and information referenced is from Priority Dispatch; other vendors may have slightly differing terms and sequencing.

⁸⁸ Scott, Mike. "Dispatch Protocol Systems, The Good the Bad and the Ugly." 911 Magazine. February 2003.
State of Texas

TCOLE sets forth minimum standards for enrollment and initial licensing for law enforcement telecommunicators in Texas. Upon application approval, TCOLE will issue a temporary telecommunicator license. The applicant must successfully complete the 80-hour basic telecommunicator licensing course and exam within 12 months of the original appointment date. Thereafter, telecommunicators must complete 20 hours of continuing education every two years to maintain licensure. There are no other state agencies that set forth requirements for 9-1-1 telecommunicators.⁸⁹

⁸⁹ https://www.tcole.texas.gov/content/telecommunications-officers

Appendix B: Cybersecurity Resources and Standards

APCO, An Introduction to Cybersecurity: A Guide for PSAPs, Version 1.0, July 2016. https://www.911.gov/assets/An-Introduction-to-Cybersecurity-A-Guide-For-PSAPs-1638566090.pdf

APCO, Broadband Implications for the PSAP: Analyzing the Future of Emergency Communications. https://www.apcointl.org/ext/pages/p43/p43book.html

APCO, Cybersecurity Training for Public Safety Communications Personnel, APCO 3.110.1-2019. https://www.apcointl.org/standards/standards-to-download/

FBI, FBI Tech Tuesday: Protecting Against PII Theft. <u>https://www.fbi.gov/contact-us/field-offices/phoenix/news/press-releases/fbi-tech-tuesday-protecting-against-pii-theft</u>

FCC, Task Force on Optimal PSAP Architecture (TFOPA), *Final Report*. <u>https://www.fcc.gov/about-fcc/advisory-committees/general/task-force-optimal-public-safety-answering-point</u>

Federal Trade Commission (FTC) Consumer Information, Computer Security. <u>https://www.consumer.ftc.gov/articles/0009-computer-security</u>

FTC Consumer Information, Tips for Using Public Wi-Fi Networks. <u>https://www.consumer.ftc.gov/articles/0014-tips-using-public-wi-fi-networks</u>

Information Technology Laboratory, Security for Enterprise Telework and Remote Access Solutions. <u>https://ws680.nist.gov/publication/get_pdf.cfm?pub_id=903007</u>

National Institute of Standards and Technology (NIST), *Framework for Improving Critical Infrastructure Cybersecurity*, Version 1.1, April 16, 2018. <u>https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.04162018.pdf</u>

NIST, Guide for Cybersecurity Event Recovery. https://csrc.nist.gov/publications/detail/sp/800-184/final

NIST, National Cybersecurity Center of Excellence, *Mobile Device Security: Cloud and Hybrid Builds*. https://www.nccoe.nist.gov/projects/building-blocks/mobile-device-security/cloud-hybrid

Appendix C: 9-1-1 Surcharge – User Fees by State⁹⁰

State	Wireline	Wireless	VolP
Alabama	\$1.86	\$1.86	\$1.86
		\$1.86 prepaid	
Alaska	\$0.00 - \$2.00	\$0.00 - \$2.00	
Arizona	\$0.20	\$0.20	\$0.20
		0.80% of sale – prepaid	
Arkansas	5% – 12% of tariff rates	\$1.30	\$1.30
		10% point of sale – prepaid	
California	\$0.30	\$0.30	\$0.30
		\$0.30 prepaid	
Colorado	\$0.70 – \$3.00 (max)	\$0.70 – \$3.00 (max)	\$0.70 – \$3.00 (max)
	\$0.10 statewide fee	\$0.10 statewide fee	\$0.10 statewide fee
		\$1.38 point of sale – prepaid	
Connecticut	\$0.57	\$0.57	\$0.57
		\$0.57 point of sale – prepaid	
Alaska	\$0.00 - \$2.00	\$0.00 - \$2.00	\$0.47
Delaware	\$0.60	\$0.60	\$0.60
		\$0.60 prepaid	
District of	\$0.76 wireline	\$0.76	\$0.76
Columbia	\$0.62 Centrex	2.0% point of sale – prepaid	
	\$4.96 PBX ⁹¹ trunk		
Florida	\$0.40 - \$0.44 (max)	\$0.40	\$0.40
		\$0.40 prepaid	

 ⁹⁰ <u>9-1-1 Surcharge - User Fees by State - National Emergency Number Association (nena.org)</u>
 ⁹¹ Private branch exchange

State	Wireline	Wireless	VoIP
Georgia	\$1.50	\$1.50	\$1.50
		\$1.50 prepaid	
Hawaii	\$0.27	\$0.66	\$0.66
Idaho	\$1.00 – \$1.25 (max)	\$1.00 – \$1.25 (max)	\$1.00 – \$1.25 (max)
		2.5% of sale – prepaid	
Illinois	\$1.50	\$1.50	\$1.50
	\$5.00 City of Chicago	\$5.00 City of Chicago	\$5.00 City of Chicago
		9.0% of sale City of Chicago – prepaid	
		3% of retail sale – prepaid	
Indiana	\$1.00	\$1.00	\$1.00
		\$1.00 point of sale – prepaid	
Iowa	\$1.00 (max)	\$1.00	\$1.00
		\$0.51 point of sale – prepaid	
Kansas	\$0.90	\$0.90	\$0.90
		2.06% of retail sale – prepaid	
Kentucky	\$0.32 - \$4.00	\$0.70	\$0.32 - \$4.00
		\$0.93 point of sale – prepaid	
Louisiana	\$0.38 – \$1.25 residential	\$0.85 - \$1.25	\$0.38 - \$1.25
	\$0.99 — \$6.00 business	4% of retail sale – prepaid	
Maine	\$0.35	\$0.35	\$0.35
		\$0.35 point of sale – prepaid	
Maryland	\$1.25	\$1.25	\$1.25
		\$0.60 of retail sale – prepaid	
Massachusetts	\$1.00	\$1.00	\$1.00

State	Wireline	Wireless	VoIP
		\$1.00 prepaid	
Michigan	\$0.25 state fee	\$0.25 state fee	\$0.25 state fee
	\$0.00 – \$3.00 by county	\$0.00 – \$3.00 by county	\$0.00 – \$3.00 by county
		5% point of sale – prepaid	
Minnesota	\$0.95	\$0.95	\$0.95
		\$0.95 point of sale – prepaid	
Mississippi	\$1.00 residential	\$1.00	\$1.00
	\$2.00 commercial	\$1.00 prepaid	
Missouri	2% – 15% of base rate (45 counties)	3% statewide fee – prepaid	
	¹ / ₈ % – 1% of sales tax (51 counties)		
	Unfunded – (19 counties)		
Montana	\$1.00	\$1.00	\$1.00
		\$1.00 prepaid	
Nebraska	\$0.50 - \$1.00	\$0.45 - \$0.70	
		1.1% of retail sale – prepaid	
Nevada	Varies by jurisdiction – property tax and/or surcharge	Must be equal to wireline surcharge	
New Hampshire	\$0.75	\$0.75	\$0.75
		\$0.75 point of sale – prepaid	
New Jersey	\$0.90	\$0.90	\$0.90
New Mexico	\$0.51	\$0.51	\$0.51
		1.38% of retail sale – prepaid	
New York	\$0.35 – \$1.00	\$1.20 - \$1.50	\$0.35

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State	Wireline	Wireless	VoIP
North Carolina	\$0.65	\$0.65	\$0.65
		\$0.65 point of sale – prepaid	
North Dakota	\$1.50 – \$2.00 (max)	\$1.50 – \$2.00 (max)	\$1.50 – 2.00 (max)
		2.5% point of sale – prepaid	
Ohio	\$0.50 (max)	\$0.25	
	Legally limited to a few counties, no general surcharge.	0.5% point of sale – prepaid	
Oklahoma	3% – 15% of base rate	\$0.75 (approx. 61 counties)	\$0.75
		\$0.75 point of sale – prepaid	
Oregon	\$1.25	\$1.25	\$1.25
		\$1.25 point of sale – prepaid	
Pennsylvania	\$1.65	\$1.65	\$1.65
		\$1.65 point of sale – prepaid	
Rhode Island	\$1.00	\$1.26	\$1.26
		2.5% point of sale – prepaid	
South Carolina	\$0.45 - \$1.00	\$0.62	\$0.45 - \$1.00
		\$0.62 prepaid	
South Dakota	\$1.25	\$1.25	\$1.25
		2% point of sale – prepaid	
Tennessee	\$1.50	\$1.50	\$1.50
		\$1.50 point of sale – prepaid	
Texas	\$0.50 State program	\$0.50 State program	\$0.50 State program
	Fees vary – district	2% of sales – prepaid	Fees vary – district
Utah	\$0.71 local fee plus	\$0.71 local fee plus	\$0.71 local fee plus
	\$0.09 state fee	\$0.09 state fee	\$0.09 state fee

State	Wireline	Wireless	VoIP
		1.78% point of sale – prepaid	
Vermont	Universal Service Funding	Universal Service Funding	
		2.4% of retail sale – prepaid	
Virginia	\$0.75	\$0.75	\$0.75
		\$0.50 prepaid	
Washington	\$0.25 statewide	\$0.25 statewide	\$0.25 statewide
	\$0.70 by counties	\$0.70 by counties	\$0.70 by counties
		\$0.25 statewide – prepaid	
		\$0.70 by counties – prepaid	
West Virginia	\$0.98 – \$6.40 by county	\$3.00	\$0.98 – \$6.40 by county
		6% point of sale – prepaid	
Wisconsin	\$0.16 – \$0.40 (max)	None	
Wyoming	\$0.25 – \$0.75	\$0.25 – \$0.75	\$0.25 – \$0.75
		1.5% point of sale – prepaid	

Appendix D: PSAP Wages

PSAP Location	Entry	Top Tier	Mean
Arlington PD	\$38,626	\$57,949	\$48,288
Azle PD	\$44,096	\$45,718	\$44,907
Bedford PD	\$54,912	\$57,390	\$56,151
Benbrook PD	\$56,710	\$75,997	\$66,354
Burleson PD	\$40,011	\$60,017	\$50,014
Crowley PD	\$43,243	\$63,502	\$53,373
Dalworthington Gardens DPS	\$46,500		\$46,500
DFW	\$39,900	\$77,200	\$58,550
Euless PD ⁹²	\$56,316	\$71,869	\$64,093
Fort Worth FD	\$63,806	\$88,697	\$76,252
Fort Worth PD	\$31,077	\$41,177	\$36,127
Grand Prairie PD	\$53,040	\$80,841	\$66,941
Grapevine PD	\$53,768	\$75,275	\$64,522
Hurst PD	\$50,690	\$69,035	\$59,863
Irving PD	\$54,384	\$76,680	\$65,532
Lake Worth PD	\$46,200	\$60,281	\$53,241
Mansfield PD	\$55,000	\$76,000	\$65,500
MedStar Mobile Healthcare	\$44,545	\$64,730	\$54,638
NETCOM	\$48,464	\$64,022	\$56,243
North Richland Hills PD	\$53,315	\$66,668	\$59,992
Pantego PD	\$45,000	\$50,000	\$47,500
River Oaks PD	\$37,000	\$42,000	\$39,500

⁹² Dispatcher | Current Job Opportunities | Euless, TX (eulesstx.gov)

PSAP Location	Entry	Top Tier	Mean
Saginaw PD	\$41,259	\$52,265	\$46,762
Tarrant County Regional Communications	\$42,224	\$57,554	\$49,889
Tarrant County SO	\$50,003		\$50,003
Westover Hills PD	\$41,500		\$41,500
White Settlement PD	\$54,700		\$54,700 ⁹³

⁹³ Wage information for White Settlement PD telecommunicators was not provided and could not be determined based on publicly available information. MCP used the mean wage of District agencies: \$54,700 annually.

Appendix E: PSAP Technology and Systems in Use

The information in the table that follows was compiled from the PSAP survey responses; not all PSAPs responded.

PSAP	CAD	CAD-to-CAD	Applications	Other Apps	Radio	Radio System	Logging Recorder	FSA	OTT & Integrated Apps
Arlington PD	Hexagon	No	RMS, JMS ⁹⁴ , MDTs, ProQA, Other	Motorola PTT ⁹⁵ , Motorola GPS for PLT, utility body worn cameras, MEDS electronic patient reports, ESO	Motorola MCC 7500	P25 800 MHz Phase 2, 3-site simulcast trunked system with encrypted and clear talkgroups	NICE Inform	Zetron through radio consoles	N/A
Azle PD	CRIMES	No We are talking about migrating with Motorola and host for other sites within next two years	RMS, JMS, MDTs	N/A	Motorola	Conventional	HigherGround Commercial Electronics	N/A	SirenGPS, RapidSOS
Benbrook PD	CRIMES	No	RMS, JMS, MDTs		Motorola APX600Xe	Trunked	Eventide NexLog 740	Active911	No

⁹⁴ Jail management system
⁹⁵ Push-to-talk

PSAP	CAD	CAD-to-CAD	Applications	Other Apps	Radio	Radio System	Logging Recorder	FSA	OTT & Integrated Apps
Burleson PD	CentralSquare	MedStar	RMS, JMS, MDTs, ProQA		Motorola MCC 7500	Trunked	Eventide NexLog DX740	USDD Phoenix G2	ASAP ⁹⁶ alarm monitoring (ASAP to PSAP), Active911
Crowley PD	CRIMES	No	RMS, JMS, MDTs, Other	Property and evidence with bar coding capabilities; records expungement/sea ling	Motorola MCC 7500e	P25 Interoperability	Eventide NexLog	No	RapidSOS
Dalworthington Gardens DPS	CRIMES	No			Motorola 800 MHz	800	Mediaworks	No	RapidSOS (not used), Active911
DFW	CentralSquare TriTech	No	RMS, JMS, MDTs		EF Johnson radios/Zetron is the application used to log into the radio	UHF ⁹⁷ , VHF ⁹⁸ and trunked	Mediaworks	Westnet	No
Fort Worth FD	CentralSquare	Fort Worth PD, MedStar, and ASAP to PSAP.	RMS, JMS, MDTs, Other	Interface to Image Trend and First Due	Motorola MCC 7500	Trunked	Eventide	Locution	Rapid SOS, First Due, ASAP to PSAP, Red Alert

⁹⁶ Automated Secure Alarm Protocol
 ⁹⁷ Ultra high frequency
 ⁹⁸ Very high frequency

PSAP	CAD	CAD-to-CAD	Applications	Other Apps	Radio	Radio System	Logging Recorder	FSA	OTT & Integrated Apps
		Burleson PD in the near future.							
Fort Worth PD	CentralSquare	Fort Worth FD, MedStar	RMS, JMS, MDTs		Motorola MCC 7550	Trunked	Eventide NexLog DX Series	No	Rapid SOS
Grand Prairie PD	Superion	No	RMS, JMS, MDTs, ProQA, Other	Phoenix G2 toning interface, ASAP to PSAP, VESTA	Motorola MCC 7500		Eventide - Mediaworks	Phoenix G2	No
Grapevine PD	CRIMES	No	RMS, JMS, MDTs, Other	TLETS ⁹⁹	Motorola MCC 7500 Elite Dispatch	Trunked	NICE	Station alerts through the radio system	Rapid SOS through 9-1-1 system, First Due is automatic page out
Hurst PD	CentralSquare ONESolution	Tarrant County	RMS, JMS, MDTs		Motorola MCC 7500 Elite	Trunk	NICE	PageGate	VESTA 9-1-1
Irving PD	CentralSquare	No	RMS, JMS, MDTs		Motorola ASTRO [®] Phase II P25 radios	Trunked 800 MHz	HigherGround 4	N/A	Yes

⁹⁹ Texas Law Enforcement Telecommunications System

PSAP	CAD	CAD-to-CAD	Applications	Other Apps	Radio	Radio System	Logging Recorder	FSA	OTT & Integrated Apps
Lake Worth PD	Motorola	N/A	RMS, JMS, MDTs, Other	Mentalix Fingerprints, RapidSOS, Command Solutions	Motorola MCC 7500 Elite Dispatch	Digital	Eventide 740DX	N/A	RapidSOS is integrated into our CAD
Mansfield PD	CentralSquare ONESolution	No	RMS, JMS, MDTs, ProQA, Other	CryWolf, LiveScan, TLETS, P2P, P2C, FIREHOUSE, DragonForce, Incode, VESA, NICE Inform	Motorola MCC 7500 Console	700/800 MHz P25 trunked wide area connected to Fort Worth and Irving core	ATO NICE Inform	Station alert via radio console and consolettes	ActiveAlert
Medstar Mobile Healthcare	Logis	Fort Worth PD, Fort Worth FD, Burleson PD	RMS, JMS, MDTs, ProQA, Other	VESTA ANI/ALI, Twillio (SMS), Outlook 365, Vairkko (scheduling software)	Motorola MCC 7500 Elite	P25	NICE R8	No	RapidSOS is already integrated with VESTA Maps
NETCOM	CentralSquare	No	RMS, JMS, MDTs, Other	NICE QA, FIREHOUSE, ESO, internal EMD	Motorola	Trunked	NICE	No	SirenGPS, RapidSOS
North Richland Hills PD	Motorola	No	RMS, JMS, MDTs, Other	ERS, ESO, Incode,	Motorola MCC 7500	UHF	Eventide	Alert toning initiated through radio consoles	No

PSAP	CAD	CAD-to-CAD	Applications	Other Apps	Radio	Radio System	Logging Recorder	FSA	OTT & Integrated Apps
Pantego PD	Tyler Technologies	N/A	RMS, JMS, MDTs		Motorola	Trunked	Vista Com	Yes	RapidSOS
Saginaw PD	CRIMES	N/A	RMS, JMS, MDTs	N/A	Motorola MCC 7500		HigherGround Capture911	N/A	RapidSOS
Tarrant County Regional Communications	CRIMES and RedNMX	We have merged with Forest Hill CAD servers and are in conversation with other departments to have CAD-to- CAD	RMS, JMS, MDTs, ProQA		Motorola MCC 7500	Conventional and trunked	NICE	Fire dispatchers use station alerting for the majority of the FDs that we dispatch for	Yes
Westover Hills PD	CrimeStar	N/A	RMS, JMS		Motorola	On Fort Worth 800 MHz			

Appendix F: PSAP Consolidation Benchmark Criteria Roadmap

If a PSAP has five or more Category One attributes, it meets the criteria for MCP to strongly recommend exploring a physical consolidation and alliance with a neighboring PSAP. This is not to say that the agency that meets this benchmark should be absorbed by another PSAP as there could be numerous factors, including available opportunities for facility expansion, available funding, and others that could drive such decisions away from what, on the surface, may appear obvious.

PSAP Location	Population	District 9-1-1 Call Volume	Cost per Call	Primary Workstation	Min. Staffing Per Shift	Retention	Outbound Transfers	EWD	Admin Call Volume	y One Criteria
Category One Criteria	≤25k	≤1%	≥\$40	≤2	≤2	≤75%	≥25%	Ø	≥911 Vol.	of Categor Met
Category Two Criteria	≤50k	≤2%	5\$30	42	5	≤80%	≥25%	xfer.	≥911 Vol.	Number o
Report Reference	Table 1	Table 1	Table 4	Table 1	Table 8	Table 8	Table 7	Section 3.3.5	Table 6	
Azle PD	13,518	0.35%	\$71	2	2	100%	33%	No	85%	8
Saginaw PD	24,011	0.53%	\$73	3	1	86%	30%	No	79%	8
Crowley PD	19,333	0.40%	\$79	2	1	89%	9%	No	69%	7
Lake Worth PD	6,922	0.49%	\$55	3	1	100%	38%	No	75%	7
River Oaks PD	7,524	0.14%	\$112	2	1	N/R	29%	N/R	86%	7
Pantego PD	2,467	0.10%	\$139	2	1	100%	10%	No	76%	7
Westover Hills PD	635	0.01%	\$1,487	2	1	100%	20%	No	73%	7

PSAP Location	Population	District 9-1-1 Call Volume	Cost per Call	Primary Workstation	Min. Staffing Per Shift	Retention	Outbound Transfers	EMD	Admin Call Volume	ry One Criteria
Category One Criteria	≤25k	≤1%	≥\$40	8	Я	≤75%	225%	Ø	≥911 Vol.	of Categol Met
Category Two Criteria	≤50k	≤2%	5\$30	54	54 2	≤80%	225%	xfer.	≥911 Vol.	Number o
Report Reference	Table 1	Table 1	Table 4	Table 1	Table 8	Table 8	Table 7	Section 3.3.5	Table 6	
Tarrant County Regional Communications	6,067	0.69%	\$106	2	4	87.5%	90%	Yes	76%	6
Benbrook PD	24,605	0.60%	\$75	4	N/R	62.5%	18%	Yes	65%	6
Burleson PD	51,618	0.98%	\$76	4	2 to 3	83%	27%	Yes	58%	5
Dalworthington Gardens DPS	2,302	0.08%	\$207	2	1	75%	4%	T-CPR	10%	5
DFW	63 million annually	1.59%	\$177	5	2	53%	8%	Yes	76%	4
Hurst PD	40,055	1.28%	\$36	6	2	75%	16%	Yes	66%	3
Irving PD	254,198	7.72%	\$34	16	8	67%	17%	No	67%	3
Fort Worth FD	938,508	4.16%	\$58	9	5	96%	48%	No	42%	3
White Settlement PD	25,995	0.88%	\$73	4	3	N/R	12%	N/R	19%	2
Grapevine PD	50,872	1.47%	\$68	7	3	70%	4%	Yes	73%	2
Euless PD	60,500	1.40%	\$39	6	2	N/R	12%	N/R	73%	2

PSAP Location	Population	District 9-1-1 Call Volume	Cost per Call	Primary Workstation	Min. Staffing Per Shift	Retention	Outbound Transfers	EMD	Admin Call Volume	y One Criteria
Category One Criteria	≤25k	≤1%	≥\$40	Я	ß	≤75%	225%	Ø	≥911 Vol.	of Categor Met
Category Two Criteria	≤50k	≤2%	0 2 \$3	42	42	≤80%	225%	xfer.	≥911 Vol.	Number o
Report Reference	Table 1	Table 1	Table 4	Table 1	Table 8	Table 8	Table 7	Section 3.3.5	Table 6	
Irving FD	254,198	1.07%	\$79	5	3	100%	2%	N/R	55%	2
Mansfield PD	74,368	2.01%	\$52	6	4	89%	9%	Yes	63%	2
Bedford PD	49,187	1.33%	\$37	4	2	85%	9%	N/R	68%	1
NETCOM	112,000	1.87%	\$43	7	3 to 4	81%	10%	Yes	41%	1
Grand Prairie PD	197,347	5.84%	\$38	16	8 to 9	90%	8%	Yes	61%	1
North Richland Hills PD	70,209	3.66%	\$25	9	3 to 4	84%	18%	Yes	65%	1
Tarrant County SO	2.1 million	1.97%	\$41	8	4	N/R	14%	N/R	77%	1
Fort Worth PD	938,508	38.43%	\$14	35	26	84%	23%	No	47%	1
MedStar Mobile Healthcare	1.14 million	6.70%	\$21	10	5 to 8	89%	2%	Yes	53%	1
Arlington PD	392,786	14.20%	\$39	28	15 to 20	80%	4%	Yes	38%	0

Appendix G: Consolidation Alliance Profile

A consolidation alliance profile allows a PSAP to identify those agencies that may be a fit both operationally and culturally. The outline that follows considers numerous factors beyond the original Category One and Category Two benchmark criteria.

Consolidation Alliance Profile						
Profile Questions (*Consolidation Benchmark Criteria)	Your Agency (Identify Must Haves/Nice to Haves)	Prospect A	Prospect B			
History and Demographics						
Years in operation						
Population*						
 Projected growth 						
Geography						
 Contiguous borders 						
- Mutual aid						
9-1-1 call volume*						
10-digit call volume*						
Transfers						
- Outbound*						
– Inbound						

Consolidation Alliance Profile						
Profile Questions (*Consolidation Benchmark Criteria)	Your Agency (Identify Must Haves/Nice to Haves)	Prospect A	Prospect B			
Minimum staffing per shift*						
Number of workstations*						
Other agencies dispatched						
Cost per call*						
Services Provided						
Call-taking						
- EMD						
- EFD						
– EPD						
 Nurse Navigation 						
- ASAP to PSAP						
- Other						
Dispatching						
- Law enforcement						
- Fire						

Consolidation Alliance Profile						
Profile Questions (*Consolidation Benchmark Criteria)	Your Agency (Identify Must Haves/Nice to Haves)	Prospect A	Prospect B			
- EMS						
Administrative duties						
• 3-1-1						
Jail duties						
Security camera monitoring						
Access control						
Support city/county services						
Walkup window						
Vehicle releases						
Early warning system notifications						
Warrants/Records						
Public address notifications						
Billing/Payment receipt						
Alternative response						

Consolidation Alliance Profile					
Profile Questions (*Consolidation Benchmark Criteria)	Your Agency (Identify Must Haves/Nice to Haves)	Prospect A	Prospect B		
Staffing					
Full-time					
- Telecommunicators					
 Communications training officers 					
 Shift supervisors 					
- Managers					
- Training coordinator					
 QA coordinator 					
- Director					
Part-time					
• IT					
– In-house					
- Municipal					
- Outsourced					
Persistent vacancies					

Consolidation Alliance Profile						
Profile Questions (*Consolidation Benchmark Criteria)	Your Agency (Identify Must Haves/Nice to Haves)	Prospect A	Prospect B			
Culture						
Core values defined						
Strategic plan						
Change management policy						
Employee engagement scores						
Recognition programs						
Career advancement						
Training completion statistics						
Retention rate*						
Finances						
Budget						
Revenue sources						
Projections						
Capital improvement projects						

Consolidation Alliance Profile						
Profile Questions (*Consolidation Benchmark Criteria)	Your Agency (Identify Must Haves/Nice to Haves)	Prospect A	Prospect B			
Facilities						
Sufficient space exists						
Renovations of existing space would be needed and/or are possible						
A new facility would be required						
Political Environment (stakeholder and constituent support)						
Elected officials						
Executive leadership						
Field personnel						
PSAP personnel						
Constituents						
Technology and Systems in Use						
• CAD						
• RMS						
• CHE						

Consolidation Alliance Profile						
Profile Questions (*Consolidation Benchmark Criteria)	Your Agency (Identify Must Haves/Nice to Haves)	Prospect A	Prospect B			
- NG9-1-1 or legacy 9-1-1						
Radio						
- Radio coverage						
FSA system						
Logging recorder						
Cybersecurity policies and practices						
Applications						
Legal and Media Exposure						
Threatened/Pending lawsuits						
• Media						
 Negative coverage 						
 Positive coverage 						
Organizational Structure						
Management plans						
Workforce integration						

Consolidation Alliance Profile					
Profile Questions (*Consolidation Benchmark Criteria)	Your Agency (Identify Must Haves/Nice to Haves)	Prospect A	Prospect B		
- Positions					
- Seniority					
 Wages and benefits 					