



Consolidation Feasibility Study

Final Report

Prepared September 2022

**Franklin County Joint Emergency Telephone
System Board, Illinois**



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Executive Summary

In response to the rapidly changing 911 ecosystem and technical advancements sweeping the country, the Franklin County Joint Emergency Telephone System Board (FCJETSJ) engaged Mission Critical Partners, LLC (MCP) to determine if merging the operations of one public safety answering point (PSAP) and two communications centers¹ within Franklin County, Illinois, was feasible and could improve emergency response outcomes in the county. To accomplish this task, MCP completed a comprehensive assessment of the current state of public safety communications services, including the organizational structure, operational configuration, staffing, training, quality assurance (QA), leadership, performance management, facilities, and technology of the three ECCs. In addition, while not part of the detailed assessment, MCP reviewed the technology and systems in use at the West Frankfort PSAP, focusing on leveraging the potential cost benefits of shared technology between the primary PSAPs.

MCP is pleased to provide this feasibility study, which presents the findings of analysis and opportunities to enhance public safety communications capabilities for the FCJETSJ, the County and its constituents, and field responders. This report, while a comprehensive overview of Franklin County's emergency communications services, is based on operations when this phase of the project began in April 2022.

A diverse group of stakeholders participated in the project—representatives from emergency management, FCSO, and each municipality, as well as ECC personnel and field responders. Representatives were interviewed as the primary point of contact for each participating agency—individually or as part of a focus group. Additional input was sought from a variety of internal and external personnel.

At the onset of this project, stakeholders highlighted the current challenges and definitions of success that follow, which MCP kept at the forefront when developing the key findings and recommendations.

- Improve public safety services provided to the citizens of Franklin County
- Streamline processes when requesting field responders by reducing transfers
- Enhance processes for efficiency, especially those that relate to call transfers such as medical calls
- Purchase the necessary equipment and/or upgrade to attain location information
- Leverage agency partnerships by bringing in Abbott EMS to the ECC
- Improve communications and efficiencies across all public safety disciplines (law enforcement, fire, emergency medical services [EMS], 911, and alternative responders)
- Improve ECC staffing
- Increase resources and accessibility
- Reduce call processing and dispatch efforts to decrease response times
- Improve responder radio communications, situational awareness, and mutual aid response
- Improve or eliminate disparate procedures and workflows
- Combine money, equipment, personnel, and expertise, which may result in the best service they can afford
- Improve uniformity of operations through joint training and regular communications

¹ For the purpose of this report, the Franklin County Sheriff's Office (FCSO) PSAP, Central Dispatch of West Franklin County (Central Dispatch), and the Village of West City Police Department (PD) communications center will be referred to as emergency communications centers (ECCs) for ease of reference, unless a distinction is necessary.

- Improve consistency of service and better meet the financial expectations of the agencies
- Allow every agency to have a voice in consolidation planning

Based on extensive analysis using national standards, best practices, Illinois legislation, industry knowledge, and experience, MCP determined that Franklin County constituents and field responders would benefit from physically consolidating the three ECCs into a single ECC. To be clear, no one single aspect drives the consolidation determination—the holistic collective and the interrelationships among them introduce risks into the public safety communications system. This report provides an answer to the “if” and “why” consolidation in the county is feasible, but more importantly, it lays the groundwork for an implementation plan to be developed in the future, and factors that must be addressed through collaborative planning between the agencies involved.

Opportunities exist for improvement across the board in ECC operations, policies and procedures, personnel and workforce, QA and performance management, facilities, leadership and planning, technology, training, and governance. Fortunately, the motivation exists to pursue these opportunities and position the County to improve public safety service delivery by implementing the recommendations within this report—which includes consolidating ECC operations into a single facility. The recommendations overall address the key findings noted below and lend themselves well to support the current activities and future consolidation planning efforts in the county.

- It is necessary to reduce the risk and improve efficiencies that do not exist today with FCSO—the sole PSAP that processes incoming 911 calls for the three ECCs and notifies Abbott EMS of calls for service.
- To maximize success, all ECCs must share the work, responsibilities, and decision-making during the consolidation effort, without regard for which ECC can provide the most resources to the consolidated entity.
- There is consensus that a consolidated ECC would be more appropriately placed under a hierarchy that is independent of one of the three ECCs and potentially under emergency management with a civilian director.
- There are currently disparate duplicated systems in use with limited interoperability or shared systems. Consolidation would reduce the cost for duplicate computer-aided dispatch (CAD) systems and logging recorders.
- Consolidation would reduce the number of radio channels in use and improve response.
- Staffing concerns such as a low applicant pool, the need to have a minimum of two dispatchers on duty, and key positions play a significant role in the consolidation recommendation.
- With a strength of 16 to 19 telecommunicators, a consolidation model would reduce risk exposure by providing minimum staffing of three telecommunicators per shift.
- Consolidation has the potential to reduce operating costs by improving economies of scale and reducing redundant and duplicate equipment, including the reduction or elimination of ongoing maintenance and replacement costs.
- Disparities in salaries exist between ECC staff that will need to be rectified in any consolidation scenario.
- The consensus of the staff and stakeholders from each ECC is that their current staff members are outstanding, dedicated employees that do a very good job in a very difficult and complex position.

MCP's findings support that the future success of the County's ECC configuration will be better served if consolidation of telecommunicator personnel from the three ECCs and the requisite technology is pursued—with leadership working in concert to support the workforce as they deliver services to the community and field responders. The primary driver of this recommendation is the current state of ECC staffing in the county. This recommendation provides a pathway for one consolidated ECC to operate with a minimum of three on duty 24 hours a day, seven days a week (24 x 7). All three ECCs reported issues with retention, low applicant pools, and heavy turnover. Aside from improving staffing efficiencies, a full physical consolidation would eliminate call transfers between the three ECCs, which are susceptible to delays and repetitive caller interrogation.

Without consolidation, the ECCs are bound to the current state and constrained in their efforts to provide a higher, more efficient level of service.

It is important to remember that true success in a consolidated environment—which involves bringing people together in a new organizational structure—can only be achieved when members establish trust, engage in constructive conflict, are committed to the success of the organization, hold each other accountable, and are focused on the results.

1 Introduction

Franklin County, Illinois, (county – geographically) is approximately 431 square miles. Within the county limits, and the purview of this study, is the primary PSAP (FCSO) and two communications centers (West City and Central Dispatch)—collectively referred to as ECCs. As the primary PSAP, the FCSO handles all inbound 911 calls for the majority of the county, with the exception of calls on the south end of the county, which are directed to another primary PSAP (West Frankfort) that is outside the purview of this study. Collectively, the ECCs serve the county’s approximately 37,442 residents²; 11 law enforcement, ten fire/rescue, and one private EMS agency; field responders; and countless visitors.

A primary PSAP is the initial point of entry for all 911 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. Central Dispatch and West City both receive transferred calls (via 10-digit telephone numbers) for dispatch from FCSO and West Frankfort. Abbott EMS responds to medical calls in the county and receives the call via telephone relay from FCSO.

Based on the size categories described in the National 911 Program’s *Next Generation 911 Cost Estimate A Report to Congress* published in 2018, the FCSO PSAP is considered small. This category assumes a minimum of two and a maximum of six workstation positions. West City and Central Dispatch also have one to three positions, with minimum staffing of one to two telecommunicators 24 X 7.

It is not unusual for small communications centers to be assigned ancillary duties that are not related to 911 services. These typically include answering 10-digit administrative lines and handling after-hours requests from individuals seeking other administrative or routine municipal services. The three ECCs require the telecommunicators to work a front window, which includes greeting visitors, processing bonds, and other administrative functions.

The demographics for the respective ECCs are shown in the table below.

Table 1: ECC Demographics

Demographic	FCSO	Central Dispatch	West City	Total
Square Miles Covered	413.20 – Law	12.59 – Law	1.66 – Law	427.45 – Law
	101.84 – Fire	181.45 – Fire	1.66 – Fire	284.95 – Fire
Population Served³	37,442	13,331 ⁴	7,484	37,442 ⁵
Annual PSAP Expenses	\$572,453	\$394,396	\$260,719	\$1,227,568
Cost per Population	\$15.29	\$29.58	\$34.84	\$32.79

² <https://www.census.gov/quickfacts/fact/table/franklincountyillinois/PST045221>

³ <https://www.census.gov/quickfacts/fact/table/franklincountyillinois.US/PST045221>

⁴ This population estimate includes the cities of Benton, Christopher, Sesser, Valier, and Zeigler

⁵ 37,442 is the population of Franklin County, which includes Central Dispatch and West City service areas

Demographic	FCSO	Central Dispatch	West City	Total
Minimum Shift Staffing	2 (1 from 3 a.m. to 11 a.m.)	2 (1 from 3 a.m. to 11 a.m.)	1	5 (3 from 3 a.m. to 11 a.m.)
Annual 911 Call Volume⁶	10,664	N/A	N/A	10,664
Cost per Call	\$53.68			\$115.11
Annual Incident Volume	25,057	13,958	3,767	42,782
Cost per Incident⁷	\$22.85	\$28.26	\$69.21	\$28.69

2 Methodology

The FCJETSBS assisted MCP in our assessment by providing data and facilitating interviews. Other Franklin County elected and appointed officials and staff members supported the project.

Data Collection

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

Following a soft kickoff and virtual ECC tours, MCP was onsite for two days conducting an in-person project kickoff meeting, ECC tours, and interviewing staff and stakeholders to obtain more information and the data to assess the current environment. While onsite, MCP engaged with field operations personnel, ECC management and telecommunicators, support staff (information technology [IT] and radio), local leadership, and elected officials who wished to share ideas, thoughts, and/or concerns. In addition to the onsite visit, staff and stakeholders provided information, statistics, and documents for MCP’s review. Remote meetings with various leaders were scheduled after the onsite meetings for those that were unable to attend.

A project team comprised of key stakeholders met bi-weekly to gauge further needs, discuss updates, and assure conformity to the scope and schedule.

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 ECCs, 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.

⁶ Average 2019, 2020, and 2021 wireline and wireless 911, abandoned, and Voice over Internet Protocol (IP) (VoIP) calls
⁷ The cost per incident is the total operating expenses divided by the number of average incidents reported by each ECC.

- Standard – something established by authority, custom, or general consent as a model or example⁸
- 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 adoption⁹
- 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 and private industry metrics to assess and evaluate factors related to ECC 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 ECCs.

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 regurgitation of unsubstantiated opinions. Both play a role in identifying where the ECCs 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

The findings summaries convey conclusions from the facts or information presented and reviewed. The content highlights main points or key messages learned or understood from something MCP reviewed, experienced, or observed and that are germane to the study recommendations.

Report and Presentation

The 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 new 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.

⁸ "Standard," Merriam-Webster, 2020. <https://www.merriam-webster.com/dictionary/standard>

⁹ "Best Practice," Merriam-Webster, 2020. <https://www.merriam-webster.com/dictionary/best%20practice>

3 Current State Findings and Analysis

3.1 Governance and Organizational Structure



Governance and Organizational Structure Findings

- While they operate independently administratively, FCSO and West City prescribe to a traditional para-militaristic hierarchy hosted within the respective law enforcement agency and Central Dispatch is independently governed.
- There continues to be reluctance by staff and stakeholders toward the idea of a consolidated ECC; however, stakeholders that participated in the meetings and interviews showed a desire to improve emergency response for the constituents and field responders in the county.
- Currently, the three ECCs serve 11 law enforcement agencies, ten fire/EMS agencies, and one private EMS agency.

Management and governance of an ECC are separate issues. Management involves day-to-day operations, while governance involves a higher level of oversight. These factors become even more important as the nation moves from analog technology toward a Next Generation 911 (NG911) environment. Factors that were important to management and governance in the analog world may no longer be relevant in the NG911 environment and vice versa. Proper management is important for every organization, but appropriate governance must be in place to enable management to allocate funds, prioritize operations, and execute an ECC's mission and vision.

Active governance is an ideal that is often difficult to achieve. The governmental process characteristically involves well-intentioned people who bring their ideas, experiences, preferences, and other strengths (and sometimes shortcomings) 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 addressed and reflected in policy.

Effective governance typically results in the following outcomes:

- Standardization of operations and equipment
- Improved quality and reliability of the 911 system
- Cost savings through the sharing of resources
- Standardization of services and establishing customer expectations
- Funding leverage and accountability
- Purchasing power, plus improved and/or coordinated purchasing decisions
- Faster adoption of new technology
- A greater level of overall cooperation and coordination
- Reduced processing times for call transfers, which may decrease overall response times

Recognizing the efficiencies that can be gained through consolidation, there are ongoing discussions between the ECCs, governmental leaders, and responder agencies about the potential to consolidate the three centers. Stakeholders that participated in the meetings and interviews indicated a desire to improve emergency response for the constituents and field responders in Franklin County; however, there continues to be reluctance by staff

and stakeholders on how consolidation would be achieved and what form the governance model and organizational structure would take. Despite the recognition that services could be improved, no clear path has been developed for unification of ECC resources and the necessary governance to accomplish consolidation.

3.1.1 Common Characteristics

Each ECC is primarily responsible for dispatch services for its respective geopolitical jurisdiction and serves multiple agencies—law enforcement, fire, EMS, and other support agencies—as shown in the table below. The other agencies served include agencies that are dispatched by the ECC (Emergency Management Agency [EMA] and Mutual Aid Box Alarm System [MABAS] Division 68) or agencies that are called out by the ECC (e.g., animal control and public works).

FCSO and West City prescribe to a traditional para-militaristic hierarchy hosted within their respective law enforcement agency, while Central Dispatch is governed by an intergovernmental board and is a standalone agency.

Table 2: Franklin County Served Agencies

ECC	Law Enforcement	Fire/EMS	Other
FCSO	<ul style="list-style-type: none"> • Corp of Engineers PD • Ewing PD • FCSO • Royalton PD • Thompsonville PD 	<ul style="list-style-type: none"> • Abbott EMS • Ewing Northern FPD¹⁰ 	<ul style="list-style-type: none"> • EMA • Animal Control • Public Works
Central Dispatch	<ul style="list-style-type: none"> • Benton PD • Christopher PD • Sesser PD • Valier PD • Zeigler PD 	<ul style="list-style-type: none"> • Benton FD¹¹ • Buckner FD • Christopher FD • Coello (also known as North City) FD • Royalton FD • Sesser FD • Valier FD • Zeigler FD 	<ul style="list-style-type: none"> • MABAS Division 68 • Public Works (all five municipalities) • Animal Control
West City	<ul style="list-style-type: none"> • West City PD 	<ul style="list-style-type: none"> • West City FD 	<ul style="list-style-type: none"> • Animal Control • Public Works

Abbott EMS is the only primary private EMS company that covers the entire county. Abbott EMS is contacted via telephone if they are needed for an incident and are toned out on the radio by FCSO. There is no shared CAD system; however, there are common radio frequencies between Abbott EMS and FCSO.

¹⁰ Fire Protection District

¹¹ Fire Department

3.1.2 FCSO

The FCSO PSAP is under the authority of the sheriff, an elected official, with PSAP oversight by a civilian lieutenant/PSAP manager that reports to the sheriff or undersheriff, depending on the issue.

The FCSO PSAP serves six law enforcement agencies and one FPD and is the primary link to Abbott EMS.

3.1.3 Central Dispatch

Central Dispatch is a standalone agency with an independent board comprised of one fire chief and five mayors, or their designee, from the cities of Benton, Christopher, Sesser, and Zeigler, and the village of Valier.

3.1.4 West City

The West City ECC is under the authority of the chief of police with oversight by a sergeant. The ECC dispatches only for the West City police and fire departments.

3.2 Operations, Policies, and Procedures



Operations, Policies, and Procedures Findings

- Staff reported some inefficiencies with workflows and little uniformity between ECCs and agencies.
- There are no pre-determined protocols or field responses for high priority incidents.
- There are no joint operational meetings that occur regularly between field responders in the region.
- Outside of host law enforcement agencies, most policies and procedures are unwritten and informal.

An ECC's operation, which includes policies, procedures, and workflows, provides the foundation for its core services, and has a direct relationship with an organization's risk exposure. Often overlooked, as emergency services expand and increases in field personnel occur, is the number of field responders for which a dispatcher is responsible at a respective position. This also is, at times, connected with the primary radio frequencies or talkgroups a dispatcher is responsible for as well as requirements to monitor secondary or emergency talkgroups.

How effective supervision is in an ECC is impacted by its operational configuration. Depending on the size of the organization, it is not unusual for small ECCs to have working supervisors who are responsible for operational oversight of a shift or organization and simultaneously perform as a telecommunicator. Typically, supervisory positions include authority to discipline and conduct performance reviews, but not always. What is also important is that the span of control for each supervisor or management position is appropriate to provide effective oversight.

A clearly defined, standard procedure for call taking is important to ECC operations as it promotes uniformity of process, reinforces training, and reduces errors. Standardized protocols were first developed for emergency medical dispatch (EMD) to provide consistent zero medical-response-time guidance by asking questions in the

proper order—thereby maximizing caller information—and improving field response.¹² Protocols also are available for fire and law enforcement. Whether an organization utilizes a third-party set of protocols or has developed its own, protocols and any pre-arrival instructions must be clearly defined and align with standards—even voluntary standards such as those developed by the American Society for Testing and Materials (ASTM).¹³

Throughout the country, ECCs adopt and use industry standards and best practices to promote effectiveness of the center and that the best possible service is provided to citizens and field responders. Measurable standards create an objective view of 911 operations and provide for consistent interactions with the public and first responders.

3.2.1 Common Characteristics

Telecommunicators within each ECC operate in a vertical configuration¹⁴—they are cross trained to answer emergency calls and dispatch law enforcement, fire, and contact EMS resources. The ECCs have ancillary duties such as walkup window service, monitoring closed circuit television (CCTV), answering administrative lines, creating end of month reports, and processing warrants (table 3). Except for attending the walkup window and handling cash, most ancillary tasks can be accomplished effectively from a consolidated ECC through alternate workflows and technology solutions.

Table 3: ECC Duties and Functions

Duties/Functions	FCSO	Central Dispatch	West City
911 Call Processing	✓		
Law Enforcement/Fire/EMS Dispatch	✓	✓	✓
National Crime Information Center (NCIC), Law Enforcement Agencies Data System (LEADS), and Department of Motor Vehicles (DMV) Inquiries, Entries, and Updates	✓	✓	✓
Administrative Call Handling	✓	✓	✓
Monitoring CCTV¹⁵ and Security Cameras	✓	✓	✓
Walkup Window and/or Petty Cash	✓	Window; no cash	✓
Warrants and Citation Entries	✓	No	No

¹² “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 Response™.” Priority Dispatch, 2022. <https://prioritydispatch.net/emd-cardset/>

¹³ ASTM F1258-95(2014), *Standard Practice for Emergency Medical Dispatch*, ASTM International, West Conshohocken, PA, 2014, www.astm.org. ASTM standards are voluntary in that their use is not mandated. However, government regulators often give voluntary standards the force of law by citing them in laws, regulations, and codes.

¹⁴ Vertical configuration means that telecommunicators are responsible for answering incoming calls and dispatching field units, often simultaneously.

¹⁵ Closed-circuit television

Duties/Functions	FCSO	Central Dispatch	West City
Orders of Protection	✓	No	No
Records Support	✓	✓	✓
Other Administrative and Records Support Duties	✓	✓	✓
Jail Duties	Occasionally, if there is enough staff will do dress change outs. This happens fairly often.	No	No
Early Warning System	No	✓	✓
Utilities and Other City Services	Just notifications – not dispatching		
Sex Offender Registry	✓	✓	✓

There are reasons why an organization elects to operate the way it does. ECCs that operate in a horizontal configuration, where staff has clearly defined functions as either a call-taker or dispatcher, are typically more efficient, have a lower rate of errors, and have higher training completion statistics. Even errors that are caught before they impact a response, such as mistyping a unit number or license plate but backspacing and correcting before entering into a CAD record, are still errors that reduce overall efficiency.

Best practice models for ECC operational configurations also indicate that a clear configuration with identified separate responsibilities is more efficient as it reduces the complexity as well as the risks associated with multitasking (more accurately known as task-switching). Psychology Today, among others, posits that an organization can lose up to 40% of staff productivity¹⁶ and lists risks to the mind and body from multitasking:

- Can lead to memory problems
- Can lead to increased distractibility
- Can harm relationships
- Increases chronic stress
- Increases depression and social anxiety
- Results in reduced productivity and efficiency¹⁷

It is cost-prohibitive and the workload does not support the three ECCs staffing separate call-taker and dispatcher positions; however, the agencies can limit the amount of secondary simultaneous or monthly functions for which the telecommunicators are responsible (e.g., working the front window, answering administrative telephone lines, creating end of month reports, etc.) by reassigning the ancillary duties to other

¹⁶ [The True Cost of Multi-Tasking | Psychology Today](#)
¹⁷ [10 Real Risks of Multitasking, to Mind and Body | Psychology Today](#)

(non-ECC) staff members and leveraging technology to redirect non-emergent calls. While no standard exists regarding the common operational practice of secondary functions, there is an increased risk that an organization must consider when relying on this configuration when call-answering standards must be met. That risk revolves around conflicts that may occur between emergency radio traffic and an emergency call of perceived equal priority. For instance, does the telecommunicator choose to delay transmitting for additional apparatus or pause their in-progress threat-to-life emergency call?

Any configuration that does not provide separate call-taking and dispatching positions inherently increases the risk exposure for the ECC, its staff, and those it serves, which is why the risks must be known so that decisions can be made from an informed position.

Combined, the three ECCs have an average annual incident volume of 42,782. These incidents originate from five sources: field-initiated activities, 911 incoming calls, text-to-911, Voice over Internet Protocol (VoIP), and 10-digit phone lines.

Table 4: FCSO Average 911 Call Volume 2019–2021

	Landline 911	Wireless 911	VoIP	Total
Total 911 Call Volume	925	9,561	178	10,664

Table 5: Average Incident Volume 2019-2021

	FCSO	Central Dispatch	West City	Total
Law Enforcement	19,984	12,110	3,537	35,631
Fire/Rescue	77	1,848	230	2,155
EMS¹⁸	4,996	NA	NA	4,996
Total	25,057	13,958	3,767	42,782

3.2.2 FCSO

Located within the FCSO building, the PSAP has four workstations. Three workstations are for FCSO and are fully equipped with CAD, 911 call-handling equipment (CHE), and radio. The fourth position is used by emergency management and has CAD, radio, and a telephone but no 911 CHE.

FCSO telecommunicators are responsible for answering 911 calls and dispatching. The FCSO staffs a minimum of two telecommunicators dropping to one telecommunicator from 3:00 a.m. to 11:00 a.m.

The PSAP follows FCSO policies and procedures.

¹⁸ Medical calls are toned out by FCSO for first responders and the caller is transferred to the Abbott EMS call center for dispatch.

During peak periods, telecommunicators have responsibility for approximately 15 officers on the law enforcement channel.

The PSAP attends to the lobby window and is the first contact for jail-related business such as visits, accepting bond money, and taking cash for tows. The PSAP runs criminal history checks for Probation and the State Attorney's Office's—as they do not have access to LEADS—and perform ancillary tasks to assist and offset workload for both internal FCSO divisions. The PSAP also performs vital warrants work such as the hard copies, confirming warrants, entering warrants and order of protections, and other LEADS/NCIC work.

In addition to dispatching the law enforcement and fire departments, FCSO dispatches Abbott EMS and transfers the medical call to Abbott's call center.

3.2.3 Central Dispatch

Central Dispatch has three workstations. Two workstations are equipped with CAD, Nortel phones with two dedicated lines for FCSO to relay 911 information, and radio. The third position has the same equipment minus the radio.

Telecommunicators are responsible for two primary law enforcement frequencies (Benton and Central) and two primary fire/EMS frequencies (Benton and Central) and Interagency Fire Emergency Radio Network (IFERN), which needs to be actively monitored.

During peak periods, telecommunicators have responsibility for approximately five officers on the Benton channel and eight officers on the Central channel.

One telecommunicator (minimum) is on duty 24 x 7, responsible for answering incoming 911 calls and dispatching responders. The ECC tries to staff two telecommunicators during day shift as scheduling allows. In addition, the on-duty telecommunicator is responsible for all incoming administrative calls and after-hours utility callouts. The telecommunicator greets the public in the lobby and monitors security cameras for city locations (e.g., interior and exterior of the police department, schools, parks, and utility departments).

Central Dispatch has a policy and procedure manual establishing workplace rules and providing guidance. The ECC also maintains a "book of knowledge" and fire department standard operating guidelines that give direction for job-related tasks.

The agencies served by Central Dispatch do not have records clerks, so tasks such as updating hot files, MABAS reports, and monthly activity reports are the responsibility of the ECC. Police departments served by Central Dispatch are not staffed so all administrative calls for those departments are forwarded to the ECC.

3.2.4 West City

The West City ECC has two workstations with CAD, radio, and two dedicated non-published telephone lines for FCSO to relay 911 information.

Telecommunicators are responsible for incoming call processing, one police channel, and one fire channel. During day shift, telecommunicators serve as the department secretary, who is responsible for generating the monthly reports.

The ECC follows the West City PD's policy and procedure manual.

During peak periods, telecommunicators have responsibility for two officers on the law enforcement channel.

Telecommunicators handle Freedom of Information Act (FOIA) requests and crash reports when working the window, and support records by completing requests and processing officer reports.

3.3 Personnel and Workforce Management



Personnel and Workforce Management Findings

- The three ECCs have a minimum of one telecommunicator on duty 24 X 7; however, FCSO and Central Dispatch try to staff a second telecommunicator between the hours of 7:00 a.m. to 3:00 a.m.
- There is a combined authorized strength of 16 full-time telecommunicators and 10 part-time telecommunicators in Franklin County.
- The three ECCs have vacancies and experience an average turnover rate of 43% annually, which is above the national average of 29%.
- The average combined annual incident volume (law enforcement, fire, and EMS) is 42,782, which equates to five an hour.
- Qualified applicant pools are low in the region.

Organizations all over the world face 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. The human resources (HR) function in any organization is important and, without attention, even the best organizations can falter.

One of the most critical HR functions within any organization is that of personnel management. Personnel within an agency are its 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. The overall goal of these policies and practices should be to make the agency's personnel more valuable.

Given the call and incident volumes and underutilization of staff regarding true ECC-related responsibilities (e.g., 911 call-taking and dispatching), MCP focused on understanding what the staffing needs for a consolidated environment could potentially look like. Please refer to Section 4, Future State.

3.3.1 Common Characteristics

Telecommunicators within the three ECCs are cross-trained to dispatch law enforcement and fire; only FCSO is fully cross-trained to dispatch and process 911 calls. FCSO tones out Abbott EMS and Central Dispatch tones the first responders for EMS incidents within its jurisdiction. The data shows that call and incident volumes at the three ECCs are not sufficient to fully utilize telecommunicators for call-taking and dispatching only.

The three ECCs have a minimum of one telecommunicator on duty 24 X 7; however, FCSO and Central Dispatch try to staff a second telecommunicator between the hours of 7:00 a.m. to 3:00 p.m.

The ECCs noted that they are having a difficult time attracting and retaining employees and, at times, they are forced to retain employees that do not meet expectations.

There is wage disparity between the agencies, especially between FCSO and the other two ECCs, as shown below. Given the close geographical location of the three ECCs, this salary gap can create competition among the ECCs for qualified applicants.

Table 6: Franklin County Salary Ranges

ECC	Telecommunicator – FTE ¹⁹	Telecommunicators – PTE ²⁰	Director/Supervisor
FCSO	\$16.30 – \$24.97 per hour	\$15.00 per hour	\$21.86 per hour ²¹
Central	\$15.00 – \$16.50 per hour	\$14.00 per hour	\$800.00 bi-weekly ²²
West City	\$16.69 per hour	N/A	N/A

The ECCs experience challenges with recruiting and retention. On average, they have experienced a turnover rate of 43%, which is above the national average of 29%.²³

3.3.2 FCSO

The FCSO PSAP has an authorized strength of nine FTEs—eight FTE telecommunicators and one civilian lieutenant—and two PTE telecommunicators. The PSAP’s average turnover rate from 2019 through 2021 is 34.5%.

FCSO has a dedicated civilian lieutenant that oversees the PSAP as a primary job responsibility.

3.3.3 Central Dispatch

Central Dispatch has an authorized strength of four FTEs and four PTEs, plus a part-time director. The ECC’s average turnover rate from 2019 through 2021 is 46.7%. Central Dispatch’s civilian director reports to the board of directors.

3.3.4 West City

The West City ECC has an authorized strength of four FTEs and four PTEs. The ECC's average turnover rate from 2019 through 2021 is 46.7%.

3.4 Training



Training Findings

- All three ECCs predominately utilize on-the-job training (OJT) for new hires.
- None of the ECCs follow a structured training program, although Central Dispatch has a written training manual.
- 911 funds can be used to support outside training and continuing education for ECCs.
- Of the three ECCs, only FCSO’s telecommunicators are EMD-certified.

¹⁹ Full-time equivalent. Salary estimates based on hourly rates multiplied by 2,080 hours.

²⁰ Part-time equivalent.

²¹ Civilian lieutenant

²² Central's Director position is part-time and the wage is \$800 bi-weekly or \$20,800 annually.

²³ “Project RETAINS: Staffing and Retention in Public Safety Answering Points (PSAPs): A Supplemental Study.” APCO Project Retains, APCO International. <https://www.apcointl.org/resources/staffing-retention/project-retains/>

The duties of a telecommunicator are extremely difficult, and opportunities for mistakes within the profession abound when proper training is absent. With proper training, the likelihood of mistakes decreases. Citizens and first responders alike should receive the same work product from a telecommunicator in California as they do in Illinois. Adopting a training program that adheres to state and/or national standards is a way this can occur.

Minimum training requirements for an ECC are defined in several national standards. The most widely referenced for telecommunicators specifically is the Association of Public-Safety Communications Officials (APCO) International American National Standard (ANS) 3.103.2.2015, *Minimum Training Standards for Public Safety Telecommunicators*.

The National 911 Program “facilitated a project to establish universally accepted minimum training guidelines to be used for aspiring and current 911 telecommunicators, and to provide the foundation for ongoing professional development.”²⁴ The working group responsible for developing the guidelines was comprised of representatives from APCO, the National Emergency Number Association (NENA), the Denise Amber Lee Foundation, and many other national organizations responsible for or involved in the training of public safety telecommunicators. The main topic areas are shown below.

Roles and Responsibilities – Telecommunicators should have a basic understanding of the position and the responsibilities associated with it.

Legal Concepts – Telecommunicators should know the laws and governance structures specific to the community they serve and those that directly affect their role. They should have a basic understanding of the legal process and their rights and responsibilities.

Interpersonal Communications – Telecommunicators should have the knowledge, skills, and abilities to successfully complete the duties of the position. They should be able to interact with all callers to support the provision of prompt and efficient service.

Emergency Communications Technology – Telecommunicators should have a basic understanding of all 911 technology available, with a specialized focus on the technologies that are used within their ECC.

Call Processing – Telecommunicators should be able to process any call that is received within the ECC, regardless of whether it is an emergency. They also should understand the call flow from when it is first received until the incident closes.

Emergency Management – Telecommunicators, as the first point of contact in an emergency, should be familiar with the protocols and systems in place to correctly handle the event.

Radio Communications – Telecommunicators should have a basic understanding of radio equipment, communications etiquette, procedures and protocols, and all rules that directly relate to radio use.

Stress Management – Telecommunicators should understand the types of stress, how to identify issues affecting themselves and their peers, and know what resources are available and how to use them.

Quality Assurance – Like all processes in public safety, training should be subject to metrics that guarantee that an effective program is in place. Data collected should be utilized to justify and support improvements to the process made in the future.

On-the-Job Training – Telecommunicators should participate in agency-specific, hands-on training while supervised by a seasoned telecommunicator to promote adherence to agency policies and procedures.

²⁴ Recommended Minimum Training Guidelines for the Telecommunicator.” 911.gov.
https://www.911.gov/project_recommended911minimumtrainingfortelecommunicators.html

3.4.1 Common Characteristics

All three ECCs conduct OJT for new hires. For FCSO and West City, training is strictly hands-on with no training manual.

While FCSO's telecommunicators are EMD-certified through PowerPhone, they do not process EMD calls, transferring them to Abbott EMS, which provides life-safety and post-dispatch instructions and dispatches the incident. To assure that personnel in the state of Illinois are competent and keep current in their practice of emergency medical services, Illinois mandates that all emergency medical dispatchers be licensed through the Illinois Department of Public Health (IDPH). FCSO is not compliant with this mandate. Although FCSO does not process EMD calls, PowerPhone EMD is accessible on the web, if needed.

FCJETSBS staff reported that they have recently approved the purchase of a seat license for PowerPhone, which will expand access to protocols for all three disciplines (law, medical, and fire). The seat license will also provide a path for immediately training/certifying new hires in protocol usage instead of waiting until they are fully trained.

A daily observation report (DOR) is a documentation tool used by trainers to record a trainee's performance and measure improvement during training. DORs assist with goal setting, identifying where more training is needed, and recognizing outstanding performance.

It was reported that often the ECCs only prerequisite to train is seniority. It is important to note that not all senior telecommunicators are the best option. A trainer can set the stage for the future of a telecommunicator and their success. Teaching adults can be a challenging endeavor. Trainees are individuals with unique life experiences, maturity levels, personal goals, and learning styles. Trainers must be prepared to address the needs of each student as individuals receive, process, comprehend, and retain information differently.

During interviews, field responders reported that there is a lack of consistency between the ECCs—including between shifts from the same center. As a result, responders are expected to be flexible enough to adapt to any situation. They continued by saying that this may be due to not having enough training and/or not training jointly. Creating a structured training program, including communications training officers (CTOs), promotes professional career paths, improves consistency with adherence to processes, and aligns the ECC with standards. Having a structured training program that includes DORs, QA reviews, and key performance indicators (KPIs) assists an ECC with measuring a telecommunicator's competency, mitigating the results, and lessening errors and complaints.

3.4.2 FCSO

Initial training at FCSO is OJT, complemented by a training checklist, and takes approximately six months. A training manual is currently being created for a more consistent, structured approach.

The FCJETSBS recently purchased a subscription with Virtual Academy and made it available to FCSO. Virtual Academy provides self-paced online training,²⁵ which is a valuable opportunity for training while on shift, which can help with staffing levels.

FCSO also utilizes a training side of the CAD system for basic call processing and CAD training.

²⁵ The other two ECCs are not eligible to participate in Virtual Academy with the use of 9-1-1 funds because they do not meet the PSAP definition, according to the state of Illinois.

3.4.3 Central Dispatch

Initial training at Central Dispatch is OJT and takes approximately two months. Central Dispatch's board of directors requires that after 90 hours of training the trainee is evaluated to confirm that they are meeting the expectations required to continue employment.

Central Dispatch recently created a training manual offering guidance and structure. The training manual includes goals and objectives, sign off sheets for required reading, and a check-off list for both the trainee and trainer.

3.4.4 West City

Initial training at West City is OJT and takes approximately two months.

West City has a training checklist that includes reference topics such as technology, 911/phone procedures, and radio procedures.

3.5 Quality Assurance and Performance Management



QA and Performance Management Findings

- None of the ECCs have a formal QA program, only reviewing calls when a complaint is received and an investigation is necessary.
- The ECCs do not have established performance benchmarks or KPIs.

A QA/QI (quality improvement) program is an essential component of 911 communications as it can improve the level of service provided to citizens and is a best practice to improve overall ECC performance. APCO provides the following definition for a QA/QI program:

“An on-going program providing at a minimum, the random case review evaluating emergency dispatch performance, feedback of protocol compliance, commendation, retraining and remediation as appropriate, and submission of compliance data to the Agency.”²⁶

A well-developed and defined QA/QI program provides for consistency of operations and identifies problems and corrective actions to resolve issues. In today's 911 environment, having a QA/QI program is the recognized standard of care. Through a QA/QI program, calls are reviewed, feedback on performance is provided, and compliance with policies, procedures, standards, and best practices is safeguarded.

APCO and NENA have a joint standard, APCO/NENA ANS 1.107.1.2015, *Standard for the Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points*. The standard notes that the QA/QI process is designed to measure “the quality and performance of the service provided. This process includes, but is not limited to, the following criteria:

- Analysis of performance trends
- Compliance with protocols and standard operating procedures

²⁶ “Standards to Download, *Minimum Training Standards for Public Safety Telecommunicators*, APCO International, <https://www.apcointl.org/~documents/standard/31032-2015-public-safety-telecommunicator/?layout=default>, Section 1.2.22, page 14.

- Customer service
- Optimizing the use of agency resources
- Overall performance of each employee
- Reviewing the operation as a whole”²⁷

The Commission on Accreditation for Law Enforcement Agencies (CALEA) Public Safety Communications Accreditation Program requires “documented quality checks of employees’ call taking and dispatch performance,” but does not address the percentage of reviews.²⁸

National Fire Protection Association (NFPA) 1225, *Standard for Emergency Services Communications*, Section 15.7 states, “Communications centers shall establish a quality assurance/ improvement program to ensure the consistency and effectiveness of event processing.”²⁹ Explanatory material in Annex A of the standard states, “The purpose of the quality assurance program is to follow up and review calls with communications center employees, improve procedures, and make the corrections needed to improve service and response. Generally accepted statistical methods should be used when selecting calls for review.”³⁰

3.5.1 Common Characteristics

None of the ECCs report having a QA/QI program. Complaints from citizen’s or responders are investigated after being reported.

An ECC can take a proactive approach by reviewing calls and confirming adherence to protocols and addressing errors prior to receiving a concern.

QA/QI programs also support commendation opportunities for a job well done. Of the three ECCs, none report having a recognition program.

3.6 Leadership and Planning



Leadership and Planning Findings

- FCJETSBS staff reported that they receive \$41,000 monthly (\$492,000 annually) from the state surcharge fund. FCJETSBS’s revenue covers maintenance for equipment related to 911 call processing, Internet for FCSO and West Frankfort (the primary PSAPs), CAD, geographic information systems (GIS), and logging recorders.
- The FCJETSBS has received annual grants over the past three years to support CHE-related projects.
- The ECCs lack financial, strategic, and continuity of operations (COOP) planning.
- Combined, the ECCs have operating expenses of \$1,227,568, which is \$28.69 per incident.
- The largest expense of the three ECCs is salaries and benefits, which is approximately 87% of the combined budgets. This is consistent with ECCs across the country, as the ECCs are service organizations.

²⁷ “Standards to Download, *Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points*, APCO International, <https://www.apcointl.org/~documents/standard/11071-2015-aqi?layout=default>, page 23.

²⁸ <https://www.calea.org/communications>

²⁹ [NFPA 1225: Standard for Emergency Services Communications](#)

³⁰ Ibid.

An organization’s leadership and planning, or the lack thereof, has a direct and crucial effect on the success or failure of a public safety entity. Leadership and planning go hand in hand because without proper leadership the best plans often go awry, and without proper planning the best leaders often falter. “He who fails to plan is planning to fail” is as true in public safety communications as it is in any business.

Leadership and planning at the ECC level include establishing a clear vision; sharing that vision with others so that they follow willingly; providing the information, knowledge, and methods to realize that vision; and coordinating and balancing the conflicting interests of all members and stakeholders in the following focus areas:

- Execution of initiatives
- Leadership influence and engagement
- Strategic planning and change management
- Strength leadership
- New leadership support
- COOP and disaster recovery (DR) planning
- Funding and cost-sharing

3.6.1 Common Characteristics

Leadership and planning challenges plague the majority of ECCs in the country because there are limited funds and resources to support operations effectively

The three ECCs operate with minimal planning and funding. Combined, the ECCs have operating expenses of \$1,227,568, which is \$28.69 per incident. The largest expense of the ECCs is salaries and benefits, which is 87% of the total combined budgets.

Table 7: Estimated Baseline Costs per ECC

Metric	FCSO	Central Dispatch	West City	Total
CAD Maintenance	\$5,500	\$4,200	\$1,150	\$10,850
Radio Maintenance	\$1,176	\$7,500	\$9,431	\$18,107
Other Network and Software Costs: Including those not included in 911 CHE network costs (e.g., circuits, cellular)	\$16,938	\$21,700	\$15,190	\$53,828
Facility Costs: Including capital improvements, lease/rental payments, utilities, maintenance, and recurring furniture costs	\$2,000	\$24,000	\$13,838	\$39,838

Metric	FCSO	Central Dispatch	West City	Total
Other Expenses: General operating/office expenses, equipment, supplies, uniforms, and other expenses not listed above	\$4,500	\$2,650	\$2,188	\$9,338
Professional Memberships and Training	\$5,201	\$500	N/A	\$5,701
Personnel Costs: Including actual reported costs for telecommunicator, administrative and management salaries; overtime and benefits; adjusted for vacancies (numbers represent authorized staffing)	\$537,138 ³¹	\$330,626	\$211,422	\$938,243
Other Support Services: Including administrative, IT, HR, legal, audit, GIS³², translation, and other professional services	N/A	\$7,000	\$7,500 ³³	\$14,500
Total Operating Expenses	\$572,453	\$394,396	\$260,719	\$1,227,568
Annual Incidents Volume³⁴	25,057	13,958	3,767	42,782
Cost per Incident	\$22.85	\$28.26	\$69.21	\$28.69
Population	37,442	7,451	7,484	37,442
Cost per Capita for 911 Services	\$15.29	\$52.93	\$34.84	\$32.79
Annual 911 Call Volume³⁵	10,664	NA	NA	10,664
Cost per Call	\$53.68			\$115.11

³¹ Personnel costs for current FCSO consist of hourly wages multiplied by 2,080 for full-time employees and 1,924 hours for part-time employees. A 35% placeholder for benefits was used for the full-time positions.

³² Geographic information system

³³ This is a cost estimate based on the City's \$12,500 fee for IT support services

³⁴ Law enforcement, fire, emergency medical services average dispatched events 2019-2021

³⁵ Average 2019, and 2021 wireline and wireless 911, abandoned, and VoIP calls

3.6.2 FCJETS

FCJETS staff reported that they receive \$41,000 monthly (\$492,000 annually) from the state surcharge fund. FCJETS's revenue covers maintenance for equipment related to 911 call processing, Internet for FCSO and West Frankfort (the primary PSAPs), CAD, GIS, and logging recorders.

Although there is no formal fiscal policy on capital reserves, the FCJETS tries to retain up to two years of maintenance expenses in reserves, which is approximately \$200,000. The FCJETS also maintains a 911 upgrade fund, which is for all major upgrades to the CHE (NG911 readiness and GIS work). The fund balance as of July 2022 is \$527,660. Staff reported that major upgrades occur approximately every three years.

The FCJETS has received \$356,925 in grant awards over the past three years for CHE-related expenses.

3.6.3 FCSO

The FCSO PSAP's budget is a line item in the Sheriff Office's budget. According to staff, there is no financial planning that directly involves the PSAP, and the County passes the budget based on the previous year's budget without factoring in inflation and increases in operating expenses. FCSO employees are unionized, which means wages are bargained and stipulated in the labor contract.

FCSO collects dispatch fees from contractual members annually, which include the following:

- Royalton PD – \$20,000
- Ewing Northern FPD – \$1,200
- Thompsonville PD – \$1,200
- Ewing PD – \$1,200

Other services provided by the FCSO PSAP do not result in revenue:

- The Army Corps of Engineers pays the County for deputies and a dive team Memorial Day through Labor Day (80 8-hour shifts) but does not pay for the dispatch workload. This is negotiated directly between the FCSO and the Army Corps of Engineers.
- Abbott EMS is not charged for the workload related to its toning out.
- The Illinois Department of Transportation (IDOT) hires deputies for special details, which may also impact the dispatch workload; there is no related compensation.

The FCSO PSAP's operating expenses are \$57,453 annually, which is \$22.85 per incident dispatched. Of the operating budget, 92% is attributable to salaries, benefits, and overtime.

3.6.4 Central Dispatch

Central Dispatch's operating expenses are \$394,396 annually, which is \$28.26 per incident dispatched. Of the operating budget, 84% is attributable to salaries, benefits, and overtime; all other costs and overhead are covered by Central Dispatch's budget.

Central Dispatch is in a unique position as it falls under an independent board, which supports the ECC exclusively and without 911 revenue.

Central Dispatch collects the following dispatch fees from contractual members annually (FY22):

- Benton Police and Fire – \$120,000
- Buckner Fire – \$1,500

- Christopher Police and Fire – \$95,820
- Coello Fire – \$1,500
- MABAS Division 68 – \$1,200
- Royalton Fire – \$3,900
- Sesser Fire Protection District – \$11,400
- Sesser Police Department – \$71,400
- Valier Police Department and Fire Department – \$3,500
- Zeigler Police Department and Fire Department – \$62,400

These dispatch fees are charged annually at a fixed rate and adjustments are made at the discretion of the board.

According to staff, there is no formal budget, and no requirement to have a budget because they are not a public entity. The Central Dispatch board meets monthly and if the accountant says they are getting short on cash, the board will increase dispatch rates. When rates are increased, the mayors go back to their councils and increase the rates—even mid-budget cycle with no early notification or planning.

3.6.5 West City

The West City ECC’s operating expenses are \$260,719 annually, which is \$69.21 per incident dispatched. Of the operating budget, 81% is attributable to salaries, benefits, and overtime.

3.7 Technology



Technology Findings

- FCSO utilizes CentralSquare® CHE to answer 911 calls.
- The FCETSB entered into a carrier agreement with INdigital for the migration to NG911 and to implement text-to-911.
- Central Dispatch and West City ECCs are ringdown centers and utilize standard business telephone systems.
- FCSO has direct communications with Abbott EMS via radio.
- All three ECCs have access to RapidSOS.
- FCSO uses a CentralSquare CAD system, while Central Dispatch and West City both use Lawman CAD. Currently, there is no interoperability between agencies on the same CAD or between the ECCs.
- There is no single countywide radio system; radio communications occur on various very high frequency (VHF) analog channels.
- FCSO and West Frankfort are configured for 911 rollover between centers, however there is no shared CAD or other network connectivity between sites.

3.7.1 Common Characteristics

The primary technology systems used by the three ECCs are shown in the table below. FCSO and West Frankfort are the two primary PSAPs for 911 calls in the entire county and are equipped with 911 CHE. Central Dispatch and West City are ringdown locations and take the transfer of 911 calls via dedicated 10-digit numbers,

which does not include location services. Secondary location services (e.g., RapidSOS) are available at each ECC via a web portal.

FCSO's CAD system is fully integrated with the CHE as part of a product suite. The FCSO and West Frankfort PSAPs provide backup 911 services to the other. Currently, the FCJETS is funding the purchase of duplicate technology systems for both primary PSAPs. There is no connectivity between FCSO and West Frankfort to support geo-diverse CAD or logging recorder equipment. Calls are currently routed via Frontier Communications selective routers.

Table 8: Technology Summary

Technology	FCSO	Central Dispatch	West City
CAD system	CentralSquare (Zuercher)	Lawman	Lawman
Records management system (RMS)	CentralSquare	Lawman	Lawman
Radio infrastructure, including radio consoles	Kenwood/ICOM Telex consoles (4)	Motorola/Vertex Zetron 4010 consoles (2)	Motorola/Vertex Zetron 4010 consoles (2)
911 CHE	CentralSquare Wireline trunks – 2 Wireless trunks – 2	Ringdown	Ringdown
Logging recorder	Eventide	Digital Loggers, Inc.	Digital Loggers, Inc.
Administrative phone system	Polycom (Clearwave – Cloud-hosted)	Nortel	Nortel
Mobile data system (MDS)	CentralSquare CAD Mobile	Available, not used	Available, not used
Automatic vehicle location (AVL)	CentralSquare	None	None

3.7.2 Radio Communications

Currently, there is no countywide radio system that supports all field responders in Franklin County. The current configuration—agencies operating across various bands and frequencies—limits the ability for responders to communicate when on an incident. There is a common VHF countywide fire dispatch channel that field responders have access to. All dispatch repeater and repeater link systems (law, fire, and EMS) are both analog and MOTOTRBO digital capable.

Table 9: Radio Systems in Use

	Law Enforcement	Fire	EMS
FCSO	<ul style="list-style-type: none"> 1 primary VHF dispatch channel (Moving to MOTOTRBO digital Q3 2022)³⁶ 	<ul style="list-style-type: none"> 1 primary VHF dispatch channel 	<ul style="list-style-type: none"> VHF (Abbott EMS and Emergency Management)
Central Dispatch	<ul style="list-style-type: none"> 1 primary VHF dispatch channel 1 primary VHF dispatch channel – Benton PD 	<ul style="list-style-type: none"> 1 primary VHF dispatch channel 1 primary VHF dispatch channel – Benton FD IFERN (VHF) 	<ul style="list-style-type: none"> VHF (communicates via FCSO)
West City	<ul style="list-style-type: none"> 1 primary VHF dispatch channel 	<ul style="list-style-type: none"> 1 primary VHF dispatch channel 	<ul style="list-style-type: none"> VHF

The primary tower for FCSO is a 180-foot self-supporting tower near Rend Lake; there is also a self-supporting lattice tower adjacent to the FCSO facility. The primary tower sites for both Central Dispatch and West City repeaters are water towers.

Currently, the FCSO PSAP uses one primary channel to dispatch FCSO, the Army Corps of Engineers PD, Ewing PD, Royalton PD, and Thompsonville PD. The FCSO is in the process of migrating to a MOTOTRBO digital radio system. This will increase challenges with interoperability as Sheriff’s Office units will need to maintain two radios to communicate with other law enforcement agencies in the county.

Central Dispatch has a combined single transmitter location for police and fire communications at the park in Christopher. The FCJETS and/or Central Dispatch hold the licenses. Central Dispatch uses one primary law enforcement dispatch channel for Christopher, Sesser, Valier, and Zeigler and a second primary channel for Benton PD. For fire, Central Dispatch uses the countywide fire channel and Benton Fire channel. Central Dispatch uses the IFERN VHF channel as the designated dispatch center for MABAS Division 68, and it has access to the Franklin County EMA channel. Antennas for Central Dispatch are mounted on a self-supporting tower adjacent to the rear of the facility.

West City uses one PD channel and one FD channel for primary dispatch operations. The ECC can monitor the Benton PD and FD channels along with FCSO. Antennas for West City are mounted on a self-supporting 75-foot tower at the rear of the police department. The transmitter for both police and fire communications within West City is located on the West City water tower.

While all users operate in the VHF band for primary communications, because each ECC uses different frequencies and multiple standalone transmitters, users reported issues with interoperability and coverage across the county. EMS users reported numerous challenges with having to utilize multiple radios and difficulty in obtaining up-to-date incident information. There is one countywide channel used for communications between

³⁶ https://www.motorolasolutions.com/en_us/products/mototrbo-story.html

the ECCs. Today most users, except for West City, use analog radios. West City and the new FCSO radios (expected in the third quarter of 2022) are capable of digital operations.

3.7.3 FCSO

The radio equipment is in a dedicated room adjacent to the dispatch floor. The CHE and uninterruptible power supply (UPS) are in an area shared as a kitchen. CCTV feeds, an AVL map, weather, and local TV display on wall-mounted monitors.

The PSAP has a CentralSquare CAD system but there is no backup or interoperability with West Frankfort; however, each PSAP can view each other's CAD. The PSAP can use the view-only CAD monitors to see where units are and current calls for service; there are no editing capabilities.

911 calls roll to the West Frankfort PSAP during overflow events. Administrative calls have no automatic roll over.

The PSAP has remote door control via the radio console for access to the center; the control room for the jail handles all other facility access.

3.7.4 Central Dispatch

The radio and network equipment are located in racks within a large open room off the ECC. The area also serves as a breakroom/kitchen. CCTV feeds for the facility as well as local cameras display on one monitor. There are UHF links for both police and fire communications between a water tower located in Sesser and the Christopher water tower.

3.7.5 West City

There is a dedicated equipment room outside of the ECC. The hot water tank for the police department is located inside the equipment room.

Two large video monitors display multiple cameras feeds from in and around the facility along with feeds from local roadways and shopping areas.

3.8 Facilities



Facilities Findings

- The PSAP and ECCs are housed within their respective law enforcement facility.
- There is limited room for expansion within any existing facility.
- The ECCs are supported by generators and individual UPS units.

3.8.1 Common Characteristics

The ECCs are housed within the secure footprint of their respective law enforcement facility and have limited ability to expand outside their current design. The buildings are all older construction and have little to no room for expansion without significant costs.

The ECCs are supported by emergency backup generators fed with natural gas or diesel fuel, and use individual UPS units to support both the dispatch workstations and backroom equipment.

3.8.2 FCSO

The PSAP is located within the secure area of the Sheriff's Office facility and has a walkup window with bullet-resistant glass. There is card access control to the facility outside the public areas. There is public access to the lobby for access to the jail portion of the facility. The facility is supported by a Generac 40 kilowatt (kW) natural gas generator that is exercised weekly. An Eaton UPS supports critical equipment.

3.8.3 Central Dispatch

Central Dispatch is within the secure area of a facility that formerly served as a storefront. There is a walkup window and intercom. Access is controlled by keypad or remote control from the radio console. There is no standoff from the street, which has curb parking spots. The facility is supported by a Generac 20 kW natural gas generator that is exercised weekly. An APC UPS supports crucial equipment.

3.8.4 West City

The ECC is within the secure area of the police department and has a walkup window with bullet-resistant glass. Entry to the ECC is via key fob access. The police department is collocated with the community center, which has public access. There is a rear exit door from the ECC that is secured only by a residential-style steel and screen doors.

There are issues with the building and mine subsidence³⁷. The police department has begun the process of constructing a new facility that will include a new dispatch area.

The current facility is supported by a Caterpillar diesel generator that is exercised weekly. An APC UPS supports critical equipment.

4 Future State

4.1 Case for Change

Until this point, the report has focused on the current state of the three ECCs and how they operate independently. From MCP's perspective, because there is motivation to improve service delivery, the only responsible option is to pursue consolidation. Without consolidation, standalone ECCs are bound to the current state, unable to provide a higher or more efficient level of service due to call transfers, lack of situational awareness, staffing challenges, and challenges related to the technologies, space, and maintenance of the facility that houses a respective ECC. Planning for the future of public safety communications in Franklin County is a key effort that should be given priority attention.

As consultants, MCP can help increase awareness of the risks associated with the current state and make recommendations that may mitigate those risks, but as a County, municipality, or individual agency, stakeholders will need to decide if the cost to mitigate that risk outweighs the cost of not mitigating the risk. That is, what are a variety of outcomes worth compared to the one-time and recurring costs of consolidation? While MCP believes that operational consolidation of the ECCs is not only feasible but warranted, those questions are

³⁷ "Mine Subsidence" means lateral or vertical ground movement caused by a failure initiated at the mine level, of man made underground mines, including, but not limited to coal mines, clay mines, limestone mines, and fluorspar mines that directly damages residences or commercial buildings. Reference: [What is Mine Subsidence? - About Mine Subsidence - Illinois Mine Subsidence Insurance Fund \(imsif.com\)](http://www.imsif.com)

not ones that a consultant can answer directly but can help decision-makers with informed decisions through risk awareness.

To determine if the costs outweigh the benefits for the three ECCs to come together and leverage each other's strengths to minimize each other's weaknesses, there are several key factors to consider and decisions that need to be made by stakeholders. A consolidated ECC that includes the agencies served by FCSO, Central Dispatch, and West City can improve emergency response and result in the outcomes that follow.:

- Provide additional support for initial 911 call-taking and EMS dispatching, which is currently solely provided by FCSO.
- Combine staff into one unit and increase the overall staffing pool in a single ECC.
- Improve staffing to provide enhanced coverage 24 x 7.
- Reduce staffing shortages.
- Reduce 911 call transfers.³⁸
- Reduce call workflows that inherently include two or more 911 call transfers.³⁹
- Provide zero-minute response to most fire and EMS calls for service.
- Greater opportunities for interagency response, backup, and data sharing.
- Improved technology sharing between FCSO and West Frankfort
- Reduce operational complexity of the combined call-taker/dispatcher position, which can improve training completion statistics.
- Eliminate duplicative support services.
- Decrease the number of points of infiltration for cybersecurity risks.
- Eliminate cost duplication to operate the three ECCs.
- Eliminate workforce competition between the three ECCs.
- Leverage investments in common systems (911 platform) and interfaces.
- Single complaint resolution workflow.
- Shared QA/QI program.
- More consistent and effective service delivery.
- Operational and capital cost savings.

Fully integrated consolidated operations would bring the three ECCs together as a single entity. Some decisions that must be made include committing to developing a reporting structure that is independent of any individual agency, such as a board of directors. A fully integrated consolidation model will require determining the location for the consolidated ECC as well as determining the organizational structure, operational configuration, and pay scale. There will need to be, at a minimum, a public safety communications director (PSCD), reporting directly to a board of directors or County Board.

Leaders should not expect to realize any cost savings for several years because of the time it takes to implement more complex recommendations, such as establishing suitable facilities, new technologies, and cross-training staff. MCP recommends committing to a consolidated environment with staff cross-trained in call-taking and dispatching. In doing so, upon operational consolidation, call transfers are eliminated within the county for the served agencies.

³⁸ Call transfers are inherent in locations that have primary and secondary ECCs, fire/EMS districts that cross multiple jurisdictions, or both. Transfers cannot be eliminated unless all agencies join the consolidation effort.

³⁹ 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 911 plans. Florida E-9-1-1 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 9-1-1 call taker and the call taker at the remote agency. There shall be no inherent double transfers."

Once the independent entity is formed, a director should be hired to oversee operations. While a director is being sought, MCP recommends that the governing authority assign a project manager to lead a consolidation team. This team will serve to establish core workgroups and set the transition in motion.

The recommendation to assign a project manager to form the transition team before the search for the director is launched is made for several reasons.

- It leverages the current momentum and motivation for the project.
- It leverages the gap time to draft a “framework” of a consolidation implementation plan that the director will complete and finalize once hired.

The transition team—comprised of those that have intimate knowledge of Franklin County and each ECC—is expected to be included in the search.

4.2 Conceptual Governance and Organizational Structure

Governance is often a top concern for stakeholders. Because an ECC consolidation or other reconfiguration of operations could change organizational and reporting structures, employees, supervisors, administrators, and elected officials are justifiably concerned as to whether there will be an opportunity to engage in the governance of the new ECC. Stakeholders need to know that their concerns will be heard and addressed and that questions will be answered by the organization. MCP recognizes that fair and impartial governance between local governments, ECCs, and stakeholders is paramount to a successful consolidation, regardless of its structure.

The 911 community is facing many national, regional, and local changes that are driving the creation of a variety of governance models to achieve and sustain successful consolidations. However, there is no perfect governance structure model. Like any relationship, each takes commitment and hard work to be successful. Each relationship will have its good days and trying days but can weather a storm if the partners have worked together between those times.

There are multiple options for an organizational structure. There is consensus that if consolidation were to occur, the agencies would be better served by an independent governing board or neutral County department with a civilian employee overseeing the organization (e.g., emergency management). Implementation of a field services advisory board (FSAB) would establish a standing board that could advise the director and governing entity of issues related to operations and technologies.

There are two viable options for an ECC governance model in Franklin County:

- County department
- Independent board of directors

MCP does not recommend a governance model that places the organization under a sheriff or chief officer because organizations under a civilian, dedicated director tend to be more stable and there is usually more support from member agencies for a director that is in a more neutral position to lead the organization.

4.2.1 County Department Structure

This model would provide a path forward in an organization that already exists and could absorb the workforce. The figure that follows shows a conceptual organizational structure that would fall under a County department head.

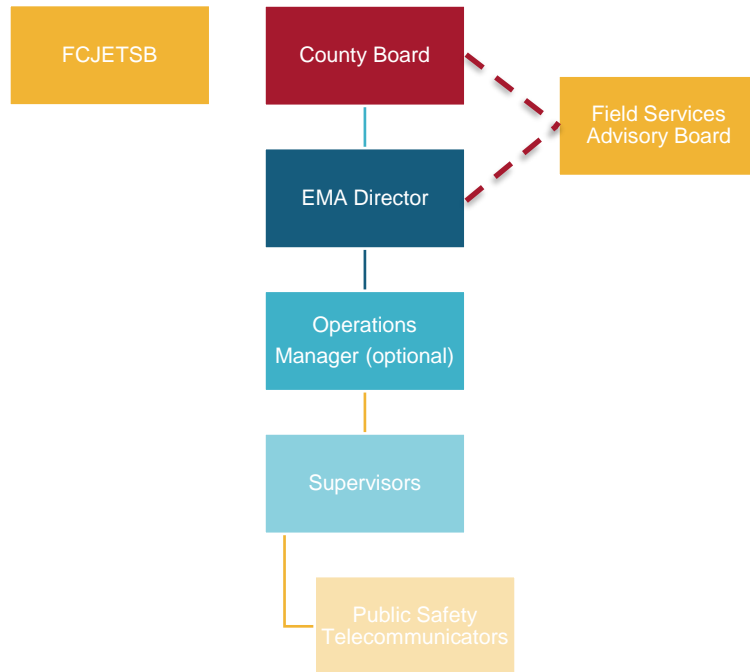


Figure 1: Conceptual Organizational Structure – County Department

FCJETSBS

The FCJETSBS would exist as it does today and advise and guide the director in aspects relating to the consolidated ECC (e.g., establishing policies and procedures, technologies, and systems in use). There is no supervisory oversight attributed to the committee.

Emergency Management Agency (EMA) Director

The ECC would be a division under EMA with the director having direct responsibility for the consolidated ECC.

FSAB

The FSAB would advise and guide the director in aspects relating to the ECC (e.g., establishing policies and procedures). There is no supervisory oversight attributed to the FSAB, but the committee may provide feedback for performance evaluations.

The FSAB composition would include members from law enforcement, fire, and EMS.

Operations Manager (optional)

MCP has included an optional operations manager position as the director would have oversight of both EMA and the ECC. This position would be a subordinate employee under the EMA director and oversee the supervisors and telecommunicators.

The operations manager could assist with managing day-to-day operations, including training, investigations, performance management, workforce management and scheduling, technology, and systems. The same national standard that applies to the director can be aligned with an operations manager position.⁴⁰

Another option is to assign operational oversight to a deputy director, also under the EMA director. Currently, this position is filled by a part-time employee and is generally supported by grant money (approximately \$10,000 annually). This would create another cost-sharing opportunity between EMA and the ECC.

Supervisors

Appropriate and focused supervision of operational personnel is critical, particularly for a new consolidated operational environment. Supervisors will provide oversight to a respective shift and assist the director (or operations manager/deputy director) with training, QA, scheduling, and technical support (to the level trained). The positions will directly oversee the telecommunicators and are expected to be well-versed in all disciplines—call-taking, law enforcement dispatch, and fire/EMS dispatch.

Supervisors will provide the following support:

- Coordination and direction during major emergency incidents
- More supervision for diversified complex tasks
- Greater knowledge of laws, procedures, and administrative processes
- Focus on customer service to the public and subscriber agencies
- Improved communications with management, subordinates, and responder agencies
- Problem-solving
- Narrower scope of supervision when implementing new policies and procedures
- Staying abreast of technological changes/advancements
- Single point of contact for responder agencies
- Readily able to identify areas for growth and performance recognition among subordinates
- Document employees' performance for annual/periodic reviews
- Guide new employees who have less training and experience
- Spend more time with subordinates individually, daily
- Identify areas for remedial training, counseling, or discipline, when appropriate
- Address issues upon occurrence, not after the fact
- Set priorities
- Delegation of tasks/responsibilities

Span of control guidance in general used to be very 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 managed⁴¹, leaving it up to each agency to determine the number.

⁴⁰ https://www.apointl.org/services/standards/find-standards/?a_type%5B%5D=Training&a_s=

⁴¹ From NIMS/ICS. The Department of Homeland Security (DHS), coordinating with federal, state, and local governments established the National Incident Management System (NIMS). ICS falls under the Command and Coordination element of NIMS.

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.”⁴²

ICMI also notes trends that drive span of control up or down.



Figure 2: Span of Control

With the staffing configuration proposed for Franklin County (refer to Section 4.3.2), there are no concerns regarding the span of control. Although the supervisors are part of the authorized strength with daily responsibilities for call-taking and dispatching (when necessary), they should be able to supervise while working and unplug to handle supervisory responsibilities when staffing allows. When supervisors are serving as a telecommunicator, they should handle a position that is less busy.

Public Safety Telecommunicators

Telecommunicators will be cross-trained to answer all incoming calls, including 911 and 10-digit for law enforcement, fire, and EMS.

The director will develop a transition plan to organically cross-train telecommunicators to perform functions for all participating municipalities.

4.2.2 Independent Board of Directors Governance Model

An alternative governance model to the County department model noted above is an independent board of directors. There are many options for a board of directors; however, it typically is made up of equity stakeholders from the participating cities and the County (FCSO, Benton, Christopher, Sesser, Valier, and West City). There may be additional members added to the board; however, for voting purposes, the board composition should equate to an odd number to avoid tie votes. Abbott EMS and/or a representative for the fire protection districts may also be added to the board of directors. It is also common to have other elected officials on the board of directors (e.g., County commissioner or city alderman).

⁴² “Staff to Supervisor Ratio.” ICMI. <https://www.icmi.com/resources/2012/Staff-to-Supervisor-Ratio>

This governance model removes the governance of the consolidated ECC from any specific governmental structure and creates an independent agency—in this case, an independent board of directors. It is common in the state of Illinois for agencies to form such an entity under an intergovernmental agreement. The consolidated ECC is its own organization completely independent from any law enforcement, fire, or EMS agency it serves. Such a board typically possesses the authority to determine the funding strategy, organizational structure, and hiring policies, and to approve significant changes in operational procedures. An independent board with a mix of members and an intergovernmental agreement would be less vulnerable to wide swings in focus and priorities when elected or appointed officials change. Other entities in the state have demonstrated success with this governance model.

The figure that follows shows a conceptual organizational structure that would fall under an independent board of directors.

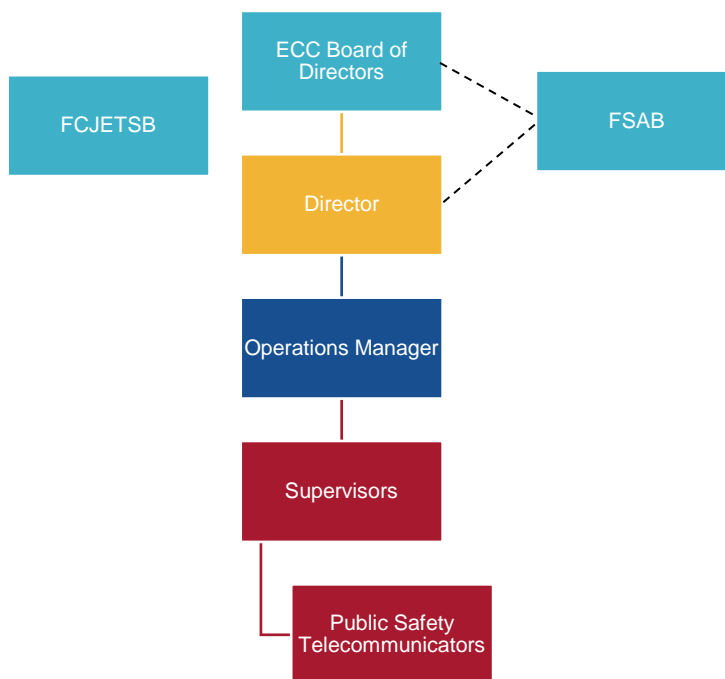


Figure 3: Conceptual Organizational Structure – Independent Board of Directors

The organizational structure is like the structure highlighted in section 4.2.1; however, the civilian director would report to the ECC’s board of directors. HR, finance, IT, and other support services could be contracted out to one of the participating equity members, which would reduce costs for the ECC and offer a cost-sharing opportunity for one of the cities or the County.

4.3 Personnel and Workforce Forecast

4.3.1 Staffing Factors

One of the most important factors in any consolidation initiative is assuring the appropriate allocation of resources. This requires analyzing the current call, and incident volumes with the operational needs of the served agencies and applying industry standards and best practices—with the outcome being a recommended operational configuration and a forecasted staffing requirement. Consolidation does not result in a reduction of

telecommunicator staff—unless there is a reduction in the number of total workstation positions that are required—although efficiencies are often gained in the handling of calls and incidents (e.g., eliminating call transfers) and providing support services (e.g., QA and training) that were not previously provided.

Collectively, call-takers and dispatchers are often referred to as telecommunicators, and this is the term MCP will use when referencing staffing, although delineations will be made for supervisory personnel. NENA defines a telecommunicator as follows:

An emergency response coordination professional trained to receive, assess, and prioritize emergency requests for assistance, including, but not limited to:

- *Determining the location of the emergency being reported*
- *Determining the appropriate law enforcement, fire, emergency medical, or combination of those emergency services to respond to the emergency*
- *Coordinating the implementation of that emergency response to the location of the emergency*
- *Processing requests for assistance from emergency responders⁴³*

NFPA defines a telecommunicator (generically) as follows:

An individual whose primary responsibility is to receive, process, or disseminate information of a public safety nature via telecommunication devices.⁴⁴

NFPA 1225 provides more detailed definitions for Public Safety Telecommunicator, Public Safety Telecommunicator I (Call Taker), and Public Safety Telecommunicator II (Radio Dispatcher).⁴⁵

To determine telecommunicator staffing needs, and often workspace (and/or console workstations), ECCs use calculations based on call volume and incident workload, which are based on 911 calls and CAD incidents created for law enforcement, fire, and EMS. The annual 911 call volume is approximately 10,664.

Table 10: 2021 911 Call Volume

	Landline 911	Wireless 911	VoIP	Total
Total 911 Call Volume	925	9,561	178	10,664

Combined, the three ECCs have an incident volume average of 42,782 annually, which is approximately five incidents an hour.

⁴³ NENA-ADM-000.24-2021, June 22, 2021, *NENA Master Glossary of 9-1-1 Terminology*, page 203 of 224. https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/nena-adm-000.24-2021_final_2.pdf

⁴⁴ [NFPA 1225: Standard for Emergency Services Communications](#)

⁴⁵ Ibid.

Table 11: 2019–2021 Incident Volume Statistics

	FCSO	Central Dispatch	West City	Total
Law Enforcement	19,984	12,110	3,537	35,631
Fire/Rescue	77	1,848	230	2,155
EMS	4,996	NA	NA	4,996
Total	25,057	13,958	3,767	42,782

APCO and NENA both have tools to assist in determining baseline staffing. Communications center data is measured and used as a basis for projecting the number of call taking, dispatch, and supervisory staff required to adequately handle call and incident volumes and meet and/or exceed national call-answering standards. MCP uses the NENA staffing tool (in concert with Erlang C) to project positions and staffing requirements, primarily because the NENA tool considers that dispatchers can handle more than one incident at a time. Two approaches to staffing calculations are volume- and coverage-based positions.

- Volume-based is dependent on the respective activity levels in the center, which determines the employees needed to fill a position. The workload (e.g., incoming calls, incidents) determines the number of individuals that should be scheduled for each shift to handle the volume of work.
- Coverage-based refers to a position that must be staffed regardless of the volume of work at the respective position. The position could be staffed 24 x 7 or just certain hours of the day.

To further expound on volume-based staffing, the resulting calculation is the number of staff necessary to handle the volume of the respective data, such as fire calls. For example, if fire call volume is low, based on the factors considered⁴⁸, one employee could handle all the incidents (dispatch, associated radio traffic, etc.). However, this is not realistic as one person cannot work 24 x 7 x 365, and the position must be staffed regardless of volume. In this case, coverage-based (position) staffing is used to forecast the number of staff required to cover the position. For most ECCs, dispatch positions are coverage-based.

Conversely, call-take positions, without dispatch responsibilities, are likely to be volume-based positions—meaning the number of staff necessary to answer incoming calls may fluctuate, based on historical incoming call data. There is often a greater need during business hours and early evening hours, for example, than overnight hours. This specific level of detail requires greater breakdowns of the call data, which may be difficult for some agencies to ascertain.

Other factors also play a role in forecasting staffing, including available work hours, utilization, and attrition rates.

Available work hours. The number of hours a telecommunicator is available to work during a year. For agencies working 8-hour shifts, a telecommunicator works 260 days or 2,080 hours a year. This is typically represented in a 5-day on/2-day off schedule. For agencies working 12-hour shifts, a telecommunicator works

⁴⁸ Incident volume, average incident times, processing capabilities, and telecommunicator availability

182 days or 2,184 hours a year. There are varying 12-hour shift schedules, including a 4-on/4-off, or a 4-on/3-off, 3-on/4-off, or a 2-on/2-off, 3-on/2-off, 2-on/3-off.

To determine availability, vacation, holiday, sick, Family Medical Leave Act (FMLA), and personal leave, training, military leave, and other activities are subtracted from the total work hours. Leave data varies between the ECCs, and not all agencies were able to provide the requested data. Based on the schedules, leave varied between 204 hours⁴⁹ at the low to 304 hours (West City) at the high.

For the exercise of forecasting staffing, MCP used 304 hours.

Table 12: Average Annual Leave

Leave Type	Annual Hours Used
Vacation	168
Sick Leave	56
Personal Leave	40
Training Leave	16
Other Leave (FMLA, military)	24
Total Average Leave per Employee	304

An exact determination of benefits, including time off, is an important component of implementation planning and is dependent on other factors such as labor contracts and employer of record.

Utilization. In staffing calculations, utilization measures the percentage of time that staff (telecommunicators and supervisors) are available to work each shift. This is calculated by taking a respective shift length and subtracting the time allotted away from a position during the shift, such as for meals and breaks. Another factor for consideration is duties not related to the specific activities of the ECC, such as responsibilities for a walkup window. (Some agencies may wish to include a buffer of two to three minutes an hour to allow staff to decompress or debrief after stressful calls; this is agency specific.) The resulting calculation is the utilization rate—the percentage of time each shift that staff is *available* to do their respective job.

The ECCs do not allot time away from the console for breaks or meals. MCP used 75 minutes (12-hour and 10-hour shifts) and 60 minutes (8-hour shift) for breaks and meals as, ideally, in a consolidated environment, all telecommunicators receive breaks and meals where they can step away from the communications floor to decompress consistently. The resulting calculation for a consolidated environment on 8-hour shifts is 88%, 10-hour shifts is 91%, and 12-hour shifts is 90%. These calculations are without any buffers.

Turnover. Turnover is often referred to as attrition, but there is a distinct difference. Simply put, when turnover occurs, the organization seeks someone to fill the position; with attrition, the vacancy is left unfilled, or the position is eliminated altogether. Turnover is usually sudden and unanticipated, whereas attrition can be anticipated, such as retirement. The formulas to calculate turnover and attrition are the same.

⁴⁹ FCSO hours earned – hours used was not available for this report.

APCO commissioned a study of communications centers across the country “to address the chronic problems of understaffing and turnover that exist within the field of emergency communications.”⁵⁰ The new study found the average retention rate is 71%, for an attrition rate of 29%.

It is not possible to calculate attrition for a consolidated environment, but it is assumed that attrition will continue to be experienced, with the hopes of it being less than in the current environment. For this study, MCP used a factor of 25% for the turnover rate in a consolidated ECC, as it is anticipated that turnover will improve in a consolidated scenario because of the factors highlighted in this report.

Performance metrics. Performance metrics measure the operational efficiency of an ECC with targeted goals and established standards. Throughout the country, ECCs adopt and use industry standards and best practices to assure the effectiveness of the agency and that the best possible service is provided to citizens and first responders. Measurable standards create an objective view of 911 operations and provide for consistent interactions with the served public and first responders. The most common metric involves the average time it takes an ECC to answer its incoming emergency calls. ECCs typically try to align their call answering goals to NENA or NFPA standards, which are closely aligned, and, if applicable, call-processing times to NFPA standards.

[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.”

[NFPA 1225](#), *Standard for Emergency Services Communications*, 2021 version 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.”

Another metric is the abandoned call rate. An abandoned call is defined by NENA as “an emergency Call in which the caller disconnects before the call can be answered by the Public Safety Answering Point (ECC).”⁵¹

Every ECC will experience abandoned calls; the goal is to keep them as low as possible. There are many reasons for abandoned calls, including those who realized they have misdialled. When staff members are on another line, incoming calls cannot be answered right away, particularly if only one telecommunicator is on duty. 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 ideal and 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%.⁵² 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%.⁵³ More recently, 8% to 10% is the average abandonment rate for some industries.⁵⁴ 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.

⁵⁰ “Project RETAINS: Staffing and Retention in Public Safety Answering Points (PSAPs): A Supplemental Study.” APCO Project Retains, APCO International. <https://www.apcointl.org/resources/staffing-retention/project-retains/>

⁵¹ “Abandoned Call,” NENA Master Glossary of 9-1-1 Terminology, National Emergency Number Association, January 20, 2020, pg. 18 of 206. <https://www.nena.org/page/Glossary>

⁵² Talkdesk is a cloud contact center. [Call Center KPI Benchmarking by Industry 2021 Infographic | Talkdesk](#)

⁵³ “Call Abandonment Rate,” MetricNet, May 23, 2012, <http://www.metricnet.com/call-abandonment-rate>.

⁵⁴ [Call Center Abandon Rate: What It Is And Why It Matters More In 2022 - \(pipes.ai\)](#)

The average annual abandoned call rate in Franklin County was not available; however, this is a performance benchmark that should be measured and monitored post-consolidation.

The value of any resulting staffing forecast is dependent upon the accuracy of the data and statistics provided by the ECC(s).

However, it is not as simple as entering data into the tools to calculate staffing requirements. The output also must be analyzed, with considerations given to the operational configuration of the ECC, other work-related responsibilities, supervisory responsibilities, and performance metrics. Common sense and experience play a large role in staffing configurations. There is no “best” method for determining appropriate staffing levels. Using multiple methods and comparing results, combined with industry experience, are best practices that can yield repeatable and verifiable results.

To determine a recommended operational configuration for a consolidation initiative, volume-based calculations are conducted. Based on the available data, which includes incident volumes, processing capabilities, and telecommunicator availability, three dispatch positions are warranted—one law enforcement, one secondary law enforcement, and one fire/EMS. The fire/EMS position would be the primary call-taker in this scenario, and the other two positions would assist with call processing when the fire/EMS position is busy handling higher priority tasks.

MCP recommends that the law enforcement agencies consider combining radio frequencies to eliminate the need for a single telecommunicator to monitor multiple frequencies simultaneously. Having a law enforcement dispatcher responsible for multiple primary frequencies poses a risk for radio traffic being missed or units having to wait for an acknowledgment, or, worse, having to decide which radio traffic to handle first if two emergencies present themselves simultaneously.

Similarly, there is a need for one fire/EMS dispatch position. As it is configured today, there are multiple disparate fire department frequencies. The risk is high for traffic being missed or units having to wait for an acknowledgment on the fire frequencies.

The secondary law enforcement position would provide coverage for a second law enforcement channel when necessary and provide coverage during breaks. If there are two primary law frequencies, staffing should be increased to accommodate coverage for a second primary law position.

4.3.2 Shift Configurations

4.3.2.1 12-hour Shifts

In a 12-hour shift configuration, there are four squads (groups) that support operations 24 x 7. Two squads are assigned to the day shift and two squads are assigned to the night shift. Days off rotate between the squads on days and the squads on nights.

For a 12-hour shift configuration, staffing the three radio (dispatch) positions requires a minimum of 16 FTE telecommunicators; to account for turnover, both natural and forced, a minimum of 23 FTE telecommunicators is necessary. All telecommunicators would be cross trained in a consolidated environment. This scenario assumes that supervisors will continue to count toward minimum staffing. FTEs can be substituted with PTEs or supplemented with overtime to fill the turnover gap.

Although not a best practice, the supervisors in this consolidation model would be working supervisors and would routinely answer incoming calls or work a dispatch position as warranted, while still providing direct oversight to personnel. This aligns with NFPA 1225, Section 15.3.4, which states: “Supervision shall be provided

when more than two telecommunicators are on duty.”⁵⁵ The annex notes: “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.”⁵⁶

To allow for breaks and meals, relief positions must be considered. For example, three positions must be maintained while breaks are afforded to each person (75 minutes for 12-hour shifts). It is also important to not forget leave time; it is safe to plan for one person on leave each day.

Thus, staffing the three positions, allowing leave, and providing breaks require a staff complement of 16 to 20 telecommunicators and supervisors. The use of part-time staff, when scheduled appropriately, will offset the need for additional full-time telecommunicators. It will be crucial to schedule leave time so as not to leave a shift short. For example, a telecommunicator on a day shift should not be on leave when the relief person is scheduled off.

A shift complement would look like the following in this scenario.

Table 13: 12-Hour Operational Configuration – Staffing by Shift

Days x 2	Nights x 2
<ul style="list-style-type: none"> • Law Enforcement Dispatch – 1 • Fire/EMS Dispatch and Call-taking– 1 • Secondary Law Enforcement Dispatch and Relief – 1 • On leave – 1 	<ul style="list-style-type: none"> • Law Enforcement Dispatch – 1 • Fire/EMS Dispatch and Call-taking – 1 • Secondary Law Enforcement Dispatch and Relief – 1 • On leave – 1
8 assigned to days / 4 per shift	8 assigned to nights / 4 per shift

While planning to have one person off each day is advantageous, in an ECC as small as Franklin County’s will be, there is a greater likelihood that most staff will be present each day.

4.3.2.2 8-hour Shifts

In an 8-hour shift configuration, there are three squads (groups) that support operations 24 x 7. Shifts are usually days, evenings, and overnights. As each shift must cover seven days a week, at any given time, about 28% of a shift should be on their scheduled days off. For example, a squad of 10 people covering seven days a week would mean three people are off on any given day in alignment with their respective schedules.

For an 8-hour shift configuration, staffing the three radio (dispatch) positions requires a minimum of 16 telecommunicators; to account for attrition, both natural and forced, a minimum of 20 telecommunicators is necessary.

Allowing leave and providing breaks and meals, a shift complement would look like the following in this scenario.

⁵⁵ [NFPA 1225: Standard for Emergency Services Communications](#)

⁵⁶ Ibid.

Table 14: 8-Hour Operational Configuration – Staffing by Shift

Days	Evenings	Overnights
<ul style="list-style-type: none"> • Law Enforcement Dispatch – 1 • Fire/EMS Dispatch and Call-taking – 1 • Secondary Law Enforcement Dispatch and Relief – 1 • On leave – 1 • Scheduled days off – 2 	<ul style="list-style-type: none"> • Law Enforcement Dispatch – 1 • Fire/EMS Dispatch and Call-taking – 1 • Secondary Law Enforcement Dispatch and Relief – 1 • On leave – 1 • Scheduled days off – 1 	<ul style="list-style-type: none"> • Law Enforcement Dispatch – 1 • Fire/EMS Dispatch and Call-taking – 1 • Secondary Law Enforcement Dispatch and Relief – 1 • On leave – 1 • Scheduled days off – 1
6	5	5

4.3.2.3 10-hour Shifts

There are various 10-hour shift models that provide coverage 24 x 7. Full-time employees on a 10-hour shift are scheduled to work 2,080 hours annually.

For a 10-hour shift configuration, staffing the three radio (dispatch) positions statistically requires a minimum of 18 telecommunicators; to account for attrition, both natural and forced, a minimum of 20 telecommunicators is necessary.

When working a 10-hour shift, each person generally has a separate schedule from their colleagues and works various split days, This can be complex to manage and covering leave time may mean changing someone else’s schedule. For these reasons, MCP does not recommend the 10-hour shift rotation for this consolidation, at this time. Optimal schedules would be an 8-hour or 12-hour shift rotation.

4.3.2.4 Call-Handling

Erlang C calculations, in concert with NENA calculations, are conducted to determine the telecommunicators needed to handle incoming calls for service. When averaging the total 911 calls, the result is 29 per day or one per hour, which requires one telecommunicator to be available to meet call-answering standards. While 911 calls are not presented in averages, and there are peak hours of the day when call volume is greater, the 911 call volume in Franklin County is significantly low. Even tripling the average 911 calls per hour only requires one telecommunicator to be available; however, if two calls come in simultaneously, there would be a need for two telecommunicators, which aligns with the recommended dispatch configuration.

There also is the need to consider calls received on 10-digit lines. Analytics on 10-digit lines for the three ECCs were very limited, as the only agency that reported out was West City. West City handles an average of 1,268 10-digit calls annually, which is three to four calls a day. Given the low incident volume, it is assumed that the 10-digit call volume is low and the majority are administrative; it is anticipated that administrative calls would drop in a consolidated scenario. Call attendants and re-assigning the task of administrative call handling to other staff in the law enforcement agencies are two ways calls can be diverted from the ECC, where employees are focusing on higher priority tasks.

4.3.3 Workstations

To accommodate the requisite staff and provide for an overflow/training position(s), a minimum of four physical workstations are recommended, as shown below.

- Law enforcement dispatch – 1
- Secondary law enforcement dispatch and relief – 1
- Fire/EMS dispatch and call-taking – 1
- Overflow and/or supervisor – 1

If Abbott EMS is included with this consolidation effort, an additional workstation is recommended. For Abbott to be fully integrated into the operation, a CAD-to-CAD interface would be needed between the County CAD systems and the Abbott EMS CAD.

4.4 Facilities

In addition to consolidating radio frequencies, finding a suitable facility to house a consolidation is a considerable capital investment. None of the three ECCs can be renovated easily to accommodate a consolidated operation with a minimum of five workstations and administrative offices.

Key considerations for a consolidated ECC are:

- Cost to build or retrofit an existing facility
- Access to adequate power and telecommunications infrastructures to support an ECC with robust equipment room(s) and redundant systems
- Reliable water supply and sewer lines
- No site or subsurface issues that would compromise structural integrity
- Sized appropriately for current staff and future growth as well as compliant with the Americans with Disabilities Act (ADA)
- Adequate distance from environmental hazards such as flooding and hazardous materials
- Ability to provide physical security and a hardened facility
- Proximity to parking, food, medical, and governmental services, employees, and support/client agencies who would visit the facility regularly

4.4.1 Primary ECC Options

The project team discussed two options for a suitable facility.

Option A – Campbell Building

The Campbell Building (901 Public Square, Benton) is viewed as a potential location for a new facility. While not ideal as a purpose-built facility, it does have the space for a consolidated center on the basement level in an unused area adjacent to what was designated as Courtroom A.

There could be some cost-sharing opportunities with Franklin County EMA because of the need for a new emergency operations center (EOC). Franklin County EMA has been awarded a grant of \$100,000 for use towards a new EOC and \$100,000 towards facility costs. It is anticipated the EOC would need to accommodate 30 to 40 individuals during a full activation.

The facility would need to be hardened and have generator and UPS capabilities. A radio tower would need to be constructed at this location.

The estimated square footage for a shared ECC and EOC facility is shown in the table that follows.

Table 15: ECC Space Estimates – Standalone Facility

Functional Position	NSF ⁵⁷ Requirement	Grossing Factor (Sq. Ft.)	GSF ⁵⁸ Total	Specifications
Administration and Support Staff	640	194	834	Offices for EMA and 911 director, secretary/administrative assistant, operations manager, office/copy area, file area (lateral files), supply closet, coat room.
Dispatch/911	420	345	765	Supervisors/911, call intake/dispatch workstations, storage, and supplies (4 positions + 1 for future growth or Abbott EMS)
Support – Back of House	542	77	619	Radio and logger equipment room, vendor workstations/bench, main power distribution, UPS rooms, maintenance/custodial storage
EOC Area	600	600	1,200	Space to accommodate 30 individuals during an activation
Commons Area Front and Back of House	928	273	1,201	Kitchen, vending, lunchroom, freezer/fridge, security equipment room, locker room/showers
911 and Dispatch Records	256	88	344	Filing area – warrants/justice, work area, storage
Subtotal	3,386	1,577	4,963	
Building GSF @ 10%		496		
Total Building Area	3,386	2,073	5,459	

⁵⁷ Net square feet. NSF is the amount of space required for a function, such as a single workstation, exclusive of interior walls or circulation space around the functional area.

⁵⁸ Gross square feet. GSF is the total area of enclosed space measured to the exterior walls of a building. This is an umbrella term that includes everything in a facility, even unusable spaces (think areas between walls). It is the total space a facility takes up regardless of whether the space is used. [Calculating Gross Square Footage Requirements | Court Facility Planning \(ncsc.org\)](https://www.ncsc.org/Calculating-Gross-Square-Footage-Requirements-Court-Facility-Planning)

Option B – State’s Attorney Justice Center

The project team indicated that the current State’s Attorney facility (411 E. Main St., Benton) was a potential location for a consolidated PSAP. A tour of the facility indicated there would be space in the front foyer and office area to accommodate a minimum of four console positions. The location would have ample space for support staff; however, facility modifications for hardening would be required as well as the need to add a backup generator.

It is anticipated that the State’s Attorney’s operations would be relocating from its current location to the new County courthouse; however, it is unclear if or when this will occur. For this reason, neither space measurements nor estimates are included.

4.4.2 Backup Facility

It is recommended that the West Frankfort PSAP serve as the backup center. West Frankfort currently has three positions with the possibility of adding a fourth. The PSAP normally has one to two telecommunicators on duty.

Currently, there is no CAD or radio interoperability with the agencies served by FCSO, Central Dispatch, and West City—which will be the primary challenges.

4.4.3 Rough Order of Magnitude

Rough order of magnitude (ROM) pricing for the purchase of land or an existing building is not possible due to the varying property values throughout the state. Similarly, identifying lease costs is problematic for the same reasons. Without a formal programming study, it would be difficult to estimate the exact cost of a new or renovated facility suitable for a consolidated operation; however, some high-level considerations can be offered.

- Architectural Costs
 - Whether building or remodeling, architectural services include programming, design drawings, project management, bidding, selection of a general contractor, construction management, quality control, and final acceptance management. MCP can help with a more detailed programming study, assistance with public safety requirements during design, vendor coordination, and migration strategy.
 - ROM pricing for architectural costs, including services ranging from programming through final acceptance, is generally 10% of the building cost.
 - ROM pricing for facility construction ranges from \$550–\$600 per square foot. Even then, these costs fluctuate vastly depending on the availability of construction resources. MCP has experienced upwards of \$800 per square foot; however, much of that cost depends on how hardened the facility is and what the construction costs are at the time of the build or remodel. These costs do not include external facility-related expenses such as generator fuel, public utility tie-ins, and COOP/DR planning.
- Space Estimates
 - For Franklin County, an ECC with an EOC likely would require a minimum of 5,200 square feet, as shown in Table 15.
 - A formal programming study will be necessary to determine and confirm the actual space requirements.

- Critical Facilities Design Considerations
 - Critical facilities, at the most basic level, refer to “all manmade structures or other improvements that, because of their function, size, service area, or uniqueness, have the potential to cause serious bodily harm, extensive property damage, or disruption of vital socioeconomic activities if they are destroyed, damaged, or if their functionality is impaired.”⁵⁹ Fire and police departments, ECCs, and EOCs are typically described as such a facility as they are necessary for continued protection of the health and safety of the community. ECCs and EOCs are to be the last building standing; sometimes, fire and police departments are built to similar standards. Disruption of these facilities and the services provided could be impactful to the community.
 - Model building codes and design and construction standards present the minimum requirements for constructing critical facilities like an ECC. The American Society of Civil Engineers (ASCE) has published the most widely known such standards—ASCE 7, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*.
 - The Federal Emergency Management Agency (FEMA) has published a design guide for critical facilities—FEMA 543, *Design Guide for Improving Critical Facility Safety from Flooding and High Winds: Providing Protection to People and Buildings* (2007)—that assists localities during planning, design, and construction of critical infrastructure.
 - The County's *Hazard Mitigation Plan* released in 2019 identifies communications infrastructure and facilities such as 911 as critical infrastructure susceptible to hazards. Any modification or construction to a new or existing facility should consider the hazards identified in the plan.
 - Designing and constructing critical facilities to these higher standards will increase the overall cost of the physical building above that of a standard office-type structure. These costs cannot be estimated in advance due to several unknown factors, including (but not limited to) the wind speed and flooding levels the building should be designed to withstand. These factors vary from locality to locality but must be included in the overall cost of the facility.
 - Building systems are a key area of importance, regardless of the decision to build new or renovate an existing facility. Because of the critical nature of public safety, building systems such as redundant power, heating, ventilation, and air conditioning (HVAC), and security systems must continue to function during disasters, even when the surrounding locality may be without power or other utilities. FEMA recommends that four key concepts be considered in the design of building systems for a mission-critical facility:
 - Backup systems should be provided.
 - All points of system access—including entry points, control panels, and maintenance access—should be in secured areas.
 - All systems should be protected from potential hazards.
 - All systems should be physically separated.⁶⁰

⁵⁹ “Design Guide for Improving Critical Facility Safety from Flooding and High Winds.” (2007), FEMA, page 1-2. https://www.fema.gov/media-library-data/20130726-1557-20490-1542/fema543_complete.pdf

⁶⁰ “Hardened First Responder Facility.” (2003). FEMA. <https://www.fema.gov/pdf/plan/prevent/bestpractices/hardened.pdf>

- Considering the four key concepts above, typical ECC facility components include, but are not limited to, the following:
 - Backup power supply (i.e., generator[s] and a UPS system)
 - Redundant HVAC for the building and the separate equipment room
 - Service contracts and adequate insurance for the UPS system, generator(s), and HVAC system
 - Wallboards for sound absorption
 - Raised floor systems
 - Structured cabling systems
 - Single point grounding systems
 - Kitchen areas, lockers
- Facility Maintenance
 - In addition to the capital cost of the facility and systems, maintenance and recurring costs (e.g., utilities, furniture) should be factored into short- and long-range financial planning.
- Furniture
 - Workstation furniture constitutes the workspace at which telecommunicators operate while on duty. All components needed to perform their tasks are in front of them, and proper equipment and design are important, given the nature of the work telecommunicators perform and the amount of time they spend at the workstation.
 - These workstations must be designed to deliver many years of use. The workstation platforms must be built to accommodate multiple monitors, monitor stands, and keyboards. Seating comfort with the ability to stand and complete tasks with an ergonomic workstation is essential to decreasing fatigue during the long work hours on a shift. Ergonomically and specially designed chairs with adjustable lumbar support that are capable of 24-hour intensive use are very important. Workstations may be designed with electric and/or manual lifts to enable the telecommunicator to sit in place and view the work area without eye strain and neck soreness. Because multiple individuals use a workspace during different shifts, the telecommunicator's ability to adjust the workstation is imperative to accommodate each employee's physical characteristics.
 - Workstations typically are built to last for 10–15 years. When specifying workstations, the ECC should consider the possibility of future expansion; if it expands, it should have the ability to move workstations without needing the contractor to return to break down the workstation and move it. Workstations require very little maintenance—proper cleaning of workstations, and use, will allow for many years of service and keep them in like-new condition.
 - Pricing for telecommunicator workstations can vary depending on the selected manufacturer, chosen options, competitive procurement, etc. The price per position may decrease with larger numbers of consoles due to the volume discounts provided by some manufacturers.
 - ROM pricing for furniture ranges between \$22,000–\$25,000 per position depending on features, plus \$1,000–\$2,400 per chair.

4.5 Technology

4.5.1 Core ECC systems

A consolidation will present an opportunity to leverage core technology such as CAD and radio. While the FCSO and West Frankfort PSAPs share the CHE, Central Dispatch and West City do not.

A decision will need to be made regarding which of the two CAD/RMS platforms becomes the option of choice for the new ECC. Once the vendor is selected, a CAD-to-CAD interface with Abbott EMS should be pursued.

4.5.2 Radio Communications

For consolidation to be effective, a significant effort is needed to reduce the number of individual radio channels/frequencies in use by each ECC and responding agencies. It may be possible to re-use some existing base station equipment. Several existing VHF sites provide good coverage throughout the county; however, a more detailed radio study is needed to determine the feasibility of using any of the existing VHF channels in a countywide trunked or simulcast radio system. Consideration must be given to the impact on neighboring counties using the same frequency band and the potential for interference.

Currently, a large portion of the police departments and a small number of the fire departments are equipped with digital radios capable of analog and digital operation.

It is difficult to develop a ROM cost for radio until a detailed inventory and radio assessment is completed.

The new FCSO three-site digital mobile radio (DMR) system can operate in mixed-mode, supporting both analog and digital radios to allow for a countywide fire channel buildout as agencies are able to migrate to digital radios.

Consideration may be given to splitting the county (e.g., east/west or north/south) and operating on two primary law dispatch channels.

The existing Telex radio consoles in use at FCSO could possibly be expanded and relocated to support the new ECC.

4.5.3 Recommendations

- Work towards consolidating dispatch radio channels as a countywide radio system is built out.
 - This will likely require migration from analog to digital radios.
 - The three-site MOTOTRBO system can support two channels—one for law and one for fire.
- Consider combining Central Dispatch law enforcement units and Benton units on one channel.
- Develop a CAD-to-CAD interface with Abbott EMS for transfer of caller information and situational awareness.
- Develop a COOP/DR plan for technology utilizing the West Frankfort PSAP as the backup site.

4.6 Funding and Cost-Sharing

Identifying a method of funding for a consolidated ECC is a complex issue. A key goal of the agencies involved in this study should be the fair and equitable funding of services across the jurisdictions. Consolidations do not typically result in a cost-savings; however, consolidation will result in cost-efficiencies.

Consolidations do not typically result in an immediate cost-savings; however, consolidation will result in cost and operational efficiencies.

4.6.1 Funding Sources

Currently, outside of the support provided by the FCJETSB, the primary funding source for the ECCs is the respective general funds of the city and county governments.

4.6.2 Cost-Sharing Models

There is a need to establish a method for cost-sharing since external funding sources (wireline and wireless revenue) do not cover the operational costs. MCP identified two potential funding models currently used nationwide for Franklin County to consider. MCP also outlined the positive and negatives of each and provided recommendations that enable cost-sharing in a consolidated ECC. The method selected should provide a level of predictability and fairness upon which the jurisdictions can agree.

Emergency communications services generate a wealth of data, which includes both activity- and resource-based information, such as the number of incidents, incoming calls processed, radio transmissions, personnel, expenses, and other important information that may be documented. This data allows agencies to determine an average cost per activity or resource.

Budget projections are based on personnel costs (shown in the table below), which are projected to be 90% of the operating budget. Under the budget scenario, it was assumed that the director would fill a dual role with emergency management. It was also assumed that the director's position (wages and benefits) would be split between emergency management and the PSAP (\$37,125 each).

Table 16: Projected Salaries and Benefits in Consolidated Scenario

Position	Baseline Salary	Benefits	Combined
Director (EMA Director)	\$55,000	\$19,250	\$74,250 ⁶¹
Operations Manager (optional)	\$38,438	\$13,453	\$51,891
Supervisors	\$34,944	\$12,230	\$47,174
Telecommunicators	\$33,280	\$11,648	\$44,928

⁶¹ The Director's wage and benefits for the PSAP would be 50% of the actual wage and benefits because of the dual role the director would be filling between the PSAP and EMA

This projected budget does not include the capital outlay to build or renovate a new facility, as this is strictly the operational costs. As noted in Section 4.4, a programming study is necessary to determine the costs of a new facility.

The projected budget does not include revenue, as the only external revenue sources are the 911 wireless and wireline funds, which are used to support equipment and training directly related to call-handling, which is support by the FCJETSBS.

It is important to understand that the budget projections are simply estimates; determining what positions will be staffed and a more exact operating budget is a critical component of a consolidation implementation plan. MCP does not recommend salary reductions for any employee transitioning to similar positions. In a consolidated scenario, employees should be placed at or above the highest median salary for a best-in-class scenario. Maintaining adequate capital reserves for future spending and unforeseen expenses should be considered.

Table 17: Franklin County Combined Projected Budget

Metric	Cost
Personnel Costs: Including actual reported costs for telecommunicator, administrative and management salaries; overtime and benefits (numbers represent proposed staffing) ⁶²	\$897,496
Overhead and Other Costs – 10%	\$89,750
Gross Operating Expenses	\$987,246
Combined Revenue	\$0
Net Operating Expenses	\$987,246

The sections that follow describe methods commonly used to allocate costs among jurisdictions participating in a consolidated ECC.

4.6.2.1 Activity-Based

Cost assessment based upon activity is a common method that is used to fund consolidated ECCs. Routine ECC activities that may be tracked and documented for use in this approach include:

- Incoming 911 calls
- Incoming 911 and 10-digit calls
- Incidents dispatched
- Field-originated calls
- Radio transmissions

⁶² Staffing expenses include salaries and benefits for 50% of the director’s wages and benefits, two supervisors, and 16 telecommunicators

Activity-based costs can be derived using two methods. The first involves tracking the activity volume associated with each member agency. The entity is assessed based on the cost for provisioning specific services based upon actual usage.

The second method involves averaging the volume of an activity across all participating jurisdictions or agencies. For example, ECCs document the number of 911 calls received annually. The annual operating budget can be divided by the number of 911 calls to derive a per-call cost. Each entity then would contribute a share of the cost based upon the average volume of overall system usage.

MCP used a combination of law enforcement, fire, and EMS incidents to determine activity levels for this cost-sharing example. This model may not account for the length and complexity of calls, multi-discipline events, self-initiated activities, and seasonal initiatives. As a result, which is problematic for this approach for cost-sharing, there is a risk of artificial inflation of incident numbers along with the resources deployed and time consumed not being reflected in this calculation. The table that follows includes cost estimates that are broken out by the three ECCs. Calls for service include all calls dispatched by an agency (law enforcement, fire, and EMS).

Table 18: Activity-Based Cost Formula

Cost per FTE Calculation			
Total Personnel Costs, Including Benefits		\$897,496	
Overhead Costs (recurring)		\$89,750	
Total Gross Budget		\$987,246	
Revenue		\$0	
Net Balance		\$987,246	
Total Calls for Service		42,782	
Cost per Call		\$23.08 (rounded)	
Activity Cost Calculation per Agency			
Agency	Incidents Dispatched	Percentage of Total Incidents Dispatched	Total Cost per Agency ⁶³
FCSO	25,057	58.57%	\$578,220
Central Dispatch	13,958	32.63%	\$322,098
West City	3,767	8.81%	\$86,928

⁶³ These figures are calculated using the non-rounded cost per call.

The above cost-sharing model can be expanded to include all agencies participating in the consolidated operation, including municipal law enforcement and fire/EMS agencies, as shown in the table that follows. If municipal agencies are included in the cost-sharing model, the new share would replace their current subscriber fees. Given the low activity volume of some of the smaller agencies, it may be necessary to establish a minimum fee that agencies would pay, regardless of their volume. For example, all agencies pay a minimum of \$5,000 to \$10,000 annually regardless of their activity volume. The reason for this recommendation is that agencies with a low call volume should still contribute to the overall operating cost impacts and overhead to provide the service, which does not diminish with lower call volumes.

Table 19: Activity-Based Cost Formula – All Agencies

Cost per Incident Calculation			
Total Personnel Costs, Including Benefits		\$897,496	
Overhead Costs (recurring)		\$89,750	
Total Gross Budget		\$987,246	
Revenue		\$0	
Net Balance		\$987,246	
Total Calls for Service		42,782	
Cost per Call		\$23.08 (rounded)	
Agency	Incidents Dispatched	Percentage of Total Incidents Dispatched	Total Cost per Agency ⁶⁴
Abbott EMS	4,996	11.68%	\$115,289
Benton PD	5,932	13.87%	\$136,888
Benton FD	668	1.56%	\$15,415
Buckner FD	68	0.16%	\$1,569
Christopher PD	2,606	6.09%	\$60,137
Christopher FD	156	0.36%	\$3,600
Coello FD (North City)	167	0.39%	\$3,854
Corp of Engineers PD	127	0.30%	\$2,931

⁶⁴ These figures are calculated using the non-rounded cost per call.

Cost per Incident Calculation			
Ewing PD	40	0.09%	\$923
Ewing Northern FPD	77	0.18%	\$1,777
Franklin County SO	18,977 ⁶⁵	44.36%	\$437,917
Royalton PD	715	1.67%	\$16,499
Royalton FD	135	0.32%	\$3,115
Sesser PD	1,423	3.33%	\$32,837
Sesser FD	317	0.74%	\$7,315
Thompsonville PD	125	0.29%	\$2,885
Valier PD	325	0.76%	\$7,500
Valier FD	40	0.09%	\$923
West City PD	3,537	8.27%	\$81,621
West City FD	230	0.54%	\$5,308
Zeigler PD	1,824	4.26%	\$42,091
Zeigler FD	297	0.69%	\$6,854
Total	42,782	100.00%	\$987,246

It would be advantageous to breakdown the incidents by agency that are handled by FCSO to determine what the share would be for all agencies served by the three ECCs.

4.6.2.2 Resources-Based

This method is based upon the number of public safety personnel resources and the assumption that resources are aligned closely with activity and demands on the communication system. Resource-based shared-cost models may include a maintenance-of-effort (MOE) component that factors recurring overhead and capital costs into the calculations. Resources-based calculations also may include other resources, such as field responders, apparatus, and fire stations or a hybrid of any combination of resources.

To calculate the MOE component, each agency contributes an equal portion of the operating budget based upon a set percentage contribution. This model offers simplicity and the most equitable and predictive

⁶⁵ FCSO includes Buckner PD, which closed in 2021 and the law enforcement jurisdiction was taken over by FCSO

distribution of recurring and other capital costs. The governing entity must determine the basis of the cost allocation like the activity-based method.

There are two sources to develop a resource-based funding model:

- A shared-funding model that starts with best-in-class salary and benefits of the participating communities' current FTEs at the time of consolidation, which is then coupled with additional overhead and other costs, such as overtime, use of technical staff and administrative staff, equipment refreshes, etc.
- A model based upon the number of subscriber units (portable, mobile radios, and consoles).

For illustrative purposes, MCP included a resource-based funding model using the same baseline budget as described above in the activity-based model and 20 FTEs.⁶⁶ The number of FTEs allocated to each agency is based on their share of the workload, as highlighted in the activity-based model. The table that follows outlines how the cost per FTE is calculated based on the baseline budget.

Table 20: Resource Model Cost per FTE Calculation

Cost per FTE Calculation		
Total Personnel Costs, Including Benefits		\$897,496
Overhead and Other Costs (capital)		\$89,750
Total Gross Budget		\$987,246
Revenue		\$0
Net Balance		\$987,246
Cost per FTE (20 FTEs)		\$49,362
FTE Cost per Agency		
Agency	FTEs	Total Cost per Agency
FCSO	11	\$542,985
Central Dispatch	7	\$345,536
West City	2	\$98,725

As noted in the activity cost-sharing model, this model can be expanded to include additional participants (fire departments or municipal law enforcement agencies).

⁶⁶ One director, three supervisors (four would be required for 12-hour shifts), and 16 telecommunicators.

4.6.3 Initial Impact Costs

Besides recurring overhead and capital costs (facility and radio), each consolidation bears numerous one-time costs directly related to the initial consolidation, including but not limited to the following:

- Consoles/Furniture – moving and/or purchasing new
- Relocating equipment from existing ECCs to new
- Moving circuits and network modifications/reconfigurations, and CCTV feeds
- Preprogramming systems

The exact impact costs would be determined during implementation planning due to numerous factors and considerations, such as using internal staff versus outsourcing, vendor labor costs to relocate and reconfigure equipment/systems, and procurement of new equipment and furniture. If consoles are going to be purchased new, MCP recommends a placeholder of \$23,000–\$27,400 per position, which includes the chair. During the implementation planning phase, accurate budget estimates can be determined from vendors; however, in the meantime, high placeholders can be used for the facility budget.

4.6.4 Recurring Costs

Staff from the ECCs reported minimal recurring costs (unrelated to personnel and benefits).

Staff from the three ECCs noted that their telecommunicators are responsible for more than answering emergency calls and dispatching field responders. As noted, telecommunicators in each ECC have ancillary job duties. There may be additional recurring costs associated with reallocating or reassigning some ancillary duties that are currently performed by ECC staff or that cannot be handled remotely. MCP recommends that the municipalities re-assess the ancillary duties to determine alternative solutions and staff job responsibilities.

Impact costs will need to be factored into budgets in addition to replacing any positions that may need to be filled if consolidation was to occur. There may be technical solutions for some ancillary duties performed by telecommunicators today, and there may be opportunities to relocate some ancillary duties to a consolidated ECC (e.g., after-hours administrative call handling, warrants, and security camera monitor access).

4.6.5 Other Financial Impact Considerations and Opportunities

As noted, consolidation does not typically result in a cost reduction; however, it will provide cost efficiencies and other opportunities to improve service levels in the region. In the case of Franklin County, the agencies may see a slight increase to current operating costs, but stakeholders should consider the following opportunities:

- Wages are based on \$16.00 per hour entry-level
- A PSCD and optional operations manager position (or deputy director position) have been added to the hierarchy
- Salary gaps have been added to reduce compression issues (5% wage adjustment between the telecommunicator and supervisors position)
- The proposed consolidation model would provide the consolidated ECC with a total staffing pool of 16 telecommunicators and three working supervisors, which allows for a minimum of three on-duty 24 x 7

Consolidation would provide a minimum of 4 on duty 24 x 7

4.6.6 Recommendations

A successful consolidation requires the equitable division of initial consolidation costs and ongoing fees for services that are predictive of the expected workload of the three consolidating ECCs. MCP recommends the resource-based model because it is more stable than activity-based, which can fluctuate from year to year due to changes in calls for service.

4.7 Timeline

Given the information gained and the opinions shared with the project team during site visits and subsequent communications, it is highly advantageous for the County to consider a multi-year approach to consolidation involving shared services and personnel consolidation in a new or renovated facility and under an appropriate authority. Discussions regarding the future of radio communications should be held in parallel with any consolidation plans.

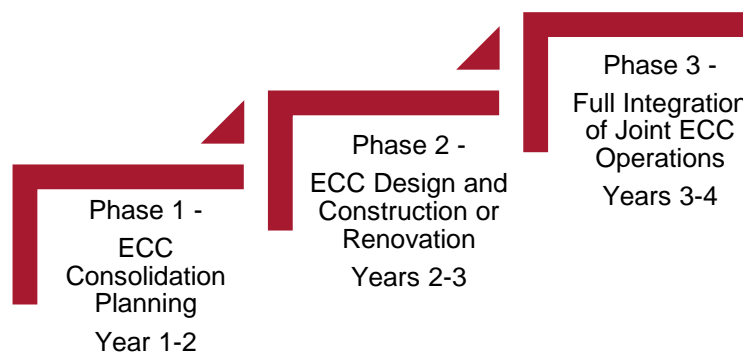


Figure 4: Phased Consolidation Timeline

A phased approach will allow the process to follow a natural transition in incremental steps that may allow trust to be built between the municipalities and the telecommunicators. This trust is integral to the overall success of the effort. The table shown in the section that follows provides a high-level overview of how the County can build upon that foundation and transform its public safety communications into the Franklin County Consolidated Emergency Communications Center (FCCECC).

4.8 Other Considerations

As noted in the findings section of this report, the FCJETS currently expends funds to support duplication of systems at both primary PSAPs. Because both PSAPs utilize the same CHE, CAD, and logging recording systems, virtual consolidation of technology could be a first step in improving the backup capabilities between FCSO and West Frankfort in conjunction with the statewide NG911 rollout.

Additionally, there is interest between Abbott EMS and Franklin County stakeholders for a potential consolidation. Clearly, there is a partnership between the primary provider of EMS in the county and the ECCs and agencies served. Although Abbott cannot change the CAD system they operate on, both sides may see significant value in expanding the County's partnership with Abbott EMS. There is a potential here to implement CAD-to-CAD so the two CAD systems can exchange information, which would improve situational awareness and eliminate call transfers.

Table 21: Franklin County Emergency Communications Evolution

Evolution Steps
Phase 1 – Planning (Years 1–2)
<p>Planning</p> <ul style="list-style-type: none"> • Develop a plan to assess consolidating radio frequencies. • Form a joint consolidation team comprised of staff and agency members with clear roles and responsibilities to provide guidance throughout the transition. • Develop a thoughtful and practical transition plan to consolidate all three ECCs into one facility. • Using the findings contained in this report, develop staffing plans for the FCCECC. • Leveraging the programs that are already in place, develop a thoughtful and practical training program to train staff. • Complete workforce integration and transition plan. • Develop workflows, policies, and standard operating procedures (SOPs) for the FCCECC.
Phase 2 – ECC Construction/Renovation (Years 2–3)
<p>ECC Design and Construction/Renovation</p> <ul style="list-style-type: none"> • Engage an architectural firm to determine a feasible location for construction or renovations and facility design based on consolidated operations and allowing for future growth. • Include identification of equipment/technology that will be transferred to the new facility from existing ECCs. • Identify systemization costs (e.g., phone lines, fiber optic connections other network costs). • Identify and procure new systems, technology, and furniture needed in a new facility. • Construct or renovate the facility.
Phase 3 – Full Physical Integration of ECC Operations (Years 3–4)
<p>Structure and Staff</p> <ul style="list-style-type: none"> • Leading up to the implementation of this phase, update the organizational structure, if needed, based on lessons learned. <p>Consolidation</p> <ul style="list-style-type: none"> • Make appropriate additions to the training curriculum in alignment with national and state standards to enable cross-training of existing staff members. • Adjust operational configuration to allow for cross-trained dispatchers to routinely dispatch across all disciplines.

Once there is agreement on the path forward, regardless of which path that may be, management must allow for impacted staff to have the operational support and training to perform and mitigate any lapse in service levels. When the proper time is not taken, many considerations for not only governance but also personnel management can be unintentionally missed.

One element of consolidation planning that is designed to help integrate employees who have not initiated a lateral move voluntarily but find themselves part of a new countywide organization is a transfer and integration plan. Establishing a transfer and integration plan within a full transition plan also will set guidelines to ease the

same process if there are more changes in the future. It is important that the most valuable resource—the people—know that HR-related items between the three ECCs, such as seniority, will be proactively addressed. Consistent, ongoing communication of the change plan with employees will minimize the stress associated with the consolidation. Establishing such a plan has, in other organizations, been demonstrated to provide the following benefits:

- Attract and retain talented communications staff (before, during, and after the transition)
- Align years of service for merging employees
- Promote higher levels of morale among employees because they know what to expect in consolidation efforts, know their concerns are being taken into consideration, and most importantly, know their experience is respected and valued
- Provide new opportunities for promotion or advancement as changes take place in the future

5 Conclusion

Dedicated communications staff at the three ECCs work so 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. Leadership desires a public safety communications system that provides reliable and consistent services to the community and field responders. Achieving this in a consolidated environment is a process and one that can be arduous and met with roadblocks.

The overall recommendations presented in this report lend themselves well to support the current activities and future 911 planning efforts in Franklin County. The identified recommendations can become the commitments and initiatives and the foundation for broader goals that meet the county's 911 needs holistically. MCP is prepared to support the County in furthering the planning process and developing an implementation plan.

Based on the findings and analysis of this study, the optimal solution to mitigate risk and improve the efficiencies and service levels of emergency communications in Franklin County is a full consolidation of the three ECCs. The same challenges that exist today will still exist if there is no consolidation or if only two ECCs consolidate versus all three. There are many areas where improvements will be beneficial, both immediately and for the long-term continued success of the organizations. These include an increased staffing pool, reducing the number of call transfers between the ECCs, and improving emergency response outcomes.

The first step in improving upon the current state is to identify areas of risk and translate them into opportunities. MCP is confident that public safety leadership in Franklin County can set goals and execute them for measurable results. The goals created should be visited often to provide reassurance the initiatives are, in fact, progressing towards the desired result. The County is positioned to make great strides to improve technology, personnel, and the overall service provided each day. As identified in this report, the key to this effort will be to develop a plan to consolidate the radio systems in use and appropriate funding for the renovation or construction of a consolidated ECC. MCP recommends further evaluation regarding the expansion of the Campbell Building to support a consolidated ECC as the first option—unless another suitable location can be identified soon.