



MissionCriticalPartners
Because the Mission Matters

Emergency Communications Center Operational Assessment Report

Final Report

PREPARED JANUARY 2019
FOR THE CITY OF CINCINNATI, OHIO

MissionCriticalPartners.com

Dallas Office | 502 N. Carroll Ave. Suite 120 | Southlake, TX 76092 | 888.8.MCP.911 or 888.862.7911

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Executive Summary

The City of Cincinnati (City) is very focused on customer service and desires to establish a plan to identify the staffing, policies and procedure enhancements, and leadership that it needs for today's 911 environment as well as to help prepare for the future environment that Next Generation 911 (NG911) will bring. The City retained Mission Critical Partners, LLC to provide a comprehensive organizational analysis to help document where the City's 911 program is today and to develop a holistic plan to move forward.

Mission Critical Partners' scope of work included data gathering, observing operations, and conducting one-on-one interviews with a sampling of employees to gain insight into operations. On June 26, 2018, Mission Critical Partners held a formal kick-off meeting with the City project team and spent the next two days on-site gathering information and conducting observations and interviews.

Emergency Communications Center (ECC) leadership expressed concern that all employees should be involved in examining the current issues and provided an opportunity to contribute toward the future of the ECC. Mission Critical Partners suggested an online survey to allow all employees an opportunity to provide feedback. A survey was prepared with input from ECC leadership; the survey was distributed to supervisors, call takers, dispatchers, and information technology (IT) staff on August 6, 2018.

On August 21, 2018, Mission Critical Partners conducted another full day of on-site meetings and interviews and observations with night shift staff.

Staffing

In 2017, more than 540,000 911 calls came into the Cincinnati ECC and CPD handled more than 698,000 incidents. Currently, Cincinnati ECC has an authorized strength of 50 call takers, 55 dispatchers, and seven teletype clerks, as well as other staff.

Mission Critical Partners recommends an authorized call taker strength of 52, which will allow 13 call takers per day shift, nine call takers per night shift, and eight call takers divided between two power shifts. During the busiest hours of the day, 14 call takers are needed to handle all incoming calls, dropping to 7 at other times. With the power shifts, Mission Critical Partners recommends a second power shift from 3:00 p.m. to 11:00 p.m. to assist with the evening hour call volume.

As Cincinnati ECC had nine call taker vacancies in early August, Mission Critical Partners recommends reaching authorized strength of 50 and re-evaluating the need for additional call takers. Often unplanned leave usage, particularly sick leave, drops when a center is fully staffed as morale improves, which could change staffing needs.

Based on the data, seven dispatch positions for the Cincinnati Police Department (CPD) are needed to handle the current incident volume. While there are eight police workstation positions, only five are dispatch positions. Mission Critical Partners recommends that Cincinnati ECC continue to track the incident volumes and parse the data by district. If at the end of 2018, incident volumes have increased,

Mission Critical Partners recommends that Cincinnati ECC, in concert with CPD, begin long-term planning to split the busiest district into two districts on two talkgroups. Mission Critical Partners recommends an increase of one dispatcher, for a total authorized strength of 56—for 14 dispatchers per shift.

When operating at full recommended strength, the ECC would have 50–52 call takers, 56 dispatchers, and 7 teletype clerks; a total of 113–115 people. Individual shifts may have 25 people or more. Mission Critical Partners recommends 12 supervisors assigned to the communications center: one supervisor and two assistant supervisors per shift. If after operating with three supervisors per shift, the need for a fourth supervisor can be articulated through workload and other statistical measures, Cincinnati ECC should consider adding a fourth supervisor to each shift. Mission Critical Partners cautions against becoming too “top” heavy when the actual need may not exist. Proper staffing is a balance between providing quality service at a reasonable personnel and financial cost.

Mission Critical Partners recommends Cincinnati ECC begin reviewing job descriptions and including anticipated NG911 responsibilities, such as text-to-911 roles that would require candidates to be able to interact with someone via two-way text messaging. In addition, telecommunicators currently experience stress that is related to events that they “witness” over the telephone and radio. The delivery of graphic images and video, if accepted, will lead to increased stress among 911 center staff. Consideration must be given to enhancing critical incident stress management (CISM) procedures for telecommunicators and call takers.

Quality Assurance

Mission Critical Partners recommends the development of a structured quality assurance/quality improvement (QA/QI) program with sufficient resources to support the program. A QA/QI program is an essential component of 911 communications that includes random reviews of calls for service and radio traffic to ensure compliance to internal standards and best practices. Based upon the recommended number of reviews for call takers and dispatchers, if all reviews are conducted in-house, Mission Critical Partners recommends four QA/QI specialists, one in a supervisory capacity if the need is determined. Cincinnati ECC could approach this incrementally, with three QA/QI specialists to begin, with an evaluation at the six-month mark to determine if a fourth person is warranted. This would be determined by the average number of reviews conducted by the QA/QI specialists weekly.

Hiring

In Cincinnati, the hiring process is lengthy, and may require being placed on a waiting list. One trainee recounted that the process took 16 months, with 11 months on a waiting list. Mission Critical Partners recommends that Cincinnati ECC track the areas where applicants are removed from the hiring process to determine if changes are needed, not to make the process easier, but to expediate it and make it more successful for qualified applicants.

Mission Critical Partners also has several suggestions for enhancing recruitment efforts.

- A truncated process should be in place for lateral hires, if one is not already.
- Consideration could be given to referral incentives. If a referral is hired, perhaps there is a financial reward or other perk, such as extra vacation days.
- Recruiting can also take place at national 911 industry conferences. Attendees at these conferences will already be “in the business.”
- Offering internship opportunities to high school seniors or students enrolled in technical institutions is another avenue that may be considered. This provides a realistic job preview and opens other recruitment arenas. This opportunity would provide greater exposure to the 911 industry for those already somewhat familiar.

Training

One of the comments Mission Critical Partners heard repeatedly during on-site interviews and through the online survey was the need to improve the training program, which was labeled as “disorganized,” “not consistent,” lacking “continuity,” “non-existent,” not well-documented, and “outdated.” Revised training was desired for new hires, training officers, and supervisors.

To ensure future success for the training program, Mission Critical Partners previously recommended the creation of an Instructional (Educational) Coordinator-type position to oversee all aspects of training, including the classroom training structure, development of lesson plans and course curricula, and trainee assignments. Mission Critical Partners understands that a position of this type has already been created and filled by the new ECC director.

Mission Critical Partners recommends that the training program undergo a comprehensive review by the Instructional Coordinator position, to include the training manual. Cincinnati ECC has a training manual that is in the process of being reviewed and updated. In Mission Critical Partners’ opinion, this action is sorely needed. In addition, development of lesson plans to include goals and objectives, as well as course curricula for new hires and continuing education is recommended.

Oversight/Leadership

The ECC was previously a section of CPD and was referred to as the Emergency Communications Section or ECS. In response to the Kyle Plush incident in April 2018, the ECS was transitioned to a civilian-managed department under the auspices of the City Manager’s Office; a change that occurred in June 2018. Mission Critical Partners supports this move. Mission Critical Partners recommends that ECC leadership work to engage staff and through the strategic planning process help build a unified vision for 911 in Cincinnati and the vital role communications plays in police, fire, and emergency medical services (EMS) response. 911 personnel help to ensure the safety of both the first responders and the public calling for help.

To ensure a successful transition and provide consistent leadership to staff going forward, Mission Critical Partners recommends that the interim 911 director stay in the position long enough to set up a leadership structure, create a strategic plan for the ECC, and update the standard operating procedures (SOPs).

Mission Critical Partners then recommends that Cincinnati establish a hiring committee to hold a nationwide search for a new 911 director for the stand-alone department with experience leading an organization the size of Cincinnati ECC and with forming strong working relationships with served agencies and represented unions.

Mission Critical Partners recommends that a center the size of Cincinnati have the following leadership: 911 director, deputy director, operations manager responsible for the floor, technology manager, training supervisor and QA supervisor. Within the City organizational structure, Mission Critical Partners strongly recommends the 911 director is on an equal level with the police chief and fire chief. All three department heads should have the same reporting structure to ensure that changes made within one department do not negatively impact the other two.

A unanimous opinion expressed by the staff on the floor was that the police sergeants provide valuable insight regarding police procedures and protocols. Mission Critical Partners recommends that the ECC work with CPD to maintain a police sergeant on each shift to serve as a liaison.

Governance

Mission Critical Partners recommends that the Cincinnati ECC establish a governance structure to ensure decisions are not made in a vacuum and to allow stakeholder input into operations and technology. Mission Critical Partners recommends an advisory board comprised, at minimum, of the police chief, the fire chief, and the deputy city manager. The advisory board should have input into the hiring process and subsequent job offer for a 911 director.

In addition, Mission Critical Partners recommends advisory subcommittees of operational stakeholders. These subcommittees should provide input on funding, SOPs, 911 center technology, and strategic plans. Mission Critical Partners recommends that the advisory subcommittees be composed of operational representatives, as appropriate, from police and fire/EMS, a federal partner, a civilian, an ECC call taker and a dispatcher, a liaison from the City Manager's office, and Hamilton County or Cincinnati Area GIS (CAGIS). The City and ECC have begun the process of developing advisory subcommittees and are to be commended for this action.

Conclusion

For the ECC to provide cohesive leadership, improve morale, and promote staff buy-in, it is imperative that a comprehensive strategic plan is created. A strategic plan aligns goals and objectives defined by stakeholders and translates those to tactical plans designed to achieve a common vision. Within the plan, Cincinnati ECC should identify the goals that will guide the ECC for the next three to five years, along with near-term one- to two-year objectives to achieve the goals. The plan, goals, and objectives should be shared with staff and progress communicated on a regular basis.

Cincinnati ECC has dedicated staff that are proud of the job they perform. As in any organization, there are strengths that must be capitalized on and weaknesses that must be addressed. The City has made a considerable investment in recent months to support 911 operations and is to be commended. That is just the beginning, however, the ECC will need to prioritize its goals and begin to address internal operations. Mission Critical Partners believes that the ECC can be successful in meeting the challenges that await.

1 Background

The City of Cincinnati (City) is very focused on customer service with a philosophy to provide all 911 callers with quality service in a manner that is courteous, responsive, accessible, and seamless. The City desires to establish a holistic picture to identify the staffing, policies and procedure enhancements, and leadership that it needs for today's 911 environment as well as to help prepare for the future environment that Next Generation 911 (NG911) will bring. The City retained Mission Critical Partners to provide a comprehensive organizational analysis to help document where the 911 program is today and to develop a holistic plan to move forward.

The Cincinnati Emergency Communications Center (ECC) was previously a section of the Cincinnati Police Department (CPD) and was referred to as the Emergency Communications Section (ECS). In response to the Kyle Plush incident in April 2018, the ECS was transitioned to a civilian-managed department under the auspices of the City Manager's Office; a change that occurred in June 2018. The ECC is comprised of call takers, police dispatchers, fire dispatchers, and teletype operators. Most of the employees are call takers and police dispatchers assigned to CPD. A CPD lieutenant colonel, captain, lieutenant, and sergeants were assigned to the ECS to oversee operations on the law enforcement side; most of these supervisory positions rotated every year or two. Day-to-day supervisory oversight was provided by a CPD sergeant. The fire/emergency medical services (EMS) call takers/dispatchers are assigned to the Cincinnati Fire Department (CFD). An assistant fire chief, district fire chief, and fire captain provide oversight for fire operations. Currently fire/EMS dispatch personnel remain under the reporting structure of CFD and no changes are recommended to this at this time.

The mission of Cincinnati ECC is:

.. to obtain, process and disseminate information with speed, accuracy, and professionalism for the citizen and public safety units of Cincinnati.

The value statement of the ECC is:

*We value human life and dignity.
We value respect and cooperation among co-workers.
We value compassion applied in balance with speed, accuracy, and professionalism.
We value professionalism as ethical, courteous, and technically competent behavior.*

The ECC has sixteen 911 and non-emergency call take positions, plus an additional call take position in the fire/EMS area; eight police dispatch positions; three fire/EMS dispatch positions; and two teletype positions. There are two civilian supervisors and one CPD sergeant assigned to each shift when fully staffed.

Cincinnati ECC provides enhanced 911 (E911) and wireless Phase I and Phase II services, receiving automatic number identification (ANI) and automatic location identification (ALI) information for all calls placed to 911. The ECC is in the process of deploying text-to-911 service.

2 Methodology

2.1 On-site Meetings

On June 26, 2018, Mission Critical Partners held a formal kick-off meeting with the City of Cincinnati project team. A kick-off meeting is the first step in moving a project from the initiation phase toward successful planning and execution, and presents an opportunity to introduce the high-level goals, project requirements, and key stakeholders assigned to the project. Mission Critical Partners acknowledges the dedication and contributions made by the City project team in developing and executing the team approach.

Mission Critical Partners' scope of work included data gathering, observing operations, and conducting one-on-one interviews with specific employees to gain insight into operations. From the data gathering phase, Mission Critical Partners would then provide assessments and recommendations to support and improve the efficiency of Cincinnati ECC.

Following the kick-off, Mission Critical Partners met with management personnel from Cincinnati ECC to ensure an understanding of its operations and any concerns or issues. Over the next two days, Mission Critical Partners made an effort to gather information and hear concerns by conducting on-site observations and interviews.

Mission Critical Partners also conducted an exit interview with ECC management. During this meeting it was clear that leadership believed that all employees should be involved in examining the current issues and provided an opportunity to contribute toward the future of the ECC. Mission Critical Partners suggested a survey to allow all employees to provide feedback.

On August 21 and 22, 2018, Mission Critical Partners conducted another full day and a half of on-site meetings and interviews and observations with night shift staff.

2.2 Employee Surveys

To gain in-depth insight of employees, all were invited to participate in an anonymous on-line survey. Draft questions pertaining to information and communication, work environment, learning and growth, management, job satisfaction, miscellaneous, and demographics were developed. The questions were then vetted with Cincinnati ECC leadership, before being compiled in an on-line survey tool, SurveyMonkey. The survey link was prepared and distributed to supervisors, call takers, dispatchers, and information technology (IT) staff on August 6, 2018.

A copy of the survey questions can be found in Appendix B – Employee Feedback Survey.

3 Standards and Accrediting Organizations

Throughout the country, communications centers 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 public and first responders.

Standards and best practices most often used in 911 communications centers are from the Association of Public-Safety Communications Officials-International (APCO) and the National Emergency Number Association (NENA). Also used often are National Fire Protection Association (NFPA) standards, specifically 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, and 1061, *Professional Qualifications for Public Safety Telecommunications Personnel*; and standards from the Commission on Accreditation for Law Enforcement Agencies (CALEA), particularly *Standards for Public Safety Communications Agencies*. NENA, APCO, and NFPA are each an American National Standards Institute (ANSI)-accredited standards development organization (SDO).

3.1 Standards Organizations

APCO “is the world’s oldest and largest organization of public safety communications professionals and supports the largest United States membership base of any public safety association. It serves the needs of public safety communications practitioners worldwide – and the welfare of the public as a whole – by providing complete expertise, professional development, technical assistance, advocacy and outreach.”¹ APCO has undertaken many projects over the years. Two notable projects are Project 25 (P25), the development of standards for digital telecommunications technology, and Project 33, development of a telecommunications training standard. In Project 33, APCO collaborated with NENA “to evaluate what type of standardized training programs (if any) each state had. The information gathered helped APCO build the foundation for the National Public Safety Telecommunicator Training Standard, which is the minimum standard used today.”²

NENA, a non-profit corporation, is dedicated to a “public made safer and more secure through universally-available state-of-the-art 9-1-1 systems and trained 911 professionals”³ NENA’s mission is to improve “9-1-1 through research, standards development, training, education, outreach, and advocacy.”⁴ NENA has several topic-specific committees that develop recommended 911 center model recommendations and/or standards and other operational information documents. NENA model recommendations/standards give 911 centers the tools needed to maintain a consistent level of service and work in relation to their peers in neighboring counties and states.

¹ “About APCO,” APCO International, 2017, <https://www.apcointl.org/about-apco.html>.

² “APCO Projects,” APCO International, 2017, <https://www.apcointl.org/about-apco/apco-projects.html>.

³ “NENA’s Mission,” National Emergency Number Association, <http://www.nena.org/?page=Mission>.

⁴ Ibid.

NENA 56-005, *Call Answering Standard/Model Recommendation*, states, “Ninety percent (90%) of all 9-1-1 calls arriving at the Public Safety Answering Point (PSAP) shall be answered within ten (10) seconds during the busy hour (the hour each day with the greatest call volume, as defined in the NENA Master Glossary 00-001). Ninety-five (95%) of all 9-1-1 calls should be answered within twenty (20) seconds.”⁵

Cincinnati ECC has adopted the NENA standard for call answering.

The NFPA has higher standards for call processing. The NFPA, also a non-profit organization, “delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy ...”⁶ The NFPA 1221, 2016 Edition, Section 7.4.1 states, “Ninety-five percent of alarms^[7] received on emergency lines shall be answered within 15 seconds, and 99 percent of alarms shall be answered within 40 seconds.”⁸

The NFPA further defines call processing times, which begin when the call is answered and end when dispatch starts. Section 7.4.2 states, “Apart from the call types identified in 7.4.2.2, 90 percent of emergency alarm processing shall be completed within 64 seconds, and 95 percent of alarm processing shall be completed within 106 seconds.”⁹

Section 7.4.2.2 states, “Emergency alarm processing for the following call types shall be completed within 90 seconds 90 percent of the time and within 120 seconds 99 percent of the time:

- (1) Calls requiring emergency medical dispatch questioning and pre-arrival medical instructions
- (2) Calls requiring language translation
- (3) Calls requiring the use of a TTY/TDD¹⁰ device or audio/video relay services
- (4) Calls of criminal activity that require information vital to emergency responder safety prior to dispatching units
- (5) Hazardous material incidents
- (6) Technical rescue
- (7) Calls that require determining the location of the alarm due to insufficient information
- (8) Calls received by text message”¹¹

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

⁵ “9-1-1 Call Answering Standard,” National Emergency Number Association,” June 10, 2006, <https://www.nena.org/?page=911CallAnswerStd>, page 8 of 12.

⁶ “NFPA Overview,” National Fire Protection Association, 2017, <http://www.nfpa.org/about-nfpa/nfpa-overview>.

⁷ NFPA 1221 defines an alarm as “a signal or message from a person or device indicating the existence of an emergency or other situation that requires action by an emergency response agency.”

⁸ “NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems,” National Fire Protection Association, 2016.

⁹ Ibid.

¹⁰ Teletypewriter/Telecommunications Device for the Deaf

¹¹ Ibid.

3.2 Accrediting Organizations

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

CALEA, a “credentialing authority through the joint efforts of law enforcement’s major executive associations”¹² accredits law enforcement agencies and 911 communications centers. CALEA’s “accreditation program provides public safety agencies an opportunity to voluntarily demonstrate that they meet an established set of professional standards which require:

- Comprehensive and uniform written directives that clearly define authority, performance, and responsibilities
- Reports and analyses to make fact-based and informed management decisions.
- Preparedness to address natural or man-made critical incidents
- Community relationship-building and maintenance
- Independent review by subject matter experts
- Continuous pursuit of excellence through annual reviews and other assessment measures¹³

CALEA standards define what needs to be done, not how agencies are to accomplish it.

Currently neither the CPD nor Cincinnati ECC is not CALEA-accredited.

CALEA accreditation for law enforcement requires active participation from the respective communications center serving the agency as there is an entire chapter (Chapter 81) dedicated to communications.

81.1 Administration	81.2.9 Local/State/Federal CJI Systems
81.1.1 Agreements, Shared/Regional Facility	81.2.10 Alternative Methods of Communication
81.1.2 Operations Meet FCC Requirements	81.2.11 Emergency Messages
81.2 Operations	81.2.12 Misdirected Emergency Calls
81.2.1 24 Hour, Toll-Free Service	81.2.13 Private Security Alarms
81.2.2 Continuous, Two-Way Capability	81.2.14 First Aid Over Phone
81.2.3 Recording Information	81.3 Facilities and Equipment
81.2.4 Radio Communications Procedures	81.3.1 Communications Center Security
81.2.5 Access to Resources	81.3.2 Alternate Power Source
81.2.6 Victim/Witness Calls	81.3.3 Telephone System
81.2.7 Victim/Witness Requests for Information	

¹² “About Us,” CALEA, <http://www.calea.org/>.

¹³ “What is Accreditation,” CALEA. <http://www.calea.org/what-accreditation>.

81.2.8 Recording and Playback

81.3.4 Mobile/Portable Radios

When the law enforcement agency is assessed for accreditation, the communications center is also assessed to ensure that the areas detailed above are in compliance with the respective standard. While compliance may be observed for many of the listed standards, others require a written directive or SOP.

The Commission on Fire Accreditation International (CFAI) administers the Center for Public Safety Excellence's (CPSE's) accreditation program for fire and emergency service organizations. The mission of the CPSE, a non-profit corporation, is "to lead the fire and emergency service to excellence through the continuous quality improvement process of accreditation, credentialing, and education."¹⁴ The CFAI has noted that their accreditation process provides a well-defined benchmark system to measure the quality of fire and emergency services.

While currently CFD is not accredited, if it were, Cincinnati ECC would have to adhere to the call answering and call processing standards established in NFPA 1221.

However, the Insurance Services Office (ISO) Fire Suppression Rating Schedule (FSRS) evaluates four primary categories of fire suppression: fire department, emergency communications, water supply, and community risk reduction. The FSRS "measures the major elements of a community's fire protection system and develops a numerical grading called a Public Protection Classification¹⁵ (PPC®)."¹⁶ Ten points are available for emergency communications.

Emergency reporting: ISO will credit basic 9-1-1 or Enhanced 9-1-1. Other items evaluated include E9-1-1 wireless, VoIP, and CAD.	3 points
Telecommunicators: ISO credits the performance of the telecommunicators in accordance with the general criteria of NFPA 1221, <i>Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems</i> . We also credit emergency dispatch protocols and the telecommunicators' training and certification programs.	4 points
Dispatch circuits: ISO credits the number and type of dispatch circuits in accordance with the general criteria in NFPA 1221.	3 points ¹⁷

¹⁴ "CPSE Overview," Center for Public Safety Excellence, 2018, <https://cpse.org/cpse-overview/>

¹⁵ PPC "is the countrywide classification system used by the Insurance Services Office (ISO) to reflect a community's local fire protection for property insurance rating purposes. The public fire protection of a city, town or area is graded using ISO's Fire Suppression Rating Schedule to develop the community's classification." <http://www.tdi.texas.gov/fire/fmppcfaq.html>.

¹⁶ "Items Considered in the FSRS," ISO Mitigation, 2018, <https://www.isomitigation.com/ppc/fsrs/items-considered-in-the-fsrs/>.

¹⁷ Ibid.

The ISO notes:

We base our evaluations on nationally recognized standards developed by the Association of Public-Safety Communication Officials International (APCO) and the National Emergency Number Association (NENA). ISO works very closely with APCO, NENA, the National Fire Protection Association (NFPA), county coordinators, directors, and staff at the communications centers we survey. We've found that the most critical factor in responding to emergencies is telecommunicators. Having a sufficient number of well-trained telecommunicators can make all the difference when responding to an emergency, and our evaluation gives this component the weight it deserves.¹⁸

Thus, fire department accreditation and ISO ratings rely on compliance of communications centers, such as Cincinnati ECC, and the points awarded, respectively.

The Commission on Accreditation of Ambulance Services (CAAS) is the accrediting body for ambulance services. CAAS is an independent commission that “established a comprehensive series of standards for the ambulance service industry.”¹⁹ The CAAS standards are designed to help increase operational efficiency and decrease risk and liability across the entire spectrum of the organization, often exceeding standards established at the local or state level. While CAAS does not accredit communications centers, Section 204 of the standards addresses communications centers, stating, “[e]fficient call taking, effective resource deployment, and continuous communications capabilities are required to maintain an effective EMS agency.”²⁰ There are seven applicable areas:

- 204.01 Policies and Procedures
- 204.02 Contingency Plans
- 204.03 Preventive Maintenance
- 204.04 Training
- 204.05 Licensure
- 204.06 Communications Inter-Agency Dialogue
- 204.07 Communications Performance Improvement

The International Academies of Emergency Dispatch (IAED) “is a non-profit standard-setting organization promoting safe and effective emergency dispatch services world-wide. Comprising three allied Academies for medical, fire, and police dispatching, the IAED supports first responder-related research, unified protocol application, legislation for emergency call center regulation, and strengthening the emergency dispatch community through education, certification, and accreditation.”²¹

¹⁸ “Emergency Communications,” ISO Mitigation, 2018, <https://www.isomitigation.com/emergency-communications/>.

¹⁹ “About CAAS,” Commission on Accreditation of Ambulance Services, 2017, <http://www.caas.org/about/>.

²⁰ “Standard Summaries,” Commission on Accreditation of Ambulance Services, 2017, <http://www.caas.org/caas-standards/content-summaries>.

²¹ “Welcome to the Academy,” International Academies of Emergency Dispatch, <http://www.emergencydispatch.org/>.

Entities that utilize the IAED's internally recognized protocols can apply to become an Accredited Center for Excellence (ACE).

3.3 Protocols

The IAED defines a protocol as "a highly-defined procedure placed into a reference system...designed to lead the calltaker through a predictable, repeatable, and verifiable process for a specific situation."²² "Protocols have become an integral part of modern day, emergency dispatch operations. Protocols reduce variance, ensure a continuity of care, reduce liability, standardize response decisions, and provide a basis for performance measurement and quality improvement efforts."²³

Cincinnati ECC does not utilize IAED's protocols but does use an EMD program from the APCO Institute. APCO's EMD program "is based on the *NHTSA National Standard Curriculum for EMD* and incorporates all of the current ASTM International guidelines in a comprehensive EMD Package."²⁴

APCO further advises that its EMD "is a systematic program of handling medical calls for assistance. Trained telecommunicators, using locally-approved EMD Guidecards, can quickly and properly determine the nature and priority of the call, dispatch the appropriate response and then give the caller instructions to help treat the patient until the responding EMS unit arrives."

While Cincinnati ECC developed in-house call processing guidelines that provides the nature, response, and questions to be asked for many police and fire calls, there is little consistency between call takers. Commercially-available structured protocol systems for fire and police will likely provide a higher degree of liability protection and ensure consistency from call taker to call taker. The adoption of structured protocols for fire and police call processing, along with sound quality assurance (QA) practices, ensure the highest level of care and practice for the citizens of Cincinnati, but also for all first responders.

4 Operational Structure and Configuration

4.1 Organizational Structure

The Cincinnati ECC was previously a section of CPD and was referred to as the ECS. A CPD lieutenant colonel, captain, lieutenant, and sergeants were assigned to the ECS to oversee operations on the law enforcement side. An assistant fire chief, district fire chief, and fire captain provide oversight for fire

²² The National Academies of Emergency Dispatch® (2011) *Emergency Telecommunicator Course Manual*, Edition 3. Salt Lake City, Utah: Priority Press.

²³ "Protocol Use in Emergency Dispatch: An Evolving Standard of Care," 9-1-1 Magazine.com, May 13, 2011, <http://dispatchingdiscussions.blogspot.com/2013/05/protocol-use-in-emergency-dispatch.html>.

²⁴ "Emergency Medical Dispatch Program," Association of Public-Safety Communications Officials-International, 2018, <https://www.apcointl.org/training-and-certification/disciplines/emergency-medical-dispatch-emd/emergency-medical-dispatch-services/>.

operations. In June 2018, law enforcement operations of the ECS transitioned to a civilian-managed department under the auspices of the City Manager's Office. The fire/EMS dispatchers are assigned to CFD and continue to report in that chain of command.

The ECC is currently overseen by a Special Projects Manager, who reports to the City Manager. Cincinnati ECC essentially has two support arms and an operations arm, with various levels of leadership supporting the Special Projects Manager in daily operations. The support side consists of staff for training, technology and radio communications. Within the operations side, Cincinnati ECC has three distinct areas: 911 call take, law enforcement dispatch, and fire/EMS dispatch.²⁵

Cincinnati ECC has an authorized strength of 137 full-time employees:

- Supervisors – 13
- Police Dispatchers – 55
- Call Takers – 50
- Clerk IIs (TTY) – 7
- Clerk IIIs (Admin) – 4
- Computer Systems Analyst – 1
- Senior Computer/Programming Analysts – 4
- Computer/Programming Analyst – 1
- Management Analyst – 1
- Administrative Technician – 1

Of these positions, 116 are assigned to the 911 center itself: 11 supervisors and 105 call takers and police dispatchers. As of August 8, 2018, there were 10 police dispatcher vacancies and 10 call taker vacancies.

CFD has an authorized strength of four civilian supervisors and 14 fire/EMS dispatchers.

Figure 1 depicts the current organizational structure, provided by the ECC, which does not include the CFD positions.

²⁵ While fire/EMS dispatch shares space within the communications center, operationally the fire/EMS dispatchers are employees of CFD. Authorized strength is representative of 911, police dispatch, and support personnel.

**CITY OF CINCINNATI
EMERGENCY COMMUNICATIONS CENTER
ORGANIZATIONAL CHART**
Revision 12/5/18

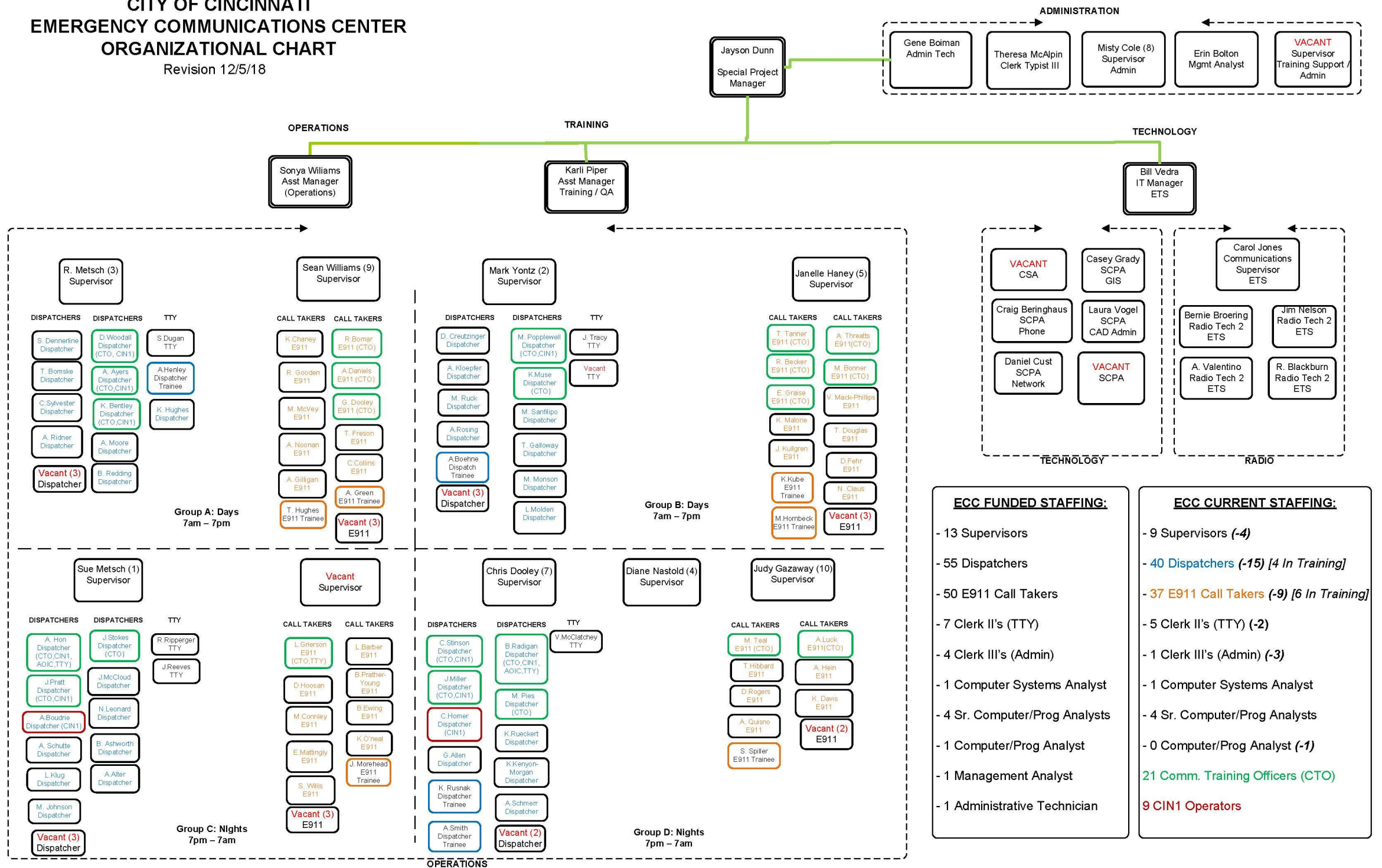


Figure 1: Cincinnati ECC Organizational Chart

4.2 Operational Layout

Cincinnati's primary PSAP is located on Radcliff Drive. The facility is modern with an operational floor that is sizable and functional. Other space within the building houses offices and support areas for 911 center management and ancillary staff, police department and fire department support staff, and 911 IT staff.

The operational floor is divided into four distinct areas: call taking, police dispatch, fire/EMS dispatch, and teletype (a data division that includes entry of wanted persons, guns and stolen vehicles into national and local databases). The operational floor has an elevated supervisory area that overlooks the room.

Cincinnati ECC currently has sixteen 911 and non-emergency call take positions, plus an additional call take position in the fire/EMS area; eight police dispatch positions; three fire/EMS dispatch positions; and two teletype positions. The supervisory area is large and can comfortably accommodate three supervisors.

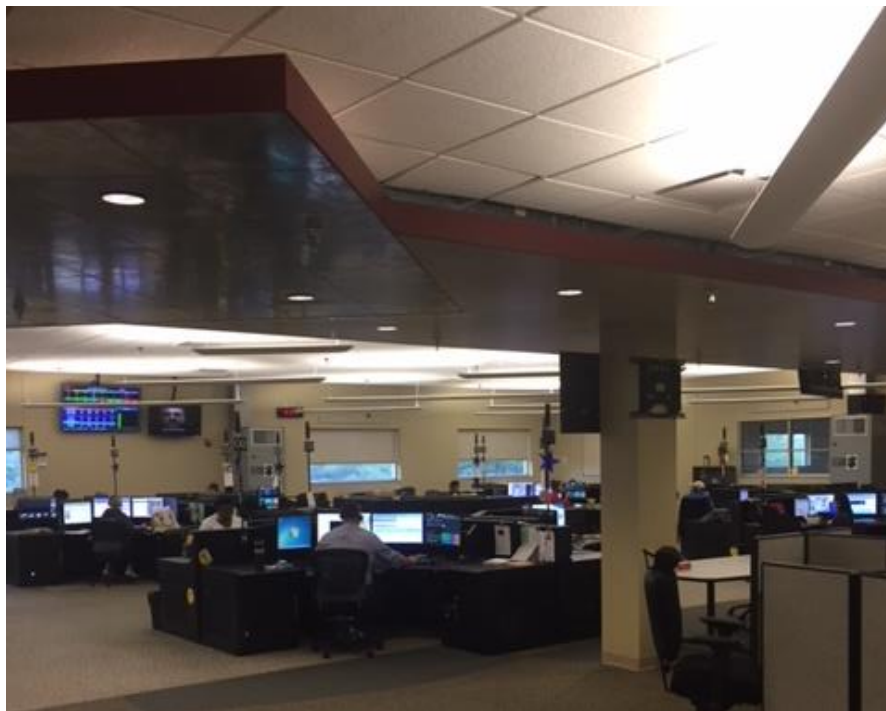


Figure 2: View of Police Dispatch Area at Primary Center

Within the operational area is a room designed to allow Cincinnati police personnel to monitor 911 call information, City camera systems, and investigatory reports, to name a few. This room is off-limits to Cincinnati ECC staff; the windows have been covered to hinder attempts by ECC personnel to view the work area.



Figure 3: Police Monitoring Center

While it is understandable that some police investigations must remain confidential, the majority of interaction between 911 and police staff should be seamless. The 911 staff is integral in police and fire incidents and should be trusted to be a part of the system. Mission Critical Partners believes that this room, being within the communications center should be accessible to dispatch staff when needed and the barrier of a paper shield should be removed. This would instill trust on both sides of the room and allow for dissemination of information without hesitancy.

4.3 Operational Configuration

The Cincinnati ECC operates four 12-hour shifts that are responsible for coverage 24 hours a day, 7 days a week, 365 days a year (24/7/365). Day shift is 0700–1900 (7:00 a.m. to 7:00 p.m.) and night shift is 1900–0700 (7:00 p.m. to 7:00 a.m.). The staff work two days on, two days off; three days on, two days off; two days on, three days off. Every other weekend is a 3-day weekend. In a 2-week period, staff work 36 hours during the first week (three days), and then 44 hours during the second week (three days and one 8-hour short day) or vice versa. An 8-hour power shift works from 1100–1900 (11:00 a.m. to 7:00 p.m.).

As of August 2018, staffing is as follows:

Day Shift	Night Shift	Power Shift
Call Takers – 17 Operator Dispatchers – 20 Assistant Operator Dispatchers – 2	Call Takers – 18 Operator Dispatchers – 19 Assistant Operator Dispatchers – 4	5 Call Takers

Minimum staffing for fire/EMS dispatch is one supervisor and two dispatchers.

Cincinnati ECC operates in a horizontal dispatch configuration; that is, there is a division of responsibilities between the call take and dispatch functions. In a vertical configuration, staff handles a call from beginning to end, and at the same time is responsible for dispatching first responders and monitoring radio traffic. As noted previously, there are sixteen 911 and non-emergency call take positions, plus an additional call take position in the fire/EMS area; eight police positions; three fire/EMS positions; and two teletype positions.

The eight police positions are broken down as follows:

- District 1 (downtown)
- District 2 (far east)
- District 3 (far west)
- District 4 (central [east])
- District 5 (central [west])
- Events
- CIN1
- Inquiry

Cincinnati ECC answers 911 calls for the city, as well as many non-emergency calls from citizens and administrative calls for CPD. One call take position, PC01, is dedicated to call backs for field responders. Police officers request a call back through their respective dispatcher, who in turn notifies the call back position via messaging in attempts to locate complainants or other citizens.

According to data provided by Cincinnati ECC, it takes 911 call takers, on average, 2 minutes 12 seconds to process a 911 call (pickup to release), and approximately 2 minutes 17 seconds to process an administrative (non-emergency) call.

In 2017, more than 540,000 911 calls came into the Cincinnati ECC. Wireless calls accounted for almost 70 percent of these calls, followed by abandoned calls. Table 1 depicts the breakdown of calls for 2017 and Table 2 depicts the call volume from 2015 to 2017.

Table 1: 2017 Call Volume

	Day Shift	Percentage of Subtotal	Night Shift	Percentage of Subtotal	Totals	Percentages (Subtotal)
Wireline Calls	23,618	7.01%	11,561	5.63%	35,179	6.49%
Wireless Calls	225,313	66.91%	153,796	74.87%	379,109	69.93%
Other	12	0.00%	2	0.00%	14	0.00%
Abandoned Calls	74,480	22.12%	32,181	15.67%	106,661	19.67%
VoIP Calls	13,326	3.96%	7,871	3.83%	21,197	3.91%
Subtotal	336,749		205,411		542,160	100%
	↓	Percentage of Total	↓	Percentage of Total	↓	Percentages (Total)
911 Calls	336,749	56.01%	205,411	57.19%	542,160	56.45%
7-/10-digit Calls	161,693	26.90%	83,302	23.19%	244,995	25.51%
Outbound Calls	102,742	17.09%	70,472	19.62%	173,214	18.04%
TOTAL	601,184		359,185		960,369	100%

Table 2: 2015-2017 Call Volume by Year

	2015	2016	Percent Change	2017	Percent Change
Wireline Calls	40,541	37,618	-7.21%	35,179	-6.48%
Wireless Calls	417,860	400,907	-4.06%	379,109	-5.44%
Other	5,378	32	-99.40%	14	-56.25%
Abandoned Calls	73,673	89,611	21.63%	106,661	19.03%
VoIP Calls	18,176	19,894	9.45%	21,197	6.55%
Subtotal	555,628	548,062	-1.36%	542,160	-1.08%
7-/10-digit Calls	241,987	240,963	-0.41%	244,995	1.67%
Outbound Calls	184,422	174,905	-5.16%	173,214	-0.97%
TOTAL	982,037	963,930	-1.84%	960,369	-0.37%

Table 3 depicts the incident volume from 2015 to 2017.

Table 3: 2017 Incident Volume

	2015	2016	Percent Change	2017	Percent Change
Police Incidents	621,723	621,884	0.03%	698,221 ²⁶	12.28%
Fire/EMS Incidents	80,214	80,773	0.70%	86,375 ²⁷	6.94%

²⁶ In addition to the active incidents. Another 340,886 incidents were entered that did not require dispatch, such as advised incidents, repossessions, transfers, etc., but were representative of workloads.

²⁷ This represents incidents sent to fire/EMS as an active incident; however, not all incidents require dispatch. In 2017, total incidents dispatched was 78,811.

The five police districts and the Inquiry position must be staffed 24/7. Districts 3, 4, and 5 are reported to be the busiest.

Staff assigned to the Inquiry position handle general inquiries from field responders, as well as tow rotations. The tow rotations require an entry into the computer aided dispatch (CAD) system as well as a manual process with cards. The inquiry position has a portable radio if officers need to run driver's license, registration queries, or warrant checks. The Inquiry position often serves as relief for the dispatch positions.

Mission Critical Partners recommends Cincinnati ECC consider transitioning call backs requested by police officers from PC01, a call take position, to the Inquiry position.²⁸ Mission Critical Partners heard from numerous telecommunicators that officers often do not attempt to locate a complainant before requesting a call back. The relay of a call back request creates extra work for the dispatchers. Often by the time the call back position makes contact, the officer has already made contact with the complainant, but the call taker was not made aware.

CIN1 is a position in the teletype area. Staff assigned to teletype are responsible for all entries into National Crime Information Center (NCIC) databases for CPD. The processes for entry were antiquated, requiring a hand-written entry, typing the information on a card, and then passing to the person at CIN1 for entry, and only recently changed. Currently only dispatchers are eligible for teletype positions due to the pay level.

Two fire/EMS dispatch positions must be staffed 24/7. One serves as a tactical position when necessary.

5 Staffing Analysis

5.1 Methodology

Communications centers across the country continue to struggle with staffing shortages. Tenured employees are retiring; others just leave for any number of reasons – shift work, the hours, child care issues, stress, and better pay in the private sector. While generally there is not a lack of applicants for open positions, the often-stringent job qualifications (i.e., background checks, drug testing) eliminate many applicants as do the lengthy application processes; it is not unusual for many law enforcement communications centers to have processes that take upwards of six months from application to start date. Thus, communications centers often find themselves with a revolving door for staff; unfortunately, many are not able to fill the vacancies before more staff leave, creating an even larger gap.

Mission Critical Partners' staffing analysis involves a multimodal approach that considers workload, coverage of necessary operational positions, and performance metrics. Statistical calculations are

²⁸ This may not be possible until the ECC is operating at full strength due to the Inquiry position serving as relief.

balanced with operational logistics to identify how many personnel are needed for a PSAP to achieve its performance goals while providing efficient and effective service. Cincinnati ECC provided statistical incident, call volume, and personnel data for review.

Mission Critical Partners uses NENA's staffing tool in concert with Erlang C calculations to assist in projecting the number of PSAP telecommunicators (call takers, dispatchers, and supervisors) required to efficiently answer and dispatch emergency and non-emergency calls for law enforcement, fire, and EMS agencies. NENA's staffing tool is a formalized system that considers call volume and other PSAP-specific data, such as incident volume and employee leave, to calculate baseline staffing needs. Mission Critical Partners analyzes the resulting data with a respective center's operational configuration to determine staffing requirements.

Many factors play a role in determining appropriate staffing levels, including available work hours, utilization, and attrition rates. Available work hours are the number of hours a telecommunicator (call takers and dispatchers) is available to work during the course of a year. There are many sub-factors to this calculation, including leave usage; i.e., any time that the employee is away from their assigned duties. This time includes vacation, holiday, sick, and personal leave; training; military leave; and other activities.

In 2017, 91 Cincinnati ECC full-time telecommunicators used slightly over 31,300 hours of leave; approximately 344 hours per person.²⁹ Based on a 12-hour day, this equates to 28 days of leave per person. (Based on an 8-hour day, this would be 43 days of leave.) This does not imply that each person used this amount of respective leave; some may have used less, some may have used more. According to an August 2013 U.S. Bureau of Labor Statistics publication, the average number of paid leave days for 5 years of service in the private industry is 30; 10 years is 34 days, while 20 years is 38 days.³⁰ The assumption is made that the private industry generally works five 8-hour days for 40 hours a week.

Utilization is a subjective number, designed to provide an estimate of the time per shift that a telecommunicator should be busy providing call handling and dispatching services.³¹ Breaks and meals are subtracted from the shift length, as is time spent doing other work-related activities, such as filing paperwork or decompressing after a stressful incident. In Cincinnati ECC, 911 call takers and dispatchers are allotted two 15-minute breaks and one 30-minute break. Cincinnati ECC's utilization rate is 87 percent.

Attrition is also calculated. Data was collected for three years and includes the highest number of employees for a given year and the number of staff that left voluntarily or involuntarily. The result is the attrition rate. The national average for recent years is estimated to be approximately 13 percent; however, Mission Critical Partners is aware of several centers whose attrition rate has been higher than 15 percent,

²⁹ Statistical leave data is representative of 911 and police dispatch, not CFD.

³⁰ "Paid leave in private industry over the past 20 years," Bureau of Labor Statistics, August 2013, <http://www.bls.gov/opub/btn/volume-2/paid-leave-in-private-industry-over-the-past-20-years.htm>.

³¹ Utilization should not be confused with agent occupancy. Utilization is the total time an employee is at work and able to do their respective tasks, such as call take and dispatch. (This would not occur on breaks, for example.) Occupancy is the actual time at work busy on assigned tasks. This link (<http://www.thinkhdi.com/~media/HDICorp/Files/Library-Archive/Insider%20Articles/agent-occupancy.pdf>) provides good information.

and some upwards of 25 percent. APCO RETAINS Retention report does not have a current turnover rate, reporting 2009 data as its latest reference. In its report, APCO RETAINS identifies the national turnover rate at 17 percent for 2005 and 19 percent for 2009.³² Between 2015 and 2017, Cincinnati ECC's average attrition rate was 21.51 percent. The attrition was highest in 2016, at over 26 percent. In the last five years, 60 telecommunicators have left Cincinnati ECC, with an additional 27 new hires failing to complete training or the probationary period. It is staggering to think that the equivalent of half of one's total workforce has turned over in five years. Retention is not just a problem seen in Cincinnati; it is a crisis in many communications centers across the country.

Staffing calculations also must consider performance metrics. Performance metrics measure the operational efficiency of a PSAP with targeted goals and established standards. Mission Critical Partners uses performance metrics and national standards to ascertain how staffing may be positively or negatively affecting PSAP operations.

The most common metric involves the average time it takes a PSAP to answer its incoming emergency calls. PSAPs typically try to align their call answering goals to either NENA³³ or NFPA³⁴ standards. Cincinnati ECC has adopted the NENA standard—90 percent of all 911 calls answered within ten seconds. In May 2017, the busiest month of the year, only 33 percent of 911 calls were answered within ten seconds. In July 2018, 95 percent of 911 calls were answered within ten seconds.

Another metric is the abandoned call rate. An abandoned call is defined by NENA as “[a] call placed to 9-1-1 in which the caller disconnects before the call can be answered by the Public Safety Answering Point (PSAP) attendant.”³⁵ Every center will experience abandoned calls; the goal is to keep them as low as possible. There are many reasons for abandoned calls, including those who realized they have misdialed. When staff members are on another line, incoming calls cannot be answered right away. Regardless of the reason, this creates additional work as staff must try to re-establish contact with the caller to determine if there is an actual emergency. There is no industry metric for a “normal” number of abandoned calls. In Mission Critical Partners' experience, an abandoned call rate of 8 percent or less is ideal and attainable when a center is appropriately staffed. MetricNet, a performance benchmarking company in McLean, Virginia, for IT and call centers, suggests an abandoned call rate of 4 percent to 7 percent³⁶; while their focus is on the service industry, not the 911 industry, there is a correlation between the two. Both industries are answering calls from the public in response to their stated mission or objective. Over the last three years, Cincinnati ECC's abandoned call rate has risen from 13.26 percent to 16.35 percent to 19.67 percent most recently. In 2017, over 106,000 calls were abandoned.

³² According to the APCO RETAINS Retention document, the comparison rates were derived from Project RETAINS Study I and the RETAINS Next Generation Study.

³³ NENA: 90 percent of 9-1-1 calls answered within 10 seconds during the busy hour and 95 percent 9-1-1 calls answered within 20 seconds.

³⁴ NFPA: 95 percent answered within 15 seconds and 99 percent answered within 40 seconds.

³⁵ “Abandoned Call,” NENA Master Glossary of 9-1-1 Terminology, National Emergency Number Association, April 13, 2018, pg. 19 of 241. https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/NENA-ADM-000.22-2018_FINAL_2.pdf.

³⁶ “Call Abandonment Rate,” MetricNet, May 23, 2012, <http://www.metricnet.com/call-abandonment-rate>.

The value of any resulting staff projections is dependent upon the accuracy of the data and statistics provided by the PSAP. Cincinnati ECC did its best to provide the requested data.

5.2 Staffing

As noted previously, 15 supervisors (11 for call take/police dispatch and 4 for fire/EMS dispatch), 50 call takers, 55 police dispatchers, and 14 fire/EMS dispatchers are assigned to the 911 center. The staffing portion that follows addresses the call take, dispatch, and supervisory needs within the center itself based on the statistical data provided by Cincinnati ECC support staff.

5.2.1 Call Takers

Call takers' primary responsibilities are answering emergency and non-emergency calls for service or information and handling a respective call per established guidelines. This activity requires call takers to be knowledgeable of police, fire, and EMS incident types.

As noted earlier, in 2017, 911 call takers processed the following:

	911	Administrative Calls	Totals
2017	435,499	244,995	680,494

Abandoned and outbound calls added 106,661 and 173,214 calls to the workload, respectively.

To determine the staffing needed to handle the incoming call volume, calls can be parsed by the hour of the day and evaluated with Erlang C calculations. The average incoming 911 calls per hour are derived from 2017 data.

The goal is to answer 90 percent of all 911 calls within ten seconds. The average processing time is 2 minutes 12 seconds (132 seconds), with a 5 second wrap-up time.

Table 4: 911 Call Handling – Busy Month

Average Handling Time(s)	137 seconds	
Reporting Period	60 minutes	
Required service level	90.00%	
Target answer time (secs)	10 seconds	
Shrinkage	0%	28%

Hour of Day	Incoming 911 Calls May 2017	Call Takers Needed	With Shrinkage
0:00	45	4	6
1:00	33	4	6
2:00	28	3	4
3:00	21	3	4
4:00	19	3	4
5:00	17	3	4
6:00	23	3	4
7:00	33	4	6
8:00	41	4	6
9:00	51	5	7
10:00	61	5	7
11:00	63	5	7
12:00	65	6	8
13:00	76	6	8
14:00	81	6	8
15:00	86	7	10
16:00	89	7	10
17:00	90	7	10
18:00	95	7	10
19:00	77	6	8
20:00	75	6	8
21:00	72	6	8
22:00	70	6	8
23:00	54	5	7

The data indicates that during the hours of 3:00 p.m. and 7:00 p.m. in May 2017, the busiest month, seven call takers were continuously needed to answer incoming 911 calls to meet the NENA standard. Shrinkage, which is measurement of anything that takes a call taker away from their job, such as leave and meal breaks, indicates that 10 people are required. For Cincinnati ECC, the true availability for telecommunicators is 72 percent. This figure is calculated by the hours available to work, less leave time, meals and breaks, and other time away from the job (shrinkage). Thus, the shrinkage for the ECC is 28 percent.

In a slower month, November 2017, the busy hours remained the same, but six call takers were continuously needed, eight with shrinkage, as evidenced in Table 5 below.

Table 5: 911 Call Handling – Slow Month

Average Handling Time(s)	137 seconds	
Reporting Period	60 minutes	
Required service level	90.00%	
Target answer time (secs)	10 seconds	
Shrinkage	0%	28%

Hour of Day	Incoming 911 Calls November 2017	Call Takers Needed	With Shrinkage
0:00	32	4	6
1:00	27	3	4
2:00	26	3	4
3:00	20	3	4
4:00	16	3	4
5:00	15	3	4
6:00	21	3	4
7:00	31	4	6
8:00	36	4	6
9:00	43	4	6
10:00	49	5	7
11:00	51	5	7
12:00	55	5	7
13:00	61	5	7
14:00	63	5	7
15:00	65	6	8
16:00	68	6	8
17:00	71	6	8
18:00	73	6	8
19:00	57	5	7
20:00	57	5	7
21:00	53	5	7
22:00	45	4	6
23:00	38	4	6

The same premise can be applied to non-emergency or administrative calls, but the parameters change as there is not a need to answer these calls with the same level of service. The parameters can be determined by the agency, but Mission Critical Partners believes 75 percent of administrative calls should be answered within one minute.

Table 6: Administrative Call Handling

Average Handling Time(s)	142 seconds	
Reporting Period	60 minutes	
Required service level	75.00%	
Target answer time (secs)	60 seconds	
Shrinkage	0%	28%

Hour of Day	Incoming Administrative Calls May 2017	Call Takers Needed	With Shrinkage
0:00	19	2	3
1:00	14	2	3
2:00	11	2	3
3:00	9	2	3
4:00	10	2	3
5:00	9	2	3
6:00	17	2	3
7:00	26	2	3
8:00	34	3	4
9:00	36	3	4
10:00	41	3	4
11:00	41	3	4
12:00	40	3	4
13:00	45	3	4
14:00	45	3	4
15:00	47	3	4
16:00	46	3	4
17:00	43	3	4
18:00	45	3	4
19:00	37	3	4
20:00	36	3	4
21:00	31	3	4
22:00	31	3	4
23:00	27	2	3

At the busiest hours, three call takers are needed to answer non-emergency/administrative calls. When applying the shrinkage factor of 28 percent, the hours when three call takers are needed increases to four to handle administrative calls.

When combined with the 911 call data, this would imply that 14 call takers (with shrinkage) are needed during the busiest hours of the day to handle all incoming calls, dropping to 7 at other times.

Staffing requirements fluctuate based on the hour of the day and the month of the year. Unfortunately, busy hours, days, and even months can fluctuate as well. Thus, attempting to maintain a consistent shift strength is often prudent for larger centers, particularly in metropolitan areas.

Erlang C calculations do not consider attrition, which will likely remain as staff leave, retire, etc. Call takers are promoted to dispatch when vacancies occur, and call takers, like other staff, leave to pursue other opportunities. This must be taken into consideration when determining staff needs.

From NENA calculations, to staff one position 24/7, requires 5.8 people, without attrition, as evidenced below. Hence staffing seven positions, for example, 24/7 requires 40.6 people (49.4 with attrition); eight positions, 46.4 people (56.4 with attrition).

Table 7: Call Taker Coverage-based Staffing

FTEs for Call Taker Coverage		
Position:	Call Taker	
A	1	Total number of console positions to be covered
B	24	Number of hours per day that need to be covered
C	7	Number of days per week that need to be covered
D	52	Number of weeks per year that need to be covered
E	8736	Total Hours needing coverage (A x B x C x D)
Telecommunicator Availability:		
F	1505.33	True Availability per Telecommunicator
FTEs Needed:		
G	5.8	FTE base estimate (FTE) = E / F
H	21.5%	Attrition Rate
I	7.1	FTEs required to accommodate turnover

While both Erlang C and NENA calculations consider the hours away from the console, they do not consider the number of telecommunicators that are out at any given time, it is essentially an average. However, leave usage, for example, tends to be higher during the summer months.

A day shift of 13 call takers, for example, allows for three people to be away at any given time, either for breaks or for leave, as ten are required during the peak hours. In 2017, telecommunicators used an average of 344 hours per person. At 40 hours per shift average (excluding the breaks), this is the equivalent of over eight shifts per person. To accommodate the current leave, two people each shift would need to be on leave (this includes all leave categories—sick, FMLA, and annual). This leaves 11 people, each entitled to 60 minutes of breaks and meals—11 hours in a 12-hour shift. To accommodate the breaks in an 8-hour period (eliminating the first two and last two hours of the shift), one to two people will need to be on their 30-minute break simultaneously.

Currently Cincinnati ECC has an authorized strength of 50 call takers but is short-staffed by 9. Short-staffed means a center is operating with vacancies within their number of authorized personnel; under-staffed means a center's authorized strength is insufficient to effectively handle the workload.

Based on the statistical data, Mission Critical Partners recommends an authorized call taker strength of 52, which will allow 13 call takers per day shift, nine call takers per night shift, and eight call takers divided between two power shifts. With the power shifts, Mission Critical Partners recommends a second power shift from 3:00 p.m. to 11:00 p.m. to assist with the evening hour call volume.

As Cincinnati ECC had nine call taker vacancies in early August, Mission Critical Partners recommends reaching authorized strength of 50 and re-evaluating the need for additional call takers. Often unplanned leave usage, particularly sick leave, drops when a center is fully staffed as morale improves, which could change staffing needs.

5.2.2 Dispatchers

5.2.2.1 Police Dispatchers

Police dispatchers are responsible for the following:

- Dispatching field units
- Maintaining field unit status
- Broadcasting descriptions
- Coordinating response to emergency situations
- Controlling radio traffic during non-emergencies
- Executing and maintaining proper records

Some police dispatchers are trained to work CIN1, which has different responsibilities. Tasks include:

- Entering, canceling, and teletype information on all stolen, recovered, wanted, and released vehicles and guns
- Dispatching commercial wreckers
- Sending and receiving computer messages
- Verifying information and entering missing juveniles and adults when Personal Crimes is out of the office
- Sending/obtaining confirmation on wanted subjects, guns and vehicles

As noted previously, in 2017, police dispatchers handled 698,221 law enforcement incidents, an increase of over 12 percent from 2016.

	2015	2016	Percent Change	2017	Percent Change
Police Incidents	621,723	621,884	0.03%	698,221	12.28%

In the first 10 months of 2018, Cincinnati ECC has handled 537,917 police incidents.

On average, CPD units spend 49 minutes 10 seconds on each incident.³⁷

NENA's calculations for volume-based staffing consider that a dispatcher can handle more than one incident at a time. In Mission Critical Partners' experience and data from other PSAPs, for fire, this is estimated to be two and EMS five or six, with law enforcement handling eight to ten, or even higher depending on the jurisdiction, staff experience, and number of officers for which a dispatcher is responsible. This is a subjective number and these numbers refer to routine incidents—not major incidents.

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³⁷ This equates to the processing time for telecommunicators in determining workload.

Table 8: Police Volume-based Staffing

FTEs for Police Dispatcher Volume Positions		
Position:		Police Dispatcher 0700 to 1900 hours
A	393,343 ³⁸	Total Police Incident Volume from 0700 to 1900 hours
B	8	Number of simultaneous incidents that can be handled by one Dispatcher
C	49167.88	Incident Volume Adjusted (A / B)
D	0:49:10	Estimated average processing time for this position
E	1.22	Hourly Processing Capability (HPC) = 1 hour / D
	1:00:00	Hour
F	40290.34	Workload in hours (W) = C / E {calls per hour handled}
Telecommunicator Availability:		
G	1505.33	True Availability per Telecommunicator
FTEs Needed:		
H	26.77	FTE base estimate (FTE) = F / G
I	21.5%	Attrition Rate
J	32.52	FTEs required to accommodate attrition

FTEs for Police Dispatcher Volume Positions		
Position:		Police Dispatcher 1900 to 0700 hours
A	227,841	Total Police Incident Volume from 1900 to 0700 hours
B	8	Number of simultaneous incidents that can be handled by one Dispatcher
C	28480.13	Incident Volume Adjusted (A / B)
D	0:49:10	Estimated average processing time for this position
E	1.22	Hourly Processing Capability (HPC) = 1 hour / D
	1:00:00	Hour
F	23337.88	Workload in hours (W) = C / E {calls per hour handled}
Telecommunicator Availability:		
G	1505.33	True Availability per Telecommunicator
FTEs Needed:		
H	15.50	FTE base estimate (FTE) = F / G
I	21.5%	Attrition Rate
J	18.84	FTEs required to accommodate attrition

51.36	Total Number FTE Law Dispatchers Needed
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These calculations indicate that 51 dispatchers are needed to handle the CPD incident volume.

³⁸ Data was not provided by shift. Mission Critical Partners extrapolated the breakdown of incidents based on the ratio of incoming calls per shift.

Staffing one position 24/7, as noted earlier, requires six to seven people, as evidenced below.

Table 9: Police Dispatcher Coverage-based Staffing

FTEs for Police Dispatcher Coverage		
Position: Police Dispatcher		
A	1	Total number of console positions to be covered
B	24	Number of hours per day that need to be covered
C	7	Number of days per week that need to be covered
D	52	Number of weeks per year that need to be covered
E	8736	Total Hours needing coverage (A x B x C x D)
Telecommunicator Availability:		
F	1505.33	True Availability per Telecommunicator
FTEs Needed:		
G	5.8	FTE base estimate (FTE) = E / F
H	21.5%	Attrition Rate
I	7.1	FTEs required to accommodate turnover

Based on the total number of dispatchers needed and the coverage requirements for one position, this indicates that seven dispatch positions for CPD are needed to handle the current incident volume. While there are eight police workstation positions, only five are dispatch positions. Increasing the number of simultaneous incidents to be handled by a single dispatcher to 10 lowers the dispatch positions necessary to six. A dispatcher would need to be responsible for 12 simultaneous incidents to remain at five dispatch positions. This is not an unreasonable task for many seasoned dispatchers but could be daunting for trainees.

Mission Critical Partners recommends that Cincinnati ECC continue to track the incident volumes and parse the data by district. If at the end of 2018, incident volumes have increased, Mission Critical Partners recommends that Cincinnati ECC, in concert with CPD, begin long-term planning to split the busiest district into two districts on two talkgroups. This will have ramifications across the board, from technology to personnel, and will need to be carefully planned and budgeted.

Until that time, staffing five districts, the Inquiry position, CIN1, and a relief position for breaks 24/7 requires 56 people. As the current authorized strength of police dispatchers is 55, Mission Critical Partners recommends an increase of one, for a total authorized strength of 56—for 14 dispatchers per shift. Staffing the Event position 24/7 requires an additional six people.

5.2.2.2 Teletype Clerks

The teletype clerk is an administrative position with a myriad of responsibilities, such as preparing information on wanted vehicles or persons for entry into national databases, processing salt truck request forms, receiving information from Ohio State Highway Patrol on missing persons from the Lewis Center or Millcreek Psychiatric Center, sending larceny messages to a distribution group, and notifying highway maintenance when needed.

Although the workload is difficult to quantify, one position appears to be sufficient. Mission Critical Partners observed large periods of downtime and anecdotal information appears to support these observations.

As noted previously, to staff one position 24/7, requires seven people, with attrition, as evidenced below.

Table 10: Teletype Coverage-based Staffing

FTEs for Teletype Coverage		
Position:	Teletype	
A	1	Total number of console positions to be covered
B	24	Number of hours per day that need to be covered
C	7	Number of days per week that need to be covered
D	52	Number of weeks per year that need to be covered
E	8736	Total Hours needing coverage (A x B x C x D)
Telecommunicator Availability:		
F	1505.33	True Availability per Telecommunicator
FTEs Needed:		
G	5.8	FTE base estimate (FTE) = E / F
H	21.5%	Attrition Rate
I	7.1	FTEs required to accommodate turnover

Thus, the authorized strength of seven for the Teletype Clerk position is appropriate. If Cincinnati ECC wanted to provide equal coverage to the shifts, an increase in the authorized strength of one would be necessary.

5.2.2.3 Fire/EMS Dispatchers

Currently fire/EMS dispatch personnel remain under the reporting structure of CFD and no changes are recommended to this at this time. As such, a high-level review of staffing was conducted.

Fire dispatchers are responsible for the following:

- Dispatching field units
- Maintaining field unit status

- Coordinating response to emergency situations
- Monitoring tactical channels
- Executing and maintaining proper records

As noted previously, in 2017, fire/EMS dispatchers handled 86,375 fire/EMS, an increase of almost 7 percent from 2016. Approximately 80 percent are EMS incidents, while 20 percent are fire incidents.

	2015	2016	Percent Change	2017	Percent Change
Fire/EMS Incidents	80,214	80,773	0.70%	86,375³⁹	6.94%

On average, fire/EMS units spend 36 minutes 15 seconds on each incident.⁴⁰

As noted earlier, NENA’s calculations for volume-based staffing consider that a dispatcher can handle more than one incident at a time. In Mission Critical Partners’ experience and data from other PSAPs, a fire dispatcher can handle two incidents simultaneously, while an EMS dispatcher can handle five to six incidents. This is due to the number of units that are dispatched on true fire incidents, such as a residential fire, and that fire units are reactive, in circumstances that can change quickly. As fire/EMS incidents are dispatched simultaneously and the majority of incidents are EMS-related, Mission Critical Partners used five simultaneous incidents for calculations.

³⁹ This represents incidents sent to fire/EMS as an active incident; however, not all incidents require dispatch. In 2017, total incidents dispatched was 78,811.

⁴⁰ This equates to the processing time for telecommunicators in determining workload.

Table 11: Fire/EMS Volume-based Staffing

FTEs for Fire/EMS Dispatcher Volume Positions		
Position:	Fire/EMS Dispatcher	
A	78,811	Total Fire/EMS Incident Volume from 0700 to 1900 hours
B	5	Number of simultaneous incidents that can be handled by one Dispatcher
C	15762.20	Incident Volume Adjusted (A / B)
D	0:36:15	Estimated average processing time for this position
E	1.66	Hourly Processing Capability (HPC) = 1 hour / D
	1:00:00	Hour
F	9523.00	Workload in hours (W) = C / E {calls per hour handled}
Telecommunicator Availability:		
G	1505.33	True Availability per Telecommunicator
FTEs Needed:		
H	6,33	FTE base estimate (FTE) = F / G
I	21.5%	Attrition Rate
J	7.69	FTEs required to accommodate attrition
7.69		Total Number FTE Fire/EMS Dispatchers Needed

Based on volume, one dispatch position is sufficient, at this time, for fire/EMS incidents. (As noted earlier, staffing one position 24/7, requires six to seven people.) Lowering the number of simultaneous incidents to be handled by a single dispatcher increases the dispatch positions to two.

Currently all fire and EMS incidents are dispatched from a single position with a tactical position to handle fire ground operations. Maintaining a tactical position is in alignment with national standards. NFPA Standard 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, Section 7.3.2, states “When requested by the incident commander, a telecommunicator shall be dedicated to the incident and relieved of other duties within the communications center.”⁴¹ Explanatory material for this section states,

The issue of communication capabilities and/or failures is cited by the National Institute for Occupational Safety and Health (NIOSH) as one of the top five reasons for fire fighter fatalities. The importance of an assigned telecommunicator for specific incidents is a critical factor in incident scene safety. The assignment process should be outlined in specific SOPs within each agency represented in the communications center. This

⁴¹ “NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems,” National Fire Protection Association, 2016, <http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1221>.

assignment process is further assisted when a command/communications vehicle is being staffed at the incident scene.⁴²

From NENA calculations, to staff two positions 24/7, requires 12 people, without attrition, as evidenced below; 14 people with attrition.

Table 12: Fire/EMS Coverage

FTEs for Fire/EMS Coverage		
Position:	Fire/EMS Dispatcher	
A	2	Total number of console positions to be covered
B	24	Number of hours per day that need to be covered
C	7	Number of days per week that need to be covered
D	52	Number of weeks per year that need to be covered
E	17472	Total Hours needing coverage (A x B x C x D)
Telecommunicator Availability:		
F	1505.33 ⁴³	True Availability per Telecommunicator
FTEs Needed:		
G	11.6	FTE base estimate (FTE) = E / F
H	21.5% ⁴⁴	Attrition Rate
I	14.1	FTEs required to accommodate turnover

Currently CFD’s authorized strength for fire/EMS dispatchers is 14, with four civilian supervisors. As the supervisor position is permitted to be a working position per NFPA 1221, staffing is appropriate.

If fire and EMS incidents continue to increase, two dispatch positions supported by a tactical position will be necessary. This will increase staffing requirements to approximately 17 to 21 people. With the current authorized strength, the supervisors would always be working a position in this configuration. Consideration would need to be given to increasing authorized strength for dispatchers and having supervisory personnel be dedicated, providing short-term relief coverage, in alignment with best practices as discussed in Section 5.2.3 Supervision below.

⁴² Ibid.

⁴³ Leave time was not provided for CFD dispatch personnel. As such, the true availability may be higher if personnel do not use 344 hours, on average, annually.

⁴⁴ Attrition data was not provided for CFD dispatch personnel. Mission Critical Partners does not believe that CFD has experienced the turnover that the 911 call takers and police dispatchers have experienced. Thus, this number is likely lower.

5.2.3 Supervision

Understanding how a PSAP performs as compared to national standards is valuable information, but it is only part of the puzzle. While many challenges can be attributed to staff shortages or operational configuration, some issues are not as intuitively obvious. Appropriate and focused supervision of operational personnel is critical.

NFPA 1221 defines a supervisor as “[a]n individual responsible for overseeing the performance or activity of other members.”⁴⁵

Expectations and responsibilities of supervisors are often high, including the following:

- Helping employees understand performance goals
- Instructing, guiding, observing and mentoring employees
- Communicating updates from and policies and strategies of management
- Facilitating control
- Providing real-time feedback
- Serving as a motivator
- Providing coordination and direction during major emergency incidents
- Solving problems as they arise or seeking solutions
- Identifying and resolving workplace issues, including tardiness, absenteeism, and personal conflicts
- Serving as a single point of contact for responder agencies
- Identifying areas for growth among subordinates
- Documenting employees’ performance for annual/periodic reviews
- Providing a narrower scope of supervision when implementing new policies and procedures
- Providing more supervision for diversified, complex tasks
- Staying current with technological changes/advancements
- Providing guidance to new employees who have less training and experience
- Providing greater knowledge of laws, procedures, and administrative processes
- Focusing on the operations of the 911 center as a whole
- Focusing on customer service to the public and subscriber agencies
- Identifying areas for remedial training, counseling or discipline, when appropriate
- Setting priorities

NFPA 1221, Section 7.3.4 states, “Supervision shall be provided when more than two telecommunicators are on duty.”⁴⁶

⁴⁵ “NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems,” National Fire Protection Association, 2016, <http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1221>.

⁴⁶ Ibid.

Annex A of NFPA 1221 provides further explanation. A.7.3.4 states, “The supervisor position(s) in the communications center are provided in addition to the telecommunicators [sic] positions. Although supervisory personnel are intended to be available for problem solving, the supervisor position is permitted to be a working position.”⁴⁷

Section 7.3.4.1 states, “Supervision shall be provided by personnel located within the communications center who are familiar with the operations and procedures of the communications center.”⁴⁸

Section 7.3.4.2 states, “The supervisor shall be allowed to provide short-term relief coverage for a telecommunicator, provided that the telecommunicator does not leave the communications center and is available for immediate recall as defined in the policies and procedures of the AHJ.”⁴⁹

Cincinnati ECC is in alignment with NFPA 1221 as there are dedicated supervisors on each shift. Currently civilians and police sergeants serve in supervisory capacities for civilian staff. CFD dispatch operations has fire personnel and civilian supervisors for oversight.

The *Standards for Public Safety Communications Agencies* (SPSCA), established jointly by the CALEA and APCO, does not specifically address staffing or supervision in a PSAP, other than to state in Section 1.1.4 that “[e]ach employee is accountable to only one supervisor at any given time.” However, both sets of CALEA standards reference utilizing Incident Command System (ICS) protocols. (CALEA Standard 46.1.2 and SPSCA Standard 7.1.2 are mandatory for accreditation.)

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 Management element of NIMS. ICS represents best practices and is the standard for emergency management across the country. ICS requires a supervisor when there are between three and seven persons performing similar functions. (The optimal span of control is five.) A manageable span of control allows supervisors to supervise and control their subordinates, while allowing for efficient communications between all parties.

When fully staffed, there may be 50–52 call takers, 56 dispatchers, and 7 teletype clerks; a total of 113–115 people. Individual shifts may have 25 people or more. With a span of control of seven, this indicates 16 supervisions would be needed; four per shift.

Mission Critical Partners recommends that Cincinnati ECC begin with three civilian supervisors per shift: one supervisor and two assistant supervisors. There should be a clear delineation on a shift as to who is in charge and this chain of command allows that. Currently the shift supervisors are equal rank with call takers and dispatchers “assigned” to a specific supervisor, including the sergeant at one point. The person

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid.

to which the telecommunicator is assigned completes the employee's evaluation. This essentially creates three (or four) groups and increases the possibility that telecommunicators are evaluated subjectively.

While the span of control will be higher than best practices, telecommunicators work in a single location, and within two primary focus areas: call take and dispatch. Mission Critical Partners recommends that the assistant supervisors be assigned to the floor, one to the call take area and one to the police dispatch area, to be available to answer questions and interact with staff. Mission Critical Partners recommends that the assistant supervisors rotate positions to remain knowledgeable and become familiar with all staff assigned to a respective shift.

Currently to be eligible to be a supervisor, a telecommunicator must be a dispatcher. Mission Critical Partners recommends this practice be discontinued. Supervisors are there to oversee and guide a team and call takers have the capability to be successful supervisors. Mission Critical Partners would recommend that an assistant supervisor who has not been trained as a dispatcher cross-train on dispatch activities to answer any questions that arise from staff or administrative calls. This does not imply that the person needs to learn to dispatch, just that they understand the processes involved in all aspects of the center.

If after operating with three supervisors per shift, the need for a fourth supervisor can be articulated through workload and other statistical measures, Cincinnati ECC should consider adding a fourth supervisor to each shift. Mission Critical Partners cautions against becoming too "top" heavy when the actual need may not exist. It can also create the impression that staff require more oversight.

5.2.4 Staffing Summary

Proper staffing is a balance between providing quality service at a reasonable personnel and financial cost. The City has aided the ECC by increasing its authorized strength earlier this year, but the ECC cannot afford to become complacent in this area. Mission Critical Partners finds that the current authorized strengths for call takers, police dispatchers, and teletype clerks are mostly appropriate.

- The authorized strength for call takers is currently 50; this is appropriate at this time.
- The authorized strength for police dispatchers is 55; Mission Critical Partners recommends an authorized strength of 56, an increase of one.
- The authorized strength for teletype clerks is seven; this is appropriate. To provide equal coverage to the shifts would require an authorized strength of eight, an increase of one.

Mission Critical Partners recommends 12 supervisors assigned to the communications center: one supervisor and two assistant supervisors per shift. Depending on the authorized strength of supervisory personnel within the ECC as a whole, an increase may be necessary. It may also be necessary to create the assistant supervisor positions and/or re-classify some of the supervisors.

The authorized strength for fire/EMS dispatchers is 14, with four civilian supervisors; this authorized strength is appropriate.

Mission Critical Partners recommends that Cincinnati ECC annually review call and incident volume statistics to identify any trends.

In alignment with CALEA's *Standards for Public Safety Communications Agencies*, Section 1.3.2, Mission Critical Partners recommends Cincinnati ECC conduct a workload assessment for personnel at least once every three years. This will help assure the efficiency and effectiveness of the ECC by ensuring that the center is appropriately staffed, not over- or under-staffed.

5.3 Future Staffing

Predicting staff for the long-term is not as statistically simple as it used to be. The 911 industry has already begun its transition to Next Generation 911 (NG911), which has allowed “new” media, to an industry that has been voice-centric, into the communications center. While Cincinnati ECC does not yet accept text-to-911, statistically this has proven, to date, to have little effect on staffing needs of a center. However, pictures and streaming video may soon be accepted by 911 centers. In addition, the number of devices with the capability to transmit data continually increases: body cameras, drones, smart home devices, personal and industrial sensors; the list can go on.

All these devices have the potential to transmit data to a 911 center in the future—what is unknown is how this will affect staffing in the digital age. It is likely that “digital analysts,” as the Police Executive Research Forum (PERF) notes, may be responsible for analyzing the information before it is shared with responders.⁵⁰ Will these “analysts” be in a 911 center? A fusion center? A real-time crime center? How 911 centers choose to approach the data that will be available, as well as the associated tasks, will be up to each agency unless a statewide approach is taken.

It is possible that Cincinnati ECC may experience a decrease in call and incident volumes due to the various forms of data that could be presented to a telecommunicator, and the form of presentation. Technology may have developed that allows sensory devices to input data directly into a CAD incident, bypassing a call taker altogether. Citizens may be able to access incident systems to report events without speaking to a call taker. 911 personnel may be able to telework, operating from virtual PSAPs. The opportunities far exceed the industry as we know it.

As such, attempting to predict staffing needs 10 years into the future is next to impossible, particularly in this environment. There are too many unknowns. What is certain is that today's 911 operational environment will no longer be the same. “Calls,” whether voice or data-infused or a Skype-type, will likely take longer to process than currently. Requirements of first responders will also evolve; while the “telecommunicator” as we know it today might change, a similar type position and responsibility seems likely, but what it really “looks like” is not yet known.

⁵⁰ The Police Executive Research Forum published a critical issues document entitled *The Revolution in Emergency Communications* in November 2017 that looks at some of the issues that will need to be addressed for NG9-1-1. The report can be found here: <http://www.policeforum.org/assets/EmergencyCommunications.pdf>.

Mission Critical Partners recommends Cincinnati ECC begin reviewing job descriptions and including futuristic responsibilities, such as text-to-911 roles that would require candidates to be able to interact with someone via two-way text messaging. While Cincinnati ECC does not currently process texts, Mission Critical Partners suggests looking at other centers in Ohio, such as Hamilton County, that process text-to-911 “calls,” to determine an average increase of calls for service from texts; nationwide the average is less than 1 percent of call volumes. This may assist Cincinnati ECC in determining if personnel will need to be dedicated to handling these types of requests.

In addition, telecommunicators currently experience stress that is related to events that they “witness” over the telephone and radio. The delivery of graphic images and video, if accepted, will lead to increased stress among 911 center staff. Consideration must be given to enhancing critical incident stress management (CISM) procedures for telecommunicators and call takers.

6 Quality Assurance

A quality assurance/ quality improvement (QA/QI) 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 PSAP 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.”⁵¹ (The agency is the body that defines the roles, responsibilities, policies and procedures that direct the activity of the telecommunicator.⁵²)

A well-developed and defined QA/QI program ensures consistency of operations and identifies problems and corrective actions to resolve the 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 ensured.

When providing EMD, adherence to the structured protocol becomes critically important. “This is especially true for agencies that provide some measure of post-dispatch and/or pre-arrival instructions to callers, directing the caller to actively do something to stabilize a patient or begin to mitigate an emergency before the arrival of the dispatched first responders. Evaluating performance and compliance with protocols and procedures becomes as necessary as the provision of the protocol itself, since doing so incorrectly could wind up harming the patient or exposing the agency to liability.”⁵³

⁵¹ “Standards to Download, *Minimum Training Standards for Public Safety Telecommunicators*, APCO International, <https://www.apcointl.org/standards/apco-standards-for-download.html>, section 1.2.22, page 14.

⁵² *Ibid.*, section 1.2.2, page 11.

⁵³ “The Numbers Game: Are Score-Based QA Systems Truly Representative of Dispatcher Performance,” 9-1-1 Magazine.com, April 2008.

APCO and NENA have a joint standard, *Standard for the Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points* (APCO/NENA ANS 1.107.1.2015). 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 to protocols and standard operating procedures;
- Customer Service;
- Optimizing the use of agency resources;
- Overall performance of each employee; and
- Reviewing the operation as a whole”⁵⁴

Section 5.3.1 states “The Agency shall ensure a sufficient number of case reviews are conducted for both call-taking and radio dispatch responsibilities of a telecommunicator.”⁵⁵ Section 5.3.1.2 further states that “PSAP agencies shall, in the normal course of business, review at least 2% of all calls for service. Where the 2% factor would not apply or be overly burdensome due to low or excessively high call volumes, agencies must decide on realistic levels of case review.”⁵⁶

CALEA requires a “documented quality checks of employees’ call taking and dispatch performance,” but does not address the percentage of reviews.

NFPA 1221 section 7.7 states, “Communications centers shall establish a quality assurance/improvement program to ensure the consistency and effectiveness of alarm processing.”⁵⁷ Explanatory material in Annex A 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.”⁵⁸

Cincinnati ECC has an SOP pertaining to QA reviews, #2.20 Quality Reviews, effective 6/16/16. A portion of the procedure notes the following:

- 1. A quality review form will be completed by the supervisor for each call/dispatched incident reviewed.*

⁵⁴ “Standards to Download, *Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points*, APCO International, <https://www.apcointl.org/standards/apco-standards-for-download.html>, page 23.

⁵⁵ Ibid., page 22.

⁵⁶ Ibid.

⁵⁷ “NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems,” National Fire Protection Association, 2016, <http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1221>.

⁵⁸ Ibid.

2. *Selected calls/dispatched incidents will reflect a cross section of all types of calls (emergency, non-emergency, service, alarm, ems, etc.) handled at the Emergency Communications Section (ECS).*
3. *Reviews must be of all personnel, evenly distributed across the relief.*
4. *Two reviews per employee will be submitted each week.*

Cincinnati ECC is alignment with national standards for requiring such reviews. However, Mission Critical Partners was advised by multiple staff that QA is “non-existent;” reviews are not consistently conducted or evaluated. There is a QA supervisor position, but reviews are also supposed to be conducted by supervisors assigned to the communications center itself as well.

Mission Critical Partners recommends the development of a structured QA/QI program with sufficient resources to support the program. A QA/QI program should involve the regular review of individual call taker’s calls; this will ensure that call processing guidelines are being followed correctly. As Cincinnati ECC use internally developed protocols for police and fire incidents, there will always be a level of subjectivity during the evaluation. The ECC should also review dispatchers’ radio traffic.

Currently, two reviews per employee per week are required. With an authorized strength of 50 call takers, this equates to 100 reviews per week or 5,200 reviews a year. Conducting two reviews per dispatcher of radio traffic would increase the reviews per week by 110 or 5,720 annually. The APCO/NENA standard states a minimum of at least 2 percent of calls for service. The standard defines calls for service or request for service as “[a] request or contact from the public that results in the provision of a public safety service or response.”⁵⁹ With over 787,000 incoming calls and over 698,000 police incidents (many self-initiated) in 2017, it is difficult to determine how many incoming calls resulted in a response from CPD or CFD. Assuming 400,000 calls yielded a response, 2 percent would require 8,000 reviews annually, an increase from what is currently reviewed.

As dispatchers are not answering incoming calls for service, radio traffic will need to be reviewed for each. The random calls for service reviewed will yield radio traffic but may not include all the dispatchers regularly. As such, random reviews of radio traffic should be conducted. Reviewing 2 percent of CPD incidents annually, yields a total of 13,964 reviews.⁶⁰ Due to the high volume of traffic, this number of reviews would be burdensome. Mission Critical Partners recommends Cincinnati ECC consider a 1 percent review metric or 6,982 annually; this is approximately 2.5 reviews per dispatcher per week.

Ensuring all employees know the objectives, methods, and standards of the QA process can change how the QA assessments are viewed by employees. Currently the QA review forms are different for call take and dispatch, as shown below.

⁵⁹ Ibid., page 14.

⁶⁰ CPD incident volume for 2017 totaled 698,221. Two percent (2%) of this total is 13,964.

Table 13: QA Review Sections

Call Take Review Sections	Dispatch Review Sections
Incident Information - Employee Name - Call Type - Incident Number - ESDS - Call Date/Time - DB Ref# Incident Initiate (10 questions) Call Processing (6 questions) Customer Service (8 questions) Supervisor's Overview (3 questions) Overall Comments/Training	Incident Information - Employee Name - Call Type - Incident Number - ESDS - Call Date/Time - DB Ref# Assignment of Incident (10 questions) Summarization (10 questions) Customer Service-Radio Protocol/Skill (10 questions) Supervisor's Over (3 questions) Overall Comments/Training

The forms do not show the point value assigned to each area. Mission Critical Partners recommends that call takers and dispatchers receive thorough training on the QA/QI process and the point values associated with each category, as well as what deducts points, etc.

All responsibility for evaluating calls and dispatches, and reviewing with employees, should be assigned to QA/QI program personnel, removing supervisors from the process. Employees often construe meetings with supervisors as negative, even though that is not the intent. A peer-to-peer review is better accepted. In addition, supervisory staff have operational responsibilities that demand their time and energy; removing QA reviews with employees allows supervisors to focus on their primary responsibilities, particularly as the number of QA reviews is likely to increase. This does not imply that supervisors are not aware of the outcomes or of any issues, just that they are not responsible for reviewing the calls with employees.

In Mission Critical Partners' experience, one QA/QI specialist can review about 10 to 15 calls a day, with the associated radio traffic. This also allows time for review with personnel. The number of calls per day varies based on the complexity of the incidents. With a QA/QI review total near 15,000 annually, it is likely that four QA/QI specialists would be needed if Cincinnati ECC were to conduct all reviews in-house. Cincinnati ECC could consider contracting with a third-party for some of its reviews. For example, the Denise Amber Lee Foundation offers third-party call reviews through its consulting program. The call reviews are conducted remotely by quality assurance evaluators in alignment with the APCO/NENA standard. Cincinnati ECC might want to weigh contracting some QA/QI reviews to the salaries and benefits costs to hire additional staff as these positions will be over and above those needed for the operational floor.

If the QA/QI program is expanded to conduct all reviews in-house, Mission Critical Partners recommends four QA/QI specialists, one in a supervisory capacity if the need is determined. Cincinnati ECC could approach this incrementally, with three QA/QI specialists to begin, with an evaluation at the six-month mark

to determine if a fourth person is needed. This would be determined by the average number of reviews conducted by the QA/QI specialists weekly.

Mission Critical Partners recommends that the current call taker and dispatcher vacancies in the 911 center be filled before opening a competitive process to fill QA/QI positions, which should be open to all staff. The ECC cannot afford to operate with even fewer personnel.

Mission Critical Partners recommends Cincinnati ECC review the following APCO standards to ensure alignment during development of a structured QA/QI program:

- Establishment of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points
 - “This standard defines the recommended minimum components of a Quality Assurance/Quality Improvement (QA/QI) program within a public safety communications center. It recommends effective procedures for implementing the components of the QA/QI program to evaluate the performance of public safety communications personnel.”⁶¹
- Core Competencies and Minimum Training Standards for Public Safety Communications Quality Assurance Evaluators (QAE)
 - “This standard identifies the core competencies and minimum training requirements for Public Safety Communications Quality Assurance Evaluators (QAE). The QAE administers the Quality Assurance/Quality Improvement (QA/QI) process by providing compliance oversight, reviewing, and documenting an evaluation of the level of compliance with Agency directives and standards in an ongoing effort to ensure the highest levels of service to the public and emergency responders.”⁶²

Achieving the goal of a structured QA/QI program will demonstrate Cincinnati ECC’s commitment to accountability and quality service in handling emergency calls for service. It will also demonstrate to the public ECC’s commitment to improving operations and providing the highest level of 911 service possible.

7 Hiring, Training, and Retention

Recruitment and retention of employees in 911 centers nationwide is a top priority. Mission Critical Partners has worked with many PSAPs over the years and, without fail, the single most consistent issue faced is staffing. To that end, selection or vetting of candidates, training and QA/QI are all critical to employee retention.

⁶¹ Description, *Establishments of a Quality Assurance and Quality Improvement Program for Public Safety Answering Points*, Operational Standards, APCO International. <https://www.apcointl.org/standards/standards-to-download/>.

⁶² Description, *Core Competencies and Minimum Training Standards for Public Safety Communications Quality Assurance Evaluators (QAE)*, Operational Standards, APCO International. <https://www.apcointl.org/standards/standards-to-download/>.

7.1 Hiring

Recruitment, selection, and hiring generally refer to the overall steps to fill a vacancy (or a new position) within an organization. Recruiting is the process of attracting and pre-screening applicants for a particular job; pre-screening may include criminal background checks, credit checks, and education and employment history verifications. Before applicants are selected, pre-screening results are reviewed, interviews conducted, short-lists developed, and conditional and/or final offers made. The processes vary from organization to organization, and often from department to department within complex organizations.

In Cincinnati, the hiring process is lengthy, and may require being placed on a waiting list. One trainee recounted that the process took 16 months, with 11 months on a waiting list.

Potential applicants first take a CritiCall® test⁶³ as part of the prescreening process. Upon successful completion, applicants may be placed on a waiting list or are scheduled for a 4-hour observation period. The applicant is then scheduled for an interview with an 8-person panel. The interview consists of each panel member asking a question; the applicant also listens to a call and takes notes and then explains what s/he took away from the call. If recommended to move forward, the applicant completes a personal history that feeds into the polygraph exam and extensive background check.

Applicants also undergo fingerprinting and medical exams, including a hearing test and drug screening, after a conditional job offer. Upon successful completion of the processes, the applicant is given a final job offer.

Mission Critical Partners has several observations. CritiCall® has two (2) testing options: in-person or on-line. Mission Critical Partners recommends that both the on-line test and in-person testing be offered to applicants, if not already. The on-line CritiCall® test allows the test to be taken at the applicant's convenience and offers instant results to the City. As it is on-line, it is also easy to reset a test or let the applicant take the test a second time during the hiring cycle. Allowing applicants to take the test at their convenience and when they can may yield a higher number of applicants that would make it to the next step in the process. Cincinnati ECC could instantly send invites to test as soon as the application has been reviewed, greatly accelerating the process. Mission Critical Partners recommends that the in-person test be offered during each hiring cycle at various days and times, including weekends. Mission Critical Partners also recommends that CritiCall® scores are available for review by Cincinnati ECC management, which is not currently the practice.

Many 911 centers conduct observation periods for applicants to provide them with some insight into the roles and responsibilities of call takers and dispatchers. Mission Critical Partners will note, however, that the successful completion of this step is not always an indicator as to whether someone is a fit for the position. Anecdotal information from telecommunicator trainees in other centers and experience elsewhere

⁶³ CritiCall® offers testing modules for public safety agencies. The tests modules "provide a miniature replica of the emergency services jobs ... These tests provide the applicants a realistic preview of the job ..."
<http://criticall911.com/dispatcher-testing/agencieshr/>.

suggests that applicants often have no context for what they are observing. They may listen to phone calls and radio traffic, but lack understanding of the complexities of the position.

Mission Critical Partners agrees with an in-person interview but disagrees with an 8-person panel. This will be intimidating to many applicants. A three- to four-person panel, consistent throughout a hiring process is sufficient and recommended.

Polygraph exams are used to measure deception and there are two sides to the polygraph approach: those that use them and those that do not. Many PSAPs throughout the country do not require prospective telecommunicators to submit to a polygraph exam. If conducting polygraph exams, the nature and type of questions asked can prove self-defeating to the agency. For instance, a nervous candidate asked if they have lied during the application process can encompass a wide range of possibilities in the candidate's mind and trigger a deceptive response, potentially eliminating an otherwise qualified candidate. Several prominent police agencies have eliminated the use of polygraph exams in their hiring process, including the New Jersey State Police, Pennsylvania State Police, and the New York City Police Department. Other agencies utilize polygraph exams as an investigative aid, but the results alone cannot exclude someone from the process. Many agencies find polygraphs helpful in determining the accuracy of an applicant's statement regarding drug use.

That said, the American Psychological Association published research in 2004 entitled "The Truth About Lie Detectors (aka Polygraph Tests) that states "[m]ost psychologists agree that there is little evidence that polygraph tests can accurately detect lies."⁶⁴

Mission Critical Partners is not agreeing or disagreeing with requiring applicants to submit to a polygraph as it is up to the agency to determine what best works for them.

Mission Critical Partners recommends that Cincinnati ECC track the areas where applicants are removed from the process to determine if changes are needed, not to make the process easier, but more successful for qualified applicants.

The City recently conducted a study regarding the hiring process, identifying numerous opportunities to improve the process, including online CitiCall® testing. Mission Critical Partners commends the City for undertaking this initiative.

Mission Critical Partners also has several suggestions for enhancing recruitment efforts.

- A truncated process should be in place for lateral hires, if one is not already.
- Consideration could be given to referral incentives. If a referral is hired, perhaps there is a financial reward or other perk, such as extra vacation days.

⁶⁴ "The Truth About Lie Detectors (aka Polygraph Tests)," American Psychological Association, August 5, 2004, <http://www.apa.org/research/action/polygraph.aspx>.

- Recruiting can also take place at industry conferences, such as NENA National and APCO's Annual Conference & Expo. Attendees at these conferences will already be "in the business."
- Offering internship opportunities to high school seniors or students enrolled in technical institutions is another avenue that may be considered. This provides a realistic job preview and opens other recruitment arenas. This opportunity would provide greater exposure to the 911 industry for those already somewhat familiar.

7.2 Training

Cincinnati ECC has a 6-week classroom training for all new hires. The classroom training includes APCO's 40-hour Public Safety Telecommunicator (PST) course and 24 hours of Emergency Medical Dispatch (EMD). There are also practical exams, simulations, cardio-pulmonary resuscitation (CPR), and firearms training simulator (FATS) training.

Training modules within PST include the following:

- Introduction to Your New Career
- Preparing for Your New Career
- Interpersonal Communications
- Telephone Communications Techniques: Call Processing
- Telephony, Traditional Technology
- Next Generation 9-1-1
- Telephony, TTY
- Telematics and Collision Notification Systems
- Computer-Aided Dispatch (CAD) and Related Technologies
- Radio Communications Techniques
- Radio Technology
- Call Classifications
- The Incident Command System
- Liability Issues⁶⁵

Call takers complete 360 hours of on-the-job training and dispatchers complete 360 hours of radio on-the-job training. Two 10-day extensions are available for trainees experiencing difficulties. Additional extensions may be approved by ECC management.

Cincinnati ECC's training program has been certified by APCO as "meeting and/or exceeding the 2010 Minimum Training Standards for Public Safety Telecommunicators."⁶⁶

⁶⁵ "Public Safety Telecommunicator (PST), 7th Edition," APCO International. <https://www.apcointl.org/training-and-certification/disciplines/public-safety-telecommunicator-pst/public-safety-telecommunicator/>.

⁶⁶ "Agency Training Programs Certified by APCO," APCO International. <https://www.apcointl.org/training-and-certification/comm-center-training-programs/apco-project-33-training-program-certification/apco-project-33-certified-agencies/>.

While the training program is certified, one of the comments Mission Critical Partners heard repeatedly during on-site interviews was the need to improve the training program, which was labeled as “disorganized,” “not consistent,” lacking “continuity,” “non-existent,” not well-documented, and “outdated.” Revised training was desired for new hires, training officers, and supervisors. Training officers were inconsistent in methods and processes for call handling and dispatch and in some cases appeared to want trainees to fail. It was also shared with Mission Critical Partners that a new hire, who had been receiving very high scores with one training officer, was being failed by a second training officer; there was no recourse or escalation point to assist the trainee.

Cincinnati ECC has a training manual that is in the process of being reviewed and updated. In Mission Critical Partners’ opinion, this action is sorely needed. The training manual does not include all the incident types in use, such as CELL, and is not easily referenced. The manual does not appear to be broken out into easily defined sections or chapters, and there are errors in the indexing. For example, a section is labeled as F. in the index but is actually E.

Mission Critical Partners noted that the information provided to call takers in the 9-1-1 area, section E, Mobile and Cellular 9-1-1 Calls, is incorrect and needs to be updated. This explains why there was so much confusion both on the ECC and CPD sides concerning wireless location technology.

To ensure future success for the training program, Mission Critical Partners previously recommended the creation of an Instructional (Educational) Coordinator position to oversee all aspects of training, including the classroom training structure, development of lesson plans and course curricula, and trainee assignments. The Instructional Coordinator position does not require telecommunicator experience, but rather knowledge of the theories, principles and techniques used to facilitate adult learning; training methodologies; and competency assessment. Mission Critical Partners understands that a position of this type has already been created and filled by the new ECC director.

Mission Critical Partners recommends that the training program undergo a comprehensive review by the new Instructional Coordinator, to include the training manual. As noted above for the Instructional Coordinator position, Mission Critical Partners recommends the development of lesson plans to include goals and objectives, as well as course curricula for new hires and continuing education. After the comprehensive review of the training program, the Instructional Coordinator may determine that full-time training support is warranted for the program. Mission Critical Partners would support such a determination.

Without solid SOPs, lesson plans, and trainer requirements, the effectiveness of the training program can be diminished. Cincinnati ECC needs to ensure that both classroom and on-the-job training are well-organized. This will be the responsibility of the new Instructional Coordinator position.

7.2.1 Ohio Minimum Training Standards

Within Ohio, the ESInet Steering Committee created Public Safety Operations Rules that became part of the Ohio Administrative Code 5507 in May 2016. Within Section 5507–1, 9-1-1 Public Safety Answering

Points, 5507-1-07, the State has detailed the minimum training standards required for all telecommunicators, consisting of a minimum of 40 hours of training within six months of employment. The training standards are high-level and broken into five components:

- (1) *Component 1 - general knowledge*
 - (a) *Knowledge and awareness of population and demographics*
 - (b) *Knowledge and awareness of geography*
 - (c) *Knowledge and awareness of first responder agencies and their jurisdictions*
 - (d) *Knowledge and awareness of the incident command system (ICS), national incident management system (NIMS), federal, state and local interoperable communication plans and federal, state and local emergency operations plans*
- (2) *Component 2 - general skills*
 - (a) *Ability to quickly process information and make logical decisions*
 - (b) *Stress management*
 - (c) *Provide good customer service*
 - (d) *Multi-task in a fast-paced environment*
 - (e) *Work effectively with others to solve problems*
 - (f) *Appropriate use of agency terminology*
 - (g) *Communicate clearly in written and oral form, especially when relaying emergency information to first responders or communicating with the public requesting emergency assistance*
 - (h) *Ability to operate and/or respond to emergency alerts*
 - (i) *Ability to achieve and maintain certification and operate applications and databases necessary to perform assigned duties*
- (3) *Component 3 - agency skills*
 - (a) *Ability to operate agency radio communication equipment*
 - (b) *Ability to operate agency computer equipment*
 - (c) *Ability to operate agency telecommunication equipment*
 - (d) *Ability to operate agency computer applications and systems*
 - (e) *Ability to process and document agency records and operate records system*
- (4) *Component 4 - policy and procedures*
 - (a) *Ability to read, comprehend and apply agency policies and procedures*
 - (b) *Ability to apply policy and procedures to situations encountered while on duty*
 - (c) *Ability to recognize gaps in agency policy and procedure and recommend change*
- (5) *Component 5 - call taking skills*
 - (a) *Ability to answer and process calls in accordance with established procedures*
 - (b) *Ability to obtain complete information*
 - (c) *Ability to properly classify and prioritize the request for service*
 - (d) *Ability to process available information to identify conditions that may affect safety*
 - (e) *Ability to document call details accurately*
 - (f) *Ability to accurately verify, document and relay initial dispatch information*

(g) Ability to handle/control hostile, hysterical or difficult callers to obtain information⁶⁷

Section 5507-1-08 provides details on continuing training standards. It calls for the State 9-1-1 administrator to distribute “subject matter of timely, industry standard educational information” prior to February of each year to “constitute a two-hour training block to be completed by all 9-1-1 telecommunicators ...”⁶⁸

Mission Critical Partners recommends that Cincinnati ECC ensure the revised training program and manual meet all the Ohio code requirements.

7.2.2 Standards and Best Practices

7.2.2.1 APCO

APCO’s *Minimum Training Standards for Public Safety Telecommunicators*, APCO ANS 3.103.2.2015, “identifies minimum training requirements for both new and veteran Public Safety Telecommunicators. This position is typically tasked with receiving, processing, transmitting, and conveying public safety information to dispatchers, law enforcement officers, firefighters, emergency medical and emergency management personnel. This document seeks to define training in certain knowledge and skills for the Agency to provide to Telecommunicators.”⁶⁹

APCO “recognizes the need to supplement these core competencies with Agency-specific information. [The] standard should be accepted as independent and stand-alone from standards addressed elsewhere. Supervisors should be cognizant of other APCO standards and other relevant standards such as The National Fire Protection Association’s (NFPA) standards, The Commission on Accreditation for Law Enforcement Agencies (CALEA) standards, etc.”⁷⁰

7.2.2.2 CALEA

CALEA’s *Standards for Public Safety Communications Agencies* has a section pertaining to training.

Standard 5.2.1 states:

⁶⁷ Ohio Administrative Code, 5507 Emergency Response, 5507-1 9-1-1 Public Safety Answering Points.
<http://codes.ohio.gov/oac/5507-1>.

⁶⁸ Ibid.

⁶⁹ “Abstract,” *Minimum Training Standards for Public Safety Telecommunicators*, page 2 of 37.

<https://www.apcointl.org/download/minimum-training-standards-for-public-safety-telecommunicators-3/?wpdmdl=6288>.

⁷⁰ Ibid. page 11 of 37.

The agency requires all newly hired telecommunicators to complete a training program prior to routine assignment in any capacity in which the telecommunicator is allowed to answer calls for service or is in a position to make dispatching decisions ...⁷¹

Standard 5.2.2 states:

A written directive establishes a telecommunicator training program for new hires including both classroom training and on the job training, which includes provisions for the following:

- a. curriculum based on tasks of the most important and frequent assignments;*
- b. use of evaluation techniques and guidelines designed to measure competency in the required skills, knowledge, and abilities;*
- c. on the job training of at least four weeks for trainees, during and/or after the required classroom training; and*
- d. provisions for training and orientation of lateral-entry personnel.⁷²*

Commentary for standard 5.2.2 advises that the “entry-level training should meet the requirements established in APCO’s ‘National Public Safety Telecommunicator Training Standard’ (#33), or another similar program.”⁷³

Standard 5.2.6 requires annual retraining, while standard 5.2.10 identifies the activities for specialized training. Standard 5.2.12 addresses job-related training for newly promoted personnel.

7.2.2.3 NFPA

NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*, has a section pertaining to telecommunicator qualifications and training.

7.2 Telecommunicator Qualifications and Training.

7.2.1 Telecommunicators shall meet the qualification requirements of NFPA 1061 as appropriate for their position.

7.2.2 Telecommunicators shall be certified in the knowledge, skills, and abilities related to their job-related function.*

7.2.2.1 The certification program shall have a skill maintenance component for recertification as defined by the certifying organization.

⁷¹ *Standards for Public Safety Communications Agencies*. CALEA. Section 5.2 Training, page 5-3, July 2007.

⁷² *Ibid.*

⁷³ *Ibid.*

- 7.2.3 Telecommunicators shall be trained in general emergency service operations and shall have access to information regarding the following:
- (1) Locations of streets
 - (2) Locations of important structures, including schools, hospitals, and other buildings with a high life hazard
 - (3) Locations of congested or hazardous areas
- 7.2.4 Telecommunicators shall have operational knowledge of the function of the functions of communications equipment, systems, and networks in the communications center.
- 7.2.5 Telecommunicators shall know the rules and regulations that relate to equipment use, including those of the Federal Communications Commission that pertain to emergency service radio use.
- 7.2.6 The AHJ shall be responsible for providing training to maintain the skill levels of telecommunicators to the level appropriate to their position as identified in NFPA 1061 and Section 7.2.
- 7.2.7 Telecommunicators shall be trained in TDD/TTY procedures, with training provided at a minimum of every 6 months.
- 7.2.8 Telecommunicators shall receive training on the CEMP, including the TICP, at least annually.⁷⁴

Annex A, Explanatory Material, provides clarification regarding 7.2.2.

The AHJ can develop a certification program or use the certification programs of others. Examples of other certification programs are Associated Public Safety Communications Officials International, International Municipal Signal Association, and National Academies of Emergency Dispatch and Power Phone.⁷⁵

NFPA 1061, *Standard for Public Safety Telecommunications Personnel Professional Qualifications*, 2018 Version, provides qualifications for the various positions within a 911 center, including training officers, supervisors, and QA/QI personnel.

7.2.2.4 National 911 Program

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.”⁷⁶ The *Recommended Minimum Training Guidelines* were developed by a working group of industry partners, including APCO, NENA, IAED, and NFPA, as minimum training

⁷⁴ *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*. NFPA 1221. 2016 Edition. Chapter 7, Operations. Section 7.2 Telecommunicator Qualifications and Training.

⁷⁵ Ibid. Annex A.

⁷⁶ “Recommended 911 Minimum Training for Telecommunicators,” 911.gov, 2018, https://www.911.gov/project_recommended911minimumtrainingfortelecommunicators.html.

topics to be included in a telecommunicator training program. These minimum training guidelines have been used at both the state and local level as a starting point when creating or updating training plans. Several states have even utilized the minimum guidelines when creating requirements for state level certification.

While in all likelihood the telecommunicator course covers all applicable topics, Mission Critical Partners recommends the ECC review the guidelines to ensure alignment where practical. A copy of the guidelines can be found in Appendix A – National 911 Program Minimum Training Guidelines for the Telecommunicator.

7.2.2.5 Measuring Effectiveness

A four-level model for measuring the effectiveness of training programs was developed by Donald Kirkpatrick, a professor and past president of the American Society for Training and Development, in the late 1950s. While this model is older, it has been adapted and modified, withstanding the test of time. The structure is illustrated and described below. The higher the level, the more valid the evaluation.

THE NEW WORLD KIRKPATRICK MODEL

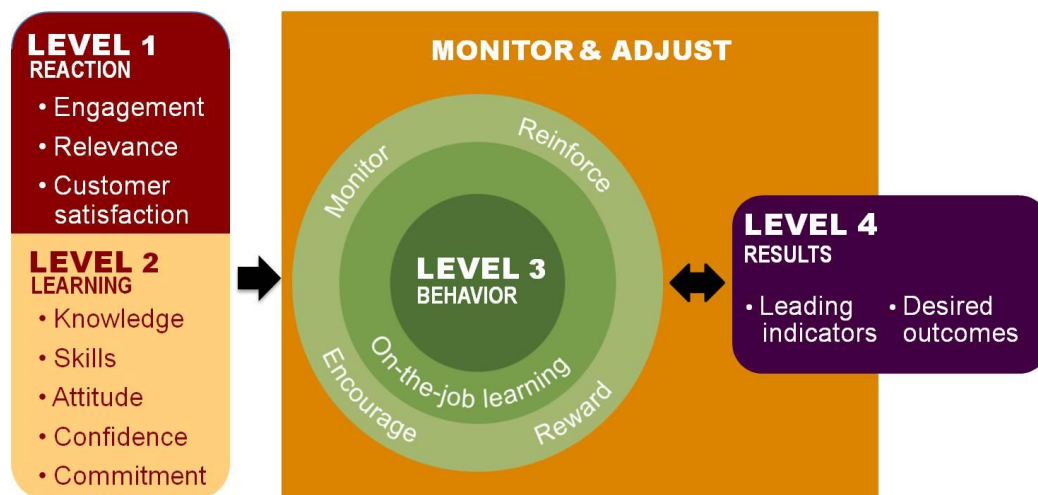


Figure 4: Kirkpatrick Model⁷⁷

⁷⁷ “The Kirkpatrick Model,” Kirkpatrick Partners, <http://www.kirkpatrickpartners.com/OurPhilosophy/TheKirkpatrickModel/tabid/302/Default.aspx>.

- Level 1 – Reaction
 - To what degree participants react favorably to the training; the degree to which participants are actively involved in and contributing to the learning experience; the degree to which training participants will have the opportunity to use or apply what they learned in training on the job
- Level 2 – Learning
 - To what degree participants acquire the intended knowledge, skills, attitudes, confidence and commitment based on their participation in a training event
- Level 3 – Behavior
 - To what degree participants apply what they learned during training when they are back on the job
- Level 4 – Results or Effectiveness
 - To what degree targeted outcomes occur as a result of the training event and subsequent reinforcement; short-term observations and measurements suggesting that critical behaviors are on track to create a positive impact on desired results ⁷⁸

Level 1 can include instructor and course evaluation forms or questionnaires and informal comments from the students. Level 2 could include pre- and post-testing results, reports from training officers or supervisors, or on-the-job assessments. For levels 3 and 4, one of the best ways to determine the degree to which telecommunicators apply what they have learned and to ensure targeted outcomes are achieved is through a QA/QI process or program.

Mission Critical Partners recommends that the ECC measure the effectiveness of its training program as some vacancies are attributed to new hires not completing classroom training or being unsuccessful at on-the-job training. This is likely a task for the Instructional Coordinator position, which will provide insight that will be helpful in restructuring the classroom and on-the-job training program.

7.2.3 New Hire Training

Proper organization, structure, and attention to detail are critical in a training environment. The ECC must ensure that new hire training is well-organized. Telecommunicator trainees should be given a training manual the first day of training that includes a syllabus and calendar for the entire training period. Table 14 provides an example of a class schedule for a four-week period for another agency.

⁷⁸ “The New World Kirkpatrick Model,” Kirkpatrick Partners, <http://www.kirkpatrickpartners.com/OurPhilosophy/TheNewWorldKirkpatrickModel/tabid/303/Default.aspx>

Table 14: Sample Training Calendar

February/March 2018 Full-time Class				
Monday	Tuesday	Wednesday	Thursday	Friday
February 19	February 20	February 21	February 22	February 23
OFF	0700-1500	0700-1500	0700-1100	0700-1100
	Paperwork	ETC-Sara	Mapping-Jeff	Mapping-Jeff
	Harassment	1130-1500	1130-1500	1130-1500
	Information Technology	Units/Geography	ETC-Sara	NE Police Zone-Bill
February 26	February 27	February 28	March 1	March 2
0700-1100	0700-1100	0700-1500	0700-1500	0700-1130
South Police/PSP-Jr	Metro-Brad	ETC-Sara	ETC-Sara	Fingerprinting
				CPR
1130-1500	1130-1500			1200-1500
NW Police-Mike R	Units/Geography			Dispatch Room
March 5	March 6	March 7	March 8	March 9
0700-1100	0700-1100	0700-1500	0700-1100	0700-1130
FEMA IS 100/700	Units/Geography	CAD overview-Mike	Tours-Dave	Scenarios w/CAD
			1130-1500	
1130-1500	1130-1500		EMA Signup/Phones	1200-1500
EMA Randy	NCMEC		Unit/Geography Test	Dispatch Room

February/March 2018 Full-time Class				
Monday	Tuesday	Wednesday	Thursday	Friday
March 12	March 13	March 14	March 15	March 16
0700-1230	0700-1100	0700-1100	0700-1500	0700-1500
Scenarios w/CAD	SCOPE/JNET/NCIC	SCOPE/JNET/NCIC		LAST DAY
	Kim & Steph	Kim & Steph	Test	Review
1300-1500	1130-1300-Vicki	1130-1500	Scenarios	
CritiCall-Chris H.	1300-1500 QA - Roy	Radio Room	Review	

This calendar informs trainees of the lesson plan and provides structure. It has been reported that trainees did not know what to expect from day-to-day. If the schedule needs to change, trainees should be given as much notice as possible.

Mission Critical Partners recommends that Cincinnati ECC institute training markers. When a certain point is reached in classroom training, trainees then observe dispatchers in the room implementing what they have just learned. This provides context. Similarly, the ECC should consider a “learn it, practice it, see it” approach. For example, the trainees would learn a new skill, such as entering an incident into the CAD system. Trainees would then practice it, and then spend time in the 911 center seeing the skill in daily operations, rather than just continuing to practice.

Communication is key. Each trainee is assigned a trainer for on-the-job training. Mission Critical Partners recommends that new trainees are assigned a trainer as soon as they are hired. This trainer will serve as a mentor throughout classroom training, meeting weekly with the trainee. The trainer will be available for questions and offer support and guidance throughout the process. It may be that the trainer currently has a trainee for on-the-job training, but the time requirements should not be time-consuming.

Mission Critical Partners recommends that in addition to their trainer, trainees are assigned a mentor on their respective shift. This would allow trainees to become more comfortable with their co-workers, providing an environment where they may be more apt to ask questions and not feel isolated.

7.2.4 Communications Training Officer Training

This leads to another critical element within 911 centers—the development of effective communications training officers (CTOs). Trainers must want to train and be invested in the success of their trainees. The worst thing for a trainee is to sit with someone who has no interest in training. It is critical for a

telecommunicator trainee to be taught by a positive and energetic role model who sets the stage for success. Mission Critical Partners recommends that ECC evaluate their current training officers and the selection process to ensure that the right telecommunicators are training, and for the right reasons. Mission Critical Partners also recommends that any telecommunicator serving as a training officer meet the core competencies and minimum training standards for communications training officers as defined by APCO⁷⁹ and NFPA 1061⁸⁰.

Mission Critical Partners received feedback that the training officers were not consistent in scoring or necessarily in alignment with the training curriculum. It was also shared that some training officers score trainees for performing a function incorrectly if not in alignment with their preferred method; even if the way the trainee was performing the function was correct and taught in the training class. Mission Critical Partners understands that once an employee becomes a CTO, further training or continuing education is not provided. In addition, there appeared to be a shortage of CTOs for dispatch, which results in some employees constantly being utilized for training.

Mission Critical Partners recommends the ECC expand the CTO program and encourage more experienced telecommunicators to serve in that capacity. This will help alleviate the burden on the current CTOs and, perhaps, offer some time off from constantly training. In addition, based on the current vacancies and short-staffing, a larger new-hire class could be expected. Additional CTOs would provide the opportunity for trainees to complete training more quickly.

Mission Critical Partners recommends consideration be given to implementation of a 360-degree annual performance review program for training officers.

7.2.5 Continuing Education Training

As discussed in Section 7.2.1 Ohio Minimum Training Standards, Section 5507-1-08 contains requirements for two hours of continuing education training to be performed yearly.

APCO's *Minimum Training Standards for Public Safety Telecommunicators*, Section 2.3.7 states, "[t]he Agency shall require and ensure no less than twenty-four hours of continuing education or recurrent training for each Telecommunicator annually."⁸¹

CALEA's *Standards for Public Safety Communications Agencies*, Standard 5.2.6 requires all public safety agency personnel to complete annual retraining.

⁷⁹ APCO International, *Core Competencies and Minimum Training Standards for Public Safety Communications Training Officer (CTO)*, 2017, <https://www.apcointl.org/standards/standards-to-download/>.

⁸⁰ NFPA 1061, *Standard for Public Safety Telecommunications Personnel Professional Qualifications*, 2018. <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1061>.

⁸¹ "Training Program Administration," *Minimum Training Standards for Public Safety Telecommunicator*, APCO International, page 18. <https://www.apcointl.org/standards/standards-to-download/>.

In addition, all ECC call takers, dispatchers, and supervisors, as well as IT staff, would benefit from frequent continuing education training on the equipment, technology, and procedures. Mission Critical Partners understands that CPD has implemented changes to require cross-training in the Police Academy. Mission Critical Partners recommends that as part of the update to the training program include regularly scheduled sessions for the following areas:

- Cross training on CPD and CFD operations
- Technology updates
- Equipment refresher sessions
- SOP updates including mandated TTY training

Alternate training methods become particularly important in continuing education as many PSAPs do not have the staff to allow personnel time off to attend training while on-duty. As such, staff have to attend on their off days, often resulting in overtime, or must fill in for someone attending training, which again uses an off day and often results in overtime.

Two types of alternate training are computer-based and online (E-learning). Computer-based training can be text only or multimedia. Online training can include web-based training, webinars, teleconferencing and videoconferencing, and online college courses. There are advantages and disadvantages to each.

Table 15: Alternate Training Advantages and Disadvantages⁸²

Computer-based	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Easy to use • Often customizable • Applicable to self-directed learning • Cost-effective • Learn at their own pace and any convenient time • Some training is interactive • Standardized training • Measurable and trackable 	<ul style="list-style-type: none"> • Requires computer literacy • Requires computer access • No live interaction for new skills • No one may be immediately available for questions • Not effective at teaching “soft-skills,” such as customer service • No feedback • Poor retention rate if material boring

⁸² “The Most Effective Training Techniques,” Simplify Compliance. <http://trainingtoday.blr.com/article/most-effective-training-techniques/>.

Online (E-learning or Distance)	
Advantages	Disadvantages
<ul style="list-style-type: none"> • Effective for training across multiple locations • Reduces costs associated with travel • Progress at own pace • Can provide access to professional training • Applicable to self-directed learning • Easily updated • Array of choices to match employee knowledge and skill levels 	<ul style="list-style-type: none"> • Requires computer literacy • Requires computer access • Limited customization • Can be seen as impersonal • Employees may be too intimidated by the technology or the remoteness of the trainer to ask questions. • Programs such as graphics and sound cards may malfunction if computer not kept updated • Available bandwidth to download or receive materials • Response to questions may not be timely

Computer-based training often uses a standard digital video disc (DVD) that students may watch together or independently at their own convenience. Online training has the potential to be more interactive, particularly if the session is conducted live, such as some online college courses.

Another valid approach is a blend of several training styles.

7.2.6 Leadership Development

David Witt, a researcher with The Ken Blanchard Companies who studies employee engagement and the impact that leadership practices have on employee retention, well-being, and productivity, said, "...we've been looking at the connection between leadership practices, employee work passion, customer devotion, and an organization's bottom line. What we've found is that there is a clear connection between the quality of an organization's leadership practices—as perceived by employees—and subsequent intentions by employees to stay with an organization, perform at a high level, and apply discretionary effort."⁸³

Staff are often promoted internally to a supervisory position because they are good, if not great, telecommunicators. They are then trained and/or mentored to manage administrative duties and daily tasks associated with the respective job description. Mission Critical Partners recommends that those in leadership roles receive training on sexual harassment, liability, diversity, conflict resolution, ethics, performance management, and counseling.

⁸³ "October 2013 Newsletter," The Ken Blanchard Companies, October 2013, <https://www.kenblanchard.com/>.

Mission Critical Partners recommends that newly promoted supervisors, as well as those in current leadership roles who have not done so previously, attend leadership courses to enhance their knowledge, competencies and skills. If properly executed and staff have buy-in, this should result in increased learning, achievement of goals, improved performance, and often personal satisfaction.

Mission Critical Partners recommends consideration be given to implementation of a 360-degree annual performance review program for supervisors and managers. “Research shows that by collecting feedback from a variety of perspectives, especially peers and direct reports, individuals can understand how they’re seen from all points of view. They can then use this knowledge to assess the extent to which they actually exhibit exemplary leadership behaviors.”⁸⁴ This will assist those in management with identifying opportunities to further develop front-line leadership in ways that will positively impact operations.

7.3 Retention

Employee retention can be defined as an organization’s ability to retain employees (expressed statistically) or efforts by an employer to keep valuable, contributing employees (strategies versus statistical outcome). And much research has been conducted in this arena as it remains a concern. In 2011, a study by AchieveGlobal, *Worldwide Trends in Employee Retention*⁸⁵, identified the top three reasons employees leave their jobs: insufficient compensation and benefits, lack of growth and development opportunities, and contributions not appreciated by management. The study identified that when employees leave, companies also suffer residual effects, including declining employee morale and weakening employee relationships.

Staff also leave their jobs for other reasons: perception of fairness and equitable treatment, changing expectations, and quality of supervision.⁸⁶ Each of these alone can create stress for an individual; when combined, the stress can be unhealthy for an organization. Employees are the key to any business’ “health;” without employees, a business ceases to function or operates inefficiently. Public safety is no different.

While there are numerous internal factors why employees choose to leave a job, there are also external factors, namely the improving economy. Unemployment is decreasing, which means there are more opportunities for employees to opt for other careers, particularly in the private sector. In 2016, greater opportunity was cited as the number one reason people left their jobs.⁸⁷

⁸⁴ Kouzes, James M. and Posner, Barry A., *The Value of 360-Degree Feedback*, LPI®: Leadership Practices Inventory®, 2017, <http://www.leadershipchallenge.com/UserFiles/The%20Values%20of%20360-degree%20Feedback%20whitepaper.pdf>.

⁸⁵ Manhertz, Jr., Huntley, Ph.D., “*Worldwide Trends in Employee Retention: How to Keep Your Best Employees in Any Market*,” <http://img.en25.com/Web/AchieveGlobalInc/Worldwide%20Trends%20in%20Employee%20Retention.pdf>.

⁸⁶ “Top 10 Ways to Retain Your Great Employees,” Human Resources, July 7, 2017, <https://www.thebalance.com/top-ways-to-retain-your-great-employees-1919038>.

⁸⁷ “3 Big Trends in Employee Retention Strategies to Keep the Best Talent,” NextGen, May 11, 2016, <http://nextgenr.com/3-big-trends-employee-retention-strategies-keep-best-talent/>.

NENA has noted that there are factors that predict retention, including:

- Center is fully staffed (all authorized positions filled)
- Number of overtime hour/month
- Job complexity
- Hourly base pay
- Employee satisfaction with work factors (breaks, fairness, positive relationships, etc.)
- Pay matters and does make a difference in retention
- Employees who earn higher pay are from agencies with significantly higher retention rates
- Employees who were satisfied with their salary and earnings were from agencies with significantly higher retention rates that *[sic]* employees who were dissatisfied”⁸⁸

There is no single solution to staff retention and efforts geared toward this are slow to evolve and may take years to evaluate their effectiveness.

While some stress is inevitable, Cincinnati ECC management can mitigate many stressors. On-going staffing shortages, overtime, and scheduling issues are sufficient stressors and the breeding ground for more staffing shortages. An APCO Project Retains 2005 report states, “The strongest and best predictor of a high retention rate was having all authorized positions filled and being fully staffed.”

While communications centers cannot run as a democracy, employee involvement can be a powerful tool. Employee committees can contribute to operational efficiencies and create ongoing dialogue between management and telecommunicators on emerging issues. Mission Critical Partners recommends Cincinnati ECC create a “morale team” to provide a forum for employees to express concerns and frustrations, and an opportunity to present solutions.

Trust needs to be fostered in management, including supervisors. Employees need to believe that their supervisors and management are competent and understand the nuances of what they do, and how they do it. To inspire confidence and make decisions that reinforce it, one thing cannot be said and another done.

Mission Critical Partners recommends that Cincinnati ECC implement a comprehensive employee stress management program. The World Health Organization has called workplace stress “the health epidemic of the 21st Century” and estimates that it costs the United States up to 300 billion dollars per year.⁸⁹

NENA-STA-002, 9-1-1 Acute/Traumatic and Chronic Stress Management, published in August 2013, says:

⁸⁸ National Emergency Number Association, *Emergency Number Professional Reference Manual*, (USA: NENA, 2017), 149.

⁸⁹ “The Cost of Stress in Your Organization & What You Should Do About It,” mequilibrium, (2010-2013), <https://www.mequilibrium.com/wp-content/uploads/2013/03/3-1-13-FINAL.pdf>.

...risks and the costs of unmanaged stress are high for all 9-1-1 stakeholders—the 9-1-1 Telecommunicator/Dispatcher, the organization of the local PSAP, field responders who rely on dispatch personnel on scene, and for the public who depend on 9-1-1 for emergency service... While non-traumatic, such commonly occurring events and work conditions still can produce stress and pose health and performance risks.⁹⁰

This standard “provides for essential awareness of the serious risks posed by work-related stress on the mental and physical health of 9-1-1 emergency Telecommunicators/Dispatchers in their role as our first, first responders. It establishes the ‘best practice’ elements of local 9-1-1 comprehensive employee stress management programs and the expectation that such programs will be implemented by PSAPs.”⁹¹

Mission Critical Partners also recommends Cincinnati ECC develop a mentoring program for new hires and those aspiring to supervisory positions, enhancing an individual’s skillsets and providing an opportunity for continued growth. As noted by the Society for Human Resources Management (SHRM):

A mentoring program is important to an organization because it:

- *Encourages mutual loyalty between employees and the employer.*
- *Increases employee retention.*
- *Promotes diversity.*
- *Helps new employees acclimate to their job and the company culture more quickly and increases their learning curve.*
- *Improves organizational performance.*
- *Increases employee productivity.*
- *Creates a greater sense of involvement within the company.*
- *Increases employee morale.*
- *Supports an innovative work environment.*
- *Increases creativity and exposure to new ideas.*
- *Contributes to the development of a cooperative, productive and service-oriented environment.*

Building an organizational culture that provides for employees’ professional needs (growth opportunities), and demonstrated appreciation and respect (listening to employees, basing rewards on performance, work/life balance options) can provide employees with good reasons to stay and will foster an environment of trust in supervisors and management as a whole.

⁹⁰ “Acute Traumatic & Chronic Stress Management [sic,]” National Emergency Number Association, August 5, 2013, <https://www.nena.org/?StressManagement>.

⁹¹ Ibid.

8 Standard Operating Procedures

Communications centers 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 public and first responders.

Standard operating procedures (SOPs) are a critical component of a communications center's operations as they serve to reduce the possibility of human error and provide guidelines for employees to follow. The SOPs create consistency in the internal and external functions of the communications center, which is paramount when dealing with callers and emergency services personnel. The more consistent the process or procedure is from person to person, the less chance there will be for problems or issues with quality.

Well-developed SOPs provide the following:

- Guidance – provides information/direction during the course of one's assigned duties
- Protection – provides liability protection if followed
- Accountability – to acknowledge responsibility to the public and organizations served
- Expectations – provides employees with what the organization expects of them
- Training – provides a basis for knowledge of organizational structure, operation, maintenance, etc.

SOPs also provide a method of communication with staff. As improvements are made to operations or operational or technical processes, SOPs are updated, and each update requires new training. This provides a method to communicate the process changes to all employees. The SOPs ensure a communications center can meet the expectations of first responder agencies. The SOPs can be developed to ensure a communications center's policies and procedures align with responder agencies' while considering the requirements and limitations of the center itself.

Cincinnati ECC's policies are not in a consistent format and the majority appear not to have been updated since 2016.⁹²

Mission Critical Partners recommends that a standard SOP template be used, with specific sections identified. While Cincinnati ECC has an SOP template, it consists of a header and footer, and numbering schema as follows: A, 1, a, 1), a).

Mission Critical Partners recommends the following components in the header, in addition to the agency name and logo:

⁹² Mission Critical Partners noted several other issues with select SOPs in its review of the Kyle Plush incident; there is no need to reiterate those within this document.

- Subject
- SOP Number
- Effective Date
- Revision History
- Standards Reference(s)⁹³

The Standards Reference(s) section would list any references, such as Ohio Code; City of Cincinnati Code; and/or APCO, NENA, NFPA, or the Commission on Accreditation for Law Enforcement Agencies (CALEA) standards. The references should be specific with the title, chapter, and sections, where appropriate.

Some of the policy statements within the SOPs are vague. For example, the policy in #2.100 911 Silent Calls states:

ECS employees should understand the Ohio Revised Code, Association of Public-Safety Communications (APCO) and National Emergency Number Association (NENA) standards regarding 911 silent calls.

ECS employees will understand and follow this SOP.

A policy is defined as “a definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions.”⁹⁴ Policies and associated procedures should be realistic and actionable. The first portion of the policy statement is subjective, and not likely realistic. While the information in the referenced documents would be objective, knowing whether someone “understands” them is subjective. In addition, employees should not have to “search” to determine the standards to which a policy refers.

Rather than a policy statement, Mission Critical Partners recommends a Purpose section, followed by a Procedures section. Specific references to a standard should also be noted in these sections. A portion of an example is below.

[Agency Logo]	Cincinnati Emergency Communications Center
SUBJECT: Code of Conduct	NUMBER:
EFFECTIVE DATE: 9/1/2018	REVISION HISTORY: 4/21/2014
STANDARDS REFERENCE(S): APCO CALEA 3.6.1	

⁹³ It should be noted that not all SOPs will have references to national standards or other accrediting organizations nor do they need to. Yet when an agency standard is based on a national standard, providing the reference is a valuable tool.

⁹⁴ “Policy.” Merriam-Webster. October 26, 2018. <https://www.merriam-webster.com/dictionary/policy>.

PURPOSE:

- A. Cincinnati ECC personnel have the responsibility to become thoroughly familiar with the provisions of this Standard Operating Procedure and are expected to know and assume the duties and obligations. This Code of Conduct Procedure remains in effect upon approval of the ECC Director and is posted electronically on the City's internal website as well as issued to all supervisors. All employees will be informed of any changes and are required to sign documentation stating they have reviewed this procedure. (APCO CALEA 3.6.1)

PROCEDURES:

- B. General Conduct
 1. Employees shall conduct their private and professional lives in such a manner as not to impede Cincinnati ECC's efforts to achieve its standard operating procedures and goals nor bring discredit upon the City of Cincinnati or upon the individual as an employee of the ECC.

"[T]here are some central features common to all good policy:

- it states matters of principle
- it is focused on action, stating what is to be done and by whom
- it is an authoritative statement, made by a person or body with power to do so."⁹⁵

For Cincinnati ECC, the goal is objective SOPs that are specific to ensure employees know what is expected of them.

Mission Critical Partners recommends that Cincinnati ECC establish an SOP committee to thoroughly review and rewrite, where necessary, all operational SOPs for approval by the ECC director. The committee should be comprised of ECC leadership, call takers, and dispatchers. The committee can bring in other persons as necessary, such as technology or training. The policies and procedures of Cincinnati ECC should be internal operational procedures that do not affect responses by either the police or fire departments. Any policy that would affect the departments would require approval by the respective departmental chief or designee. NENA offers an SOP course entitled "SOP Development: Refining & Enhancing Your 9-1-1 Center." Cincinnati ECC may find this course beneficial. A third-party could also be brought in to work with Cincinnati ECC and the committee and oversee the process to ensure the review/rewrites remain on task. The standards published by the various accrediting organizations and the 911 industry are excellent resources.

⁹⁵ Office of General Counsel, *What is Policy?* The University of Sydney, September 12, 2016. <http://sydney.edu.au/legal/policy/what/index.shtml>.

Mission Critical Partners recommends that Cincinnati ECC ensure that operational procedures do not become confused with information that would normally be a training concept that does not require an SOP, such as phone etiquette.

Consideration should be given to policies and procedures in the areas of administrative, human resources, operations, and facilities. Table 16 provides a list of suggested content that could be applicable, if not already in place. The ECC is encouraged to expand this list.

Table 16: Suggested SOP Content

Administrative	
Mission Statement	Internal/External Correspondence
Code of Ethics	Media Contacts/Press Releases
Organizational Structures	Release of Recordings
Organizational Charts	FCC/Radio Operation
Training Parameters	Dress Code
Roles and Authority	Computer/Internet Use
Agency Files	Lost or Damaged Property
Complaints	
Operations	
General Rules	Environmental Health
Answering Procedures	Emergency Management
Protocol Usage	Radio Communications
Protocol Suspension	Paging
Street/Road Closings	Emergency Media Notification
Premise Information	Radio System Operations
Exigent Circumstances	Records Management
Telematics Calls	Internal Notifications

Language Line	Severe Weather
Emergency Services for the Deaf	Repossessions
Manual Operations	Incident Cancellation Requests
Mobilization of Personnel	Burning Bans
Major Emergency Incidents	Scene Safety
Critical Incidents	Special Events
Homeland Security	
Facilities	
Security	Alternate Power Sources
Visitors	Equipment Malfunction Notifications
Facility Maintenance	Radio System Failure
Emergency Evacuation of PSAP	Emergency Operations

8.1 SMART

SMART is an acronym used to describe how objectives should be set. Originally SMART was used in setting personal performance goals or for project management, yet the concept can also be applied to SOPs, which are used to guide actions. While there is no true consensus as to what the acronym letters stand for, a general acceptance is as follows:

- Specific
- Measurable
- Achievable
- Realistic
- Time

An individual standard should specify what needs to be achieved, be able to be measured as to whether the standard is met, be achievable, be realistic (i.e., can the standard be met with the resources available), and describe a time frame. Time will not need to be specified in each SOP. Some SOPs may require annual reports, weekly tests, or occur on a daily basis. “Time” can also mean trackable, tangible, or traceable.

The SMART approach is a test to be carried out after writing a standard to test its validity; it is not an order to be followed or a constraint to be applied when developing goals or objectives. While not all standards will fit this mold, following this model leaves little doubt as to what is expected.

8.2 Response to Wireless Disconnect Calls

Mission Critical Partners recommends that Cincinnati ECC re-evaluate its handling of the CELL incident type. The CELL incident type is used to make a record of a 911 cellular call, many of which are accidental dials; contact may or may not have been made with the caller. In 2017, there were in excess of 109,500 CELL incidents. As an advised incident, there is no notification to CPD or CPD response. For those calls with no contact with the caller, this places the liability on the Cincinnati ECC for determining whether response is warranted.

Mission Critical Partners is aware that other 911 centers enter calls for service when there is no contact with the caller and advise law enforcement of the incident; it is then up to the responsible agency to determine if it will respond. Mission Critical Partners recommends this avenue for Cincinnati ECC.

The ECC has implemented Smart911 and is in the process of implementing Text-to-911. Smart911 allows a PSAP to place an outbound text to a 911 caller. This will allow a call taker to send a text message to wireless disconnects and open wireless calls to determine if help is needed or if the call was in error. Mission Critical Partners strongly encourages the City and ECC to consider implementing this important technology.

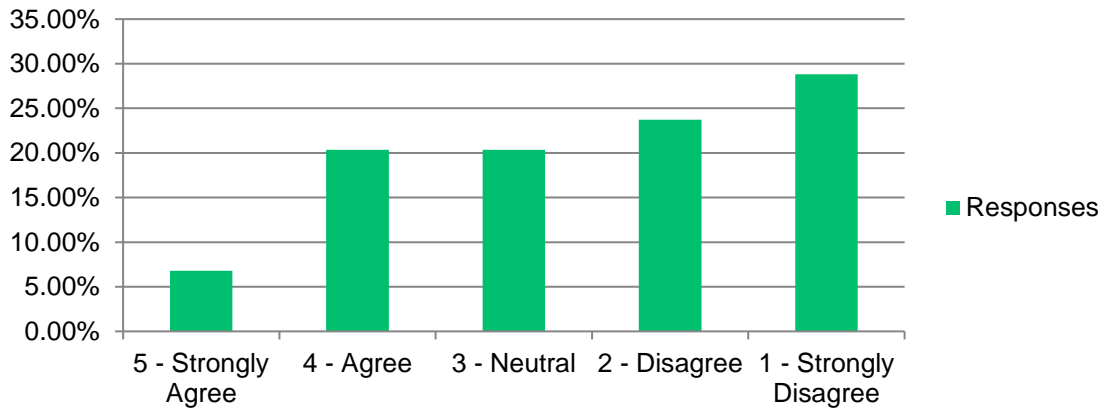
Mission Critical Partners also recommends Cincinnati ECC, in cooperation with CPD, consider a policy requiring dispatch for a second call received from the same cellular number, whether the initial call was dispatched or not. There would need to be defined parameters for such a policy, such as timeframes for the received calls.

9 Survey Response Results

As part of this assessment, Mission Critical Partners wanted to ensure that all ECC personnel had the opportunity to be heard. Some staff were interviewed individually during two on-site visits to gather information about the morale and perception of the PSAP; but it was impossible to sit down with every employee. Thus, Mission Critical Partners developed a 61-question survey with questions ranging from leadership and communication to satisfaction as an employee. Each employee was given the opportunity to complete a survey and 59 employees responded. For most questions, recurring themes could be found. The full list of survey questions can be found in Appendix B – Employee Feedback Survey.

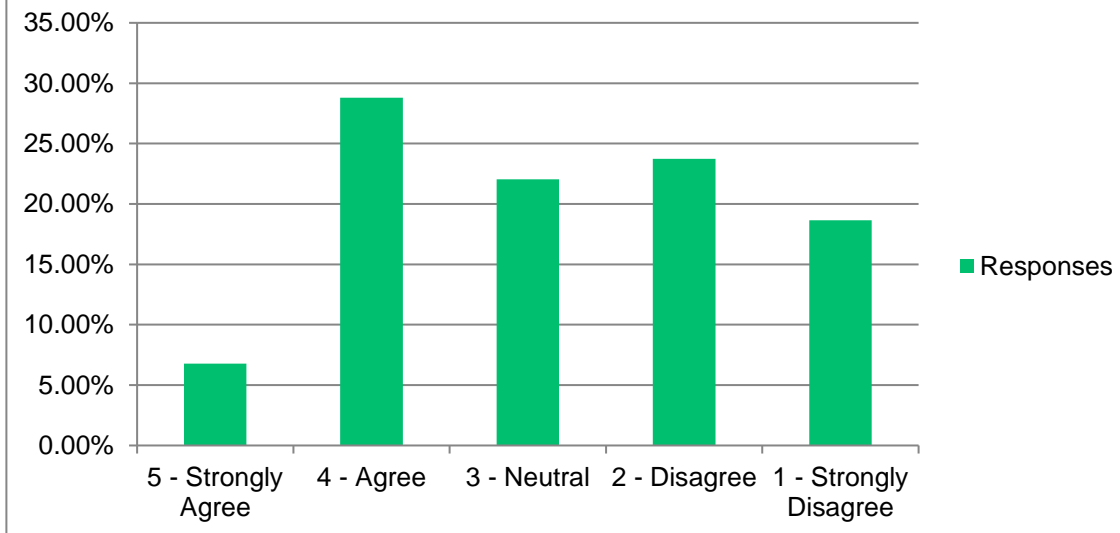
The first few survey questions asked about leadership and communicating information to employees. Over half of the employees responding disagreed or strongly disagreed that leadership does a good job communicating with the employees.

Current Cincinnati ECC leadership does a good job communicating information about changes that may affect employees.



The chart below shows that supervisors received higher ratings on communicating consistently.

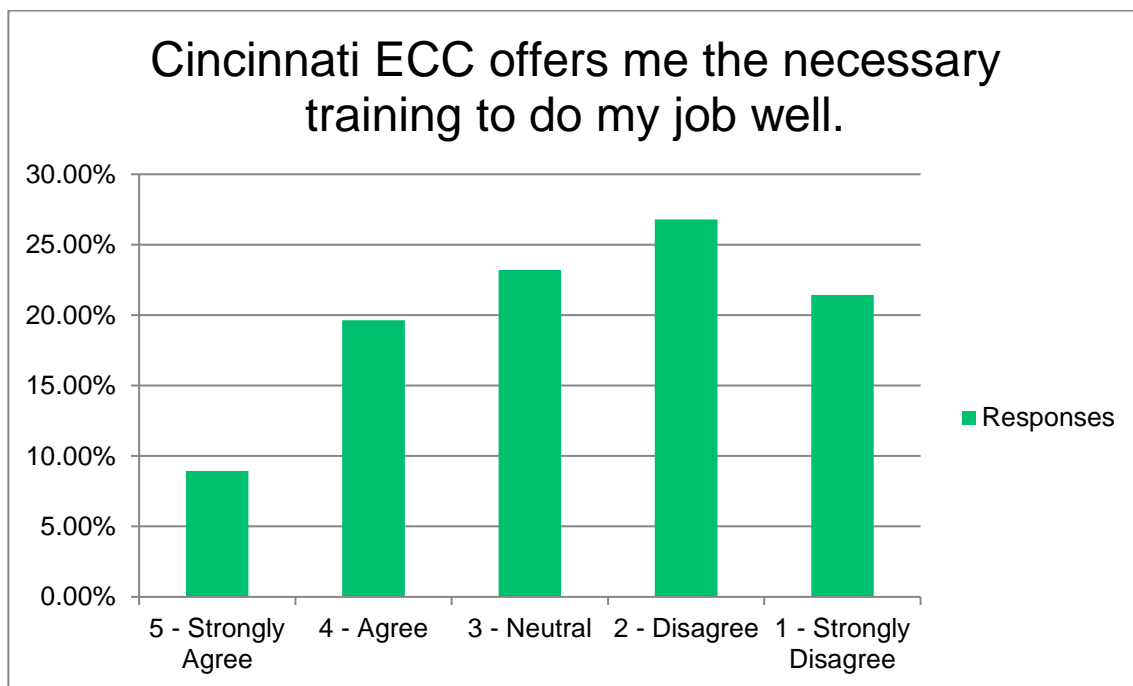
Supervisors communicate consistently with ECC staff.



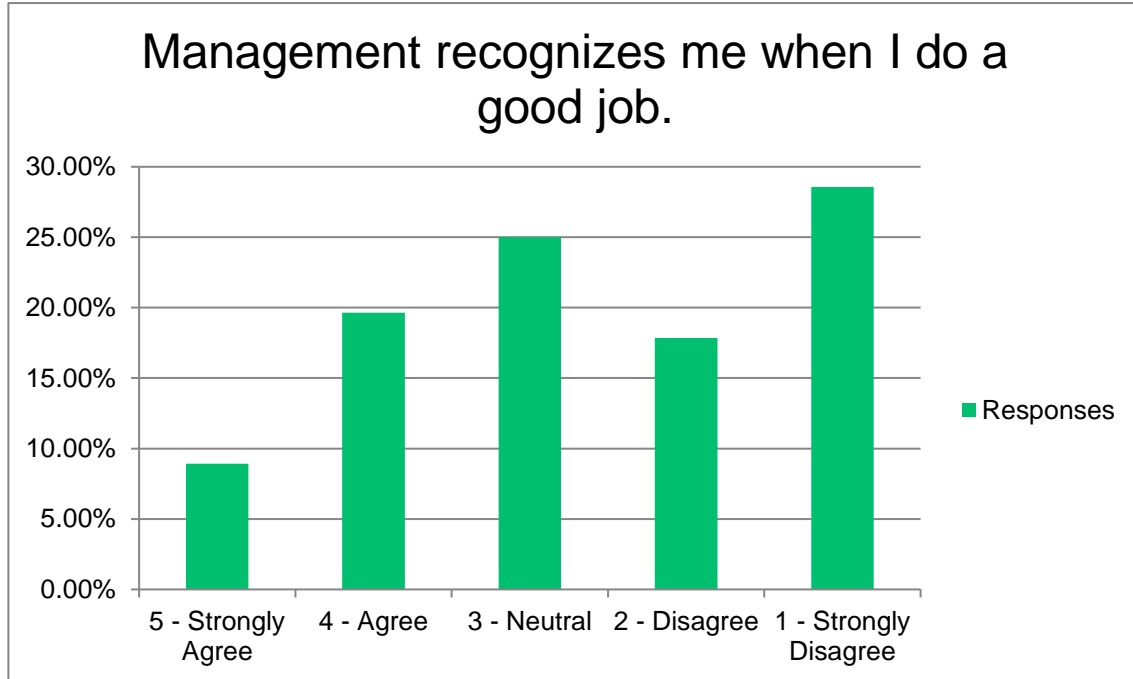
While floor supervisors scored higher, the overall consensus was that a better job has to be done. Additionally, a majority of staff believe that center management does not provide a long-term vision for the department.

A majority percentage believe that shift meetings or briefings would help communications to staff. Mission Critical Partners learned that meetings used to occur, but this practice was discontinued. Mission Critical Partners recommends that management staff reintroduce some type of regularity to staff meetings that disseminates important information and gives staff a chance to ask questions and air issues.

Another theme that surfaced was continuing education training and career advancement. While most employees believe that their initial training prepared them for the job, after that they were not provided continuing education or given the opportunity to further their education in the 911 field by attending class offerings. Additionally, the ECC does not host outside speakers or classes that employees can attend. Realizing either way it does cost money, the ECC should budget for continuing education and provide employees opportunities to learn and enhance their knowledge in the field of 911 communications. Limiting learning also limits career advancement within the ECC, which is already limited due to lack of a dispatcher step process. Mission Critical Partners recommends that the Cincinnati ECC consider some semblance of dispatcher steps as a career ladder. This can be based on training, tenure, positions worked, or any combination listed.

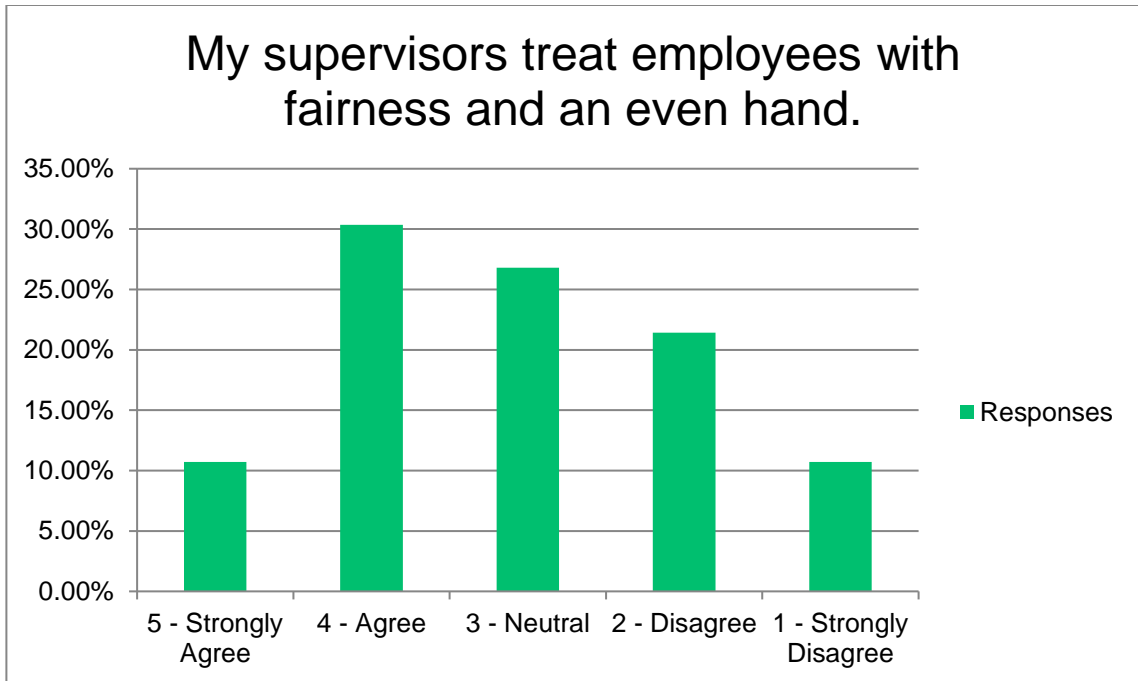


Management recognition for a job well done was deemed below average or in some cases non-existent.



The survey reflected that a majority of employees believe that instead of getting recognition, the opposite happens: the employee is approached about errors or issues with calls. Understandably errors must be investigated; however, this should be balanced by recognizing a job well done. The lack of positive feedback affects morale and causes dissension between staff and supervisory or management personnel.

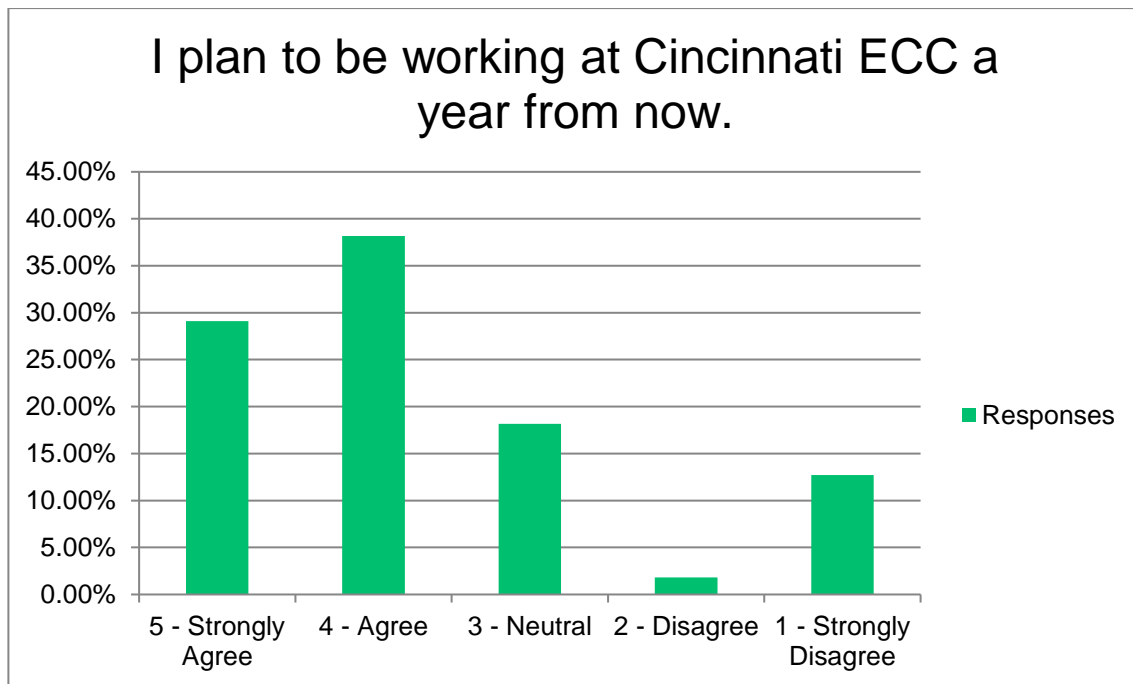
Additionally, a majority of employees' written responses noted that treatment of employees by supervisors was impartial and fair. However, during face-to-face interviews, the feedback provided to Mission Critical Partners was that treatment from supervisors varied by employee and was partial and unevenly applied.



Mission Critical Partners recommends that employee feedback for above-average job performance be recognized on a more frequent basis and management should ensure that all treatment of employees by supervisors is fair, consistent, and done with an even hand.

On a positive note, employees believe that their job is secure, that they are paid competitively, and they are positive about their working environment. The majority also report that they know what is expected of them and that they work well with their co-workers and get the job done on a daily basis.

Another question asked if the employee would be working at the ECC a year from now and an overwhelming percentage said yes. This high percentage answer is a good sign for Cincinnati ECC as it moves forward, addresses its identified issues, adds additional staff, and transitions to new leadership.



A copy of the survey response results can be found in Appendix C – Employee Feedback Survey Responses.

10 Oversight and Funding

As mentioned in Section 1 Background, the ECC was previously a section of CPD and was referred to as the Emergency Communications Section or ECS. In response to the Kyle Plush incident in April 2018, the ECS was transitioned to a civilian-managed department under the auspices of the City Manager’s Office; a change that occurred in June 2018. The City has previously attempted to move the call center under civilian leadership, and after a few years moved it back under the CPD.

During face-to-face interviews with ECC call takers, dispatchers and supervisors in August 2018, a recurring theme was the opinion that the PSAP should be under the control of CPD. This was interesting feedback because almost verbatim everyone interviewed shared how disjointed and unorganized the PSAP was when led by CPD because of the frequent change in leadership. Staff expressed challenges with previous CPD leadership, lack of respect from some of the previous captains, and the high turnover rate of staff due to the stress of mandatory overtime, etc. When questioned why they believed the PSAP

should remain under CPD control when they had just shared negative experiences, staff explained it was because they “worked for the Police – that was their customer” or “felt like part of a team helping to put the bad guys away.” In addition, staff rely on the CPD sergeants to provide guidance to field responses; there was concern that this liaison would “go away” under civilian leadership.

Mission Critical Partners recommends that ECC leadership work to engage staff and through the strategic planning process help build a unified vision for 911 in Cincinnati and the vital role communications plays in both police, fire, and EMS response. 911 personnel help to ensure the safety of both the first responders and the public calling for help.

10.1 ECC Leadership

Under CPD, the ECS leadership rotated every year or two and, as mentioned in Section 1 Background, this frequent change in leadership did not allow for continuity or consistency in operations. During interviews with ECC staff, Mission Critical Partners observed a common theme about the inconsistency in leadership and the challenges this presented. Staff shared that several people put in charge of the center never engaged staff or even came out onto the communications center floor. Procedures and discipline frequently changed each time leadership did and morale was low because of this. Many staff felt this changed with the last police captain, who made it a point to visit and get to know staff; others indicated they had not met the captain.

To ensure a successful transition and provide consistent leadership to staff going forward, Mission Critical Partners recommends that the interim 911 director stay in the position long enough to set up a leadership structure, create a strategic plan for the ECC, and update the SOPs. Mission Critical Partners then recommends that Cincinnati establish a hiring committee to hold a nationwide search for a new 911 director with experience leading an organization the size of ECC and with forming strong working relationships with served agencies and represented unions. It may be necessary for Cincinnati to consider contracting with a recruiting and hiring firm to assist in the search and interviews.

Mission Critical Partners recommends that a center the size of Cincinnati have the following consistent and assigned leadership: 911 director, deputy director, operations manager responsible for the floor, technology manager, training supervisor and QA supervisor. A proposed organizational chart for the recommended leadership structure is shown below.

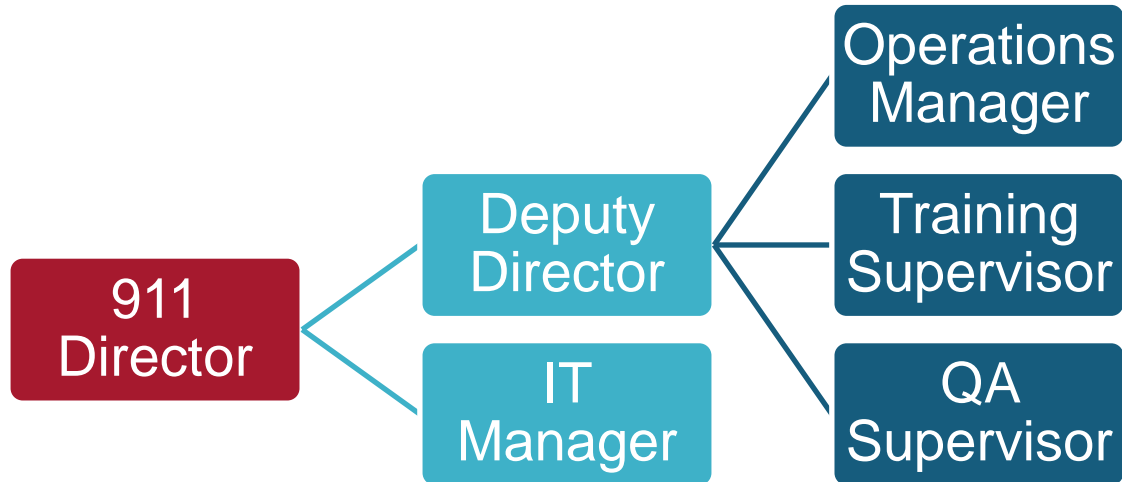


Figure 5: Proposed Leadership Structure

Within the City organizational structure, Mission Critical Partners strongly recommends the 911 director is on an equal level with the police chief and fire chief. All three department heads should have the same reporting structure to ensure that changes made within one department do not negatively impact the other two. Police, fire and 911 must work together to provide the highest level of service to the citizens of Cincinnati. Finally, it is important to recognize the vital role that 911 call takers and dispatchers play in emergency response—that of the “first of the first responder.” Call takers are the first contact the public has in an emergency and provide an important link between the caller and responding agencies.

Another unanimous opinion expressed by the staff on the floor was that the police sergeants provided valuable insight regarding police procedures and protocols. Mission Critical Partners recommends that the ECC continue staffing a police sergeant to serve as a liaison on every shift. The police sergeants should not serve in a supervisory capacity, but rather would be an additional position to liaise on the floor to improve understanding and communications between the communications center and CPD.

Until the ECC has had time to stabilize the organizational environment and new leadership structure, Mission Critical Partners recommends that CFD dispatch operations remain as they are today. At some point in the future, the City may want to consider including the CFD dispatchers in the same leadership structure as the police call takers and dispatchers.

10.2 Governance

A simple definition of governance is “the way that a city, company, etc., is controlled by the people who run it.”⁹⁶ “Governance structures...provide a foundation for public safety entities to collaborate, plan, and make

⁹⁶ “Governance.” More Definitions for governance. Merriam-Webster. 2018. <http://www.merriam-webster.com/dictionary/governance>

decisions on strategies and operations that mutually support the investment, sustainment, and advancement of communications-related initiatives.”⁹⁷

In 2015, SAFECOM and the National Council of Statewide Interoperability Coordinators (NCSWIC) published the *Emergency Communications Governance Guide for State, Local, Tribal, and Territorial Officials*. While the Governance Guide is focused on interoperability and emergency communications (land mobile radio, broadband, 911/NG911, and alerts and warnings), there are characteristics that are applicable to governance of 911 centers.

Effective governance structures are designed to operate in a collaborative manner with input from stakeholders across multiple disciplines, emergency communications functions, levels of government, and nongovernmental entities. Such structures allow for greater understanding and evaluation of existing communications capabilities such as plans, procedures, and equipment; identification of communications gaps; and development and implementation of a coordinated vision and plan to address and prioritize resources, investments, and staffing.

The following characteristics, attributes, and activities are typical of effective governance structures:

- *Documented Authority: Establish formally with either an Executive Order or Legislation.*
- *Balanced Representation: Align needs and priorities across various stakeholders that have a role in or are impacted by communications-related initiatives.*
- *Properly-sized Membership: Determine appropriately sized membership that maintains inclusiveness while permitting a quorum to be met regularly.*
- *Accountability: Determine whether stated roles, responsibilities, and membership requirements are met routinely.*
- *Active Membership: Provide multiple means to participate in meetings (i.e., in-person, videoconference, and teleconference) while advancing information sharing and transparency by disseminating meeting minutes to members.*
- *Meeting Frequency: Maintain consistent meeting cadence. Members should collectively determine where meetings will be held and include consistent or alternating meeting location to increase attendance and participation depending on the size of the state or jurisdiction and residency of members.*
- *Scalable and Agile: Able to respond to changes in the emergency communications landscape.*

⁹⁷ *Emergency Communications Governance Guide for State, Local, Tribal, and Territorial Officials*. SAFECOM. 2015. http://www.dhs.gov/sites/default/files/publications/2015%20Governance%20Guide_Master_508c%20Final.pdf, page 9 of 51.

- *Rules of Engagement: Manage internal and jurisdictional differences (e.g., “checking egos at the door” and working toward common, universally beneficial goals).*
- *Transparent and Responsive: Maintain an open and transparent forum to promote greater stakeholder buy-in.*
- *Funding and Sustainment: Identify sustainable funding for existing and future emergency communications priorities.⁹⁸*

There are essentially three types of boards or committees that could be established to represent Cincinnati and the respective agencies: an executive board/committee, an advisory board/committee, or a steering committee. A hierarchical relationship may also be established between two or among all three.

An executive board/committee typically is formal, with full decision-making authority, and is the responsible entity. The roles of the board members are spelled out in by-laws, as are how member elections are held, and members removed. Members of the board are accountable to the stakeholders, in this case the public and responder agencies, for the performance of the 911 center. The board may be responsible for approving the 911 center’s budgets. The board is intended to represent the best interests of the 911 center and may make strategic planning decisions. This type of board is most commonly seen with state level agencies and large combined 911 centers.

An advisory board/committee is less formal and is created on behalf of the 911 center. This governance model focuses on the board’s/committee’s supportive role as one of providing strategic advice to management. Members of the board/committee have no accountability for the performance of the 911 center; only the quality of advice. An advisory board can make decisions, if so empowered, whereas an advisory committee generally has no decision-making authority. The informal nature of an advisory board gives greater flexibility in structure and management.

A steering committee is a body of high-level advisors tasked with governing an organization and providing it with guidance and direction. A steering committee is often responsible for creating working groups and choosing the right experts to complete a project or program. A steering committee provides guidance on strategic direction and can set overall operational parameters. A steering committee assists in operations-based decision-making. A steering committee can make policy decisions that affect operations as a whole, as well as provide budget reviews. Authority and responsibility fall between that of an executive board and an advisory board.

Mission Critical Partners recommends that the Cincinnati ECC establish a governance structure to ensure decisions are not made in a vacuum and to allow stakeholder input into operations, practices, policies, and technology. Mission Critical Partners recommends an advisory board comprised of the police chief, the fire chief, and the deputy city manager. The advisory board should have input into the hiring process and subsequent job offer for the 911 director.

⁹⁸ Ibid., page 11 of 51.

In addition, Mission Critical Partners recommends advisory subcommittees of operational stakeholders. These subcommittees should provide input on funding, SOPs, PSAP technology, and strategic plans. Mission Critical Partners recommends that the advisory subcommittees be composed of operational representatives, as appropriate, from police and fire, a federal partner, a civilian, an ECC call taker and dispatcher, a liaison from the City Manager's office, and Hamilton County or Cincinnati Area GIS (CAGIS). The City and ECC have begun the process of developing advisory subcommittees and are to be commended for this action.

10.2.1 ECC Strategic Plan

For the ECC to provide cohesive leadership, improve morale, and promote staff buy-in; it is imperative that a comprehensive strategic plan is created. A strategic plan aligns goals and objectives defined by stakeholders and translates those to tactical plans designed to achieve a common vision. Strategic plans mature and are an on-going process, rather than a one-time activity. Over the course of a year, action items within the plan will be implemented or other environmental changes may occur that impact how the ECC provides its core services, thus requiring a change to the approach.

Within the plan, the ECC should identify the goals that will guide the ECC for the next three to five years, along with near-term one- to two-year objectives to achieve the goals. The plan, goals, and objectives should be shared with staff and progress communicated on a regular basis. It is important to encourage staff ownership of achieving goals and objectives. The morale of the ECC will be positively impacted by helping staff to understand changes and recognize that they are part of a bigger movement to improve 911 within Cincinnati and nationwide to provide enhanced levels of service.

10.3 Funding

The ECC should have a separate dedicated budget within the overall City budget. If not done when the center was placed under civilian leadership, the funding should be separated out from under CPD's budget to allow for proper planning. It is important to understand exactly how funds are currently being spent in order to determine the feasibility of planned updates and to create a comprehensive strategic plan.

Per Ohio Revised Code 128.42, a 911 surcharge fee of \$0.25 is assessed on all wireless subscribers and 0.05 percent per transaction for prepaid wireless. The funds collected are disbursed monthly to each County by the tax assessor. Hamilton County receives approximately \$2.2 million from the State for funding 911 and provides a portion of this to Cincinnati. Ohio is one of the few states that collects 911 surcharge funds only from wireless carriers and has one of the lowest fees in the nation.

11 ECC Technology

Currently, Cincinnati ECC is working towards enhancing its technology to meet the needs of citizens and visitors to the City. In some cases, the ECC has deployed technology that is current and found in many centers throughout the country. However, other technology is older and can be improved through

upgrading or replacement. Technical staff and management at Cincinnati ECC have done a good job in assuring systems are kept up-to-date with the newest software release or have identified the need for upgrade and improvement.

Networks and all the systems attached to them can become overwhelming. This is no different for Cincinnati. With a primary PSAP and back-up as well as connectivity to each and multiple vendor systems involved, the Cincinnati public safety network is complex. These systems are reliant on third-party vendors and connectivity via public/private communications backbones. The CAD system is isolated from the rest of the City network, so visibility has been narrow and CPD IT did not have the expertise in-house to handle the underlying systems running the CAD applications. It was reported to Mission Critical Partners that systems have had down time, slow-downs, and intermittent issues. To that end, Mission Critical Partners recommends that the entire network is analyzed by an independent vendor that is not associated with the City or any system connected to the primary or back-up PSAP. This analysis would expose any deficiencies in the present network and would isolate system problems.

It was also brought to Mission Critical Partners' attention that the night shifts often experience equipment problems or challenges and no IT staff is readily available to troubleshoot. ECC IT personnel conveyed to Mission Critical Partners that the issues experienced by the night shifts frequently cannot be replicated and therefore, not remedied. While technical staff are on-call after-hours and on weekends, there is no in-house support during these times. This technical support schedule is normal for larger centers with their own IT staff. However, due to the myriad of issues that the ECC experiences, Mission Critical Partners recommends that IT have at least one staff member modify work hours to be available for a portion, if not all, of the night shift until all issues are resolved satisfactorily. Mission Critical Partners recommends that after leadership determines current issues are resolved, one technical support person is available in-house a few evenings a week until at least 10:00 or 11:00 p.m.

11.1 Computer Aided Dispatch

The CAD system is TriTech Inform version 5.8.10. TriTech is a well-known Tier 1 vendor⁹⁹ in the CAD industry with deployments throughout the country. CAD systems are the backbone of the intake and dissemination of call information. When not working correctly, the workflow will be disrupted. As reported by Cincinnati ECC staff, issues with the CAD system have occurred since the upgrade to version 5.8.10 was completed in June 2018. Namely, random slowdowns and lockups of the CAD system occur.

Mission Critical Partners reviewed error logs for the CAD system and confirmed that log errors happen frequently. While some of the errors are minor, as reported, others are more concerning and have caused the CAD system to slow down its transaction speed. This type of slow-down has a direct impact on call taking and dispatch staff. While the slow-downs affect speed and general use of the system, it can also affect morale of the workforce, especially if it is on-going and appears that nothing is being done to remedy the issue.

⁹⁹ Tier 1 vendors are generally well-known, with national and/or international recognition, and substantial deployments across the country. Tier 1 vendors have proven research, development, and technical support teams.

Mission Critical Partners recommends that TriTech be engaged to investigate these issues. Mission Critical Partners also recommends that TriTech be questioned as to whether moving to a newer release, namely version 5.8.18, would remedy this issue.

Currently the TriTech Inform CAD system presents a map to the call taker and/or dispatcher that is detailed. The map can view aerial photography, which presents a clear, concise display showing all features on the ground including roads, parking lots, buildings, etc. The map also displays icons that denote caller locations whether landline or wireless. Figure 6 depicts a CAD incident screen with the mapping application in the background.

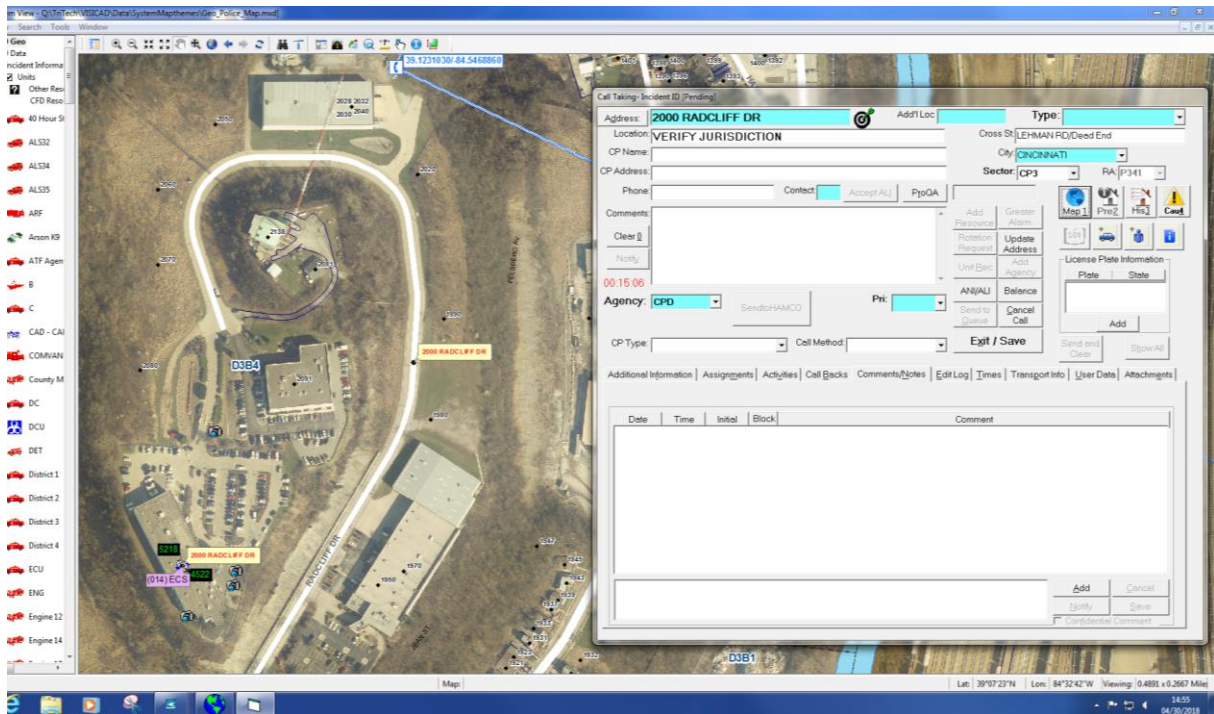


Figure 6: Call Taker/Dispatcher Incident Screen and Mapping

The map provided to the call takers and dispatchers is excellent quality and useful for dispatching purposes.

11.2 Call Handling Equipment

The call handling equipment (CHE) that receives 911 calls is a West Safety Services Intrado VIPER® Power 911®, version 6.1 system. The Intrado VIPER platform is used throughout the world. Figure 7 depicts a blank call handling screen.

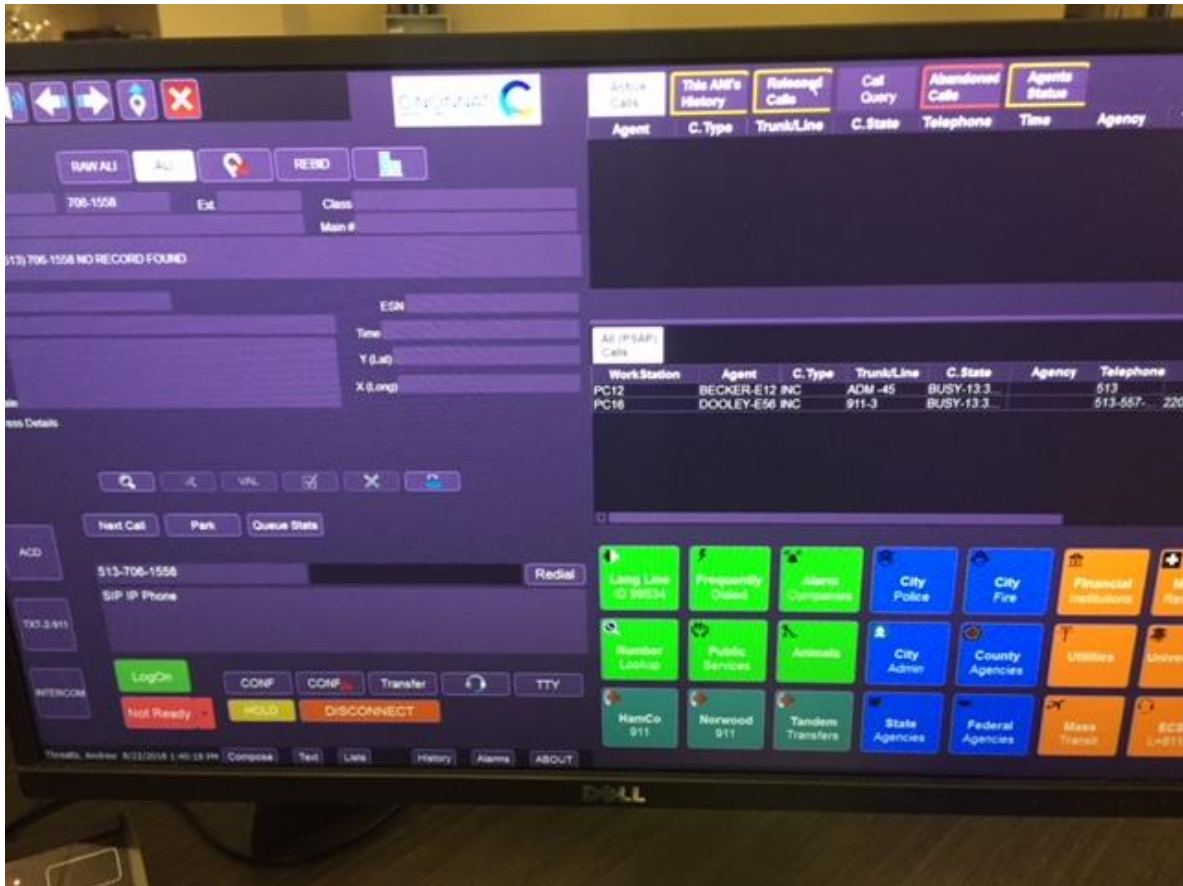


Figure 7: Power 911 Call Handling Screen

While this call handling platform is solid, the training that was supplied to the staff was not. Interviews with staff indicated that the time spent to review certain features was rushed. Since the time of the training, many call takers and dispatchers have learned the system by trial and error. Mission Critical Partners recommends that West provide the ECC a thorough retraining to ensure staff is proficient with the features and functions of the system.

Additionally, Cincinnati ECC does not yet accept text-to-911. This should be a priority advancement for the ECC; reviewing this as soon as possible.

Currently the ECC utilizes an automated call distribution (ACD) system, which is a means to distribute incoming 911 and 10-digit non-emergency/administrative calls. An ACD system usually requires operators to login/logout, or otherwise establish their availability to answer calls. Cincinnati ECC also uses an attendant message system for incoming calls. Call takers record a standardized greeting for 911 calls: “Cincinnati 911. What is the address of your emergency?” The standardized recording for non-emergency lines is “Cincinnati Police and Fire.”

The calls are delivered to the call takers without their intervention and upon delivery the attendant message plays. This technology is widely used in the industry in medium to large PSAPs. However, the delivery of 911 calls automatically to a call taker's headset is optional and is an agency decision. Automatic delivery ensures that calls are fairly distributed based on call taker availability. However, the delivery of calls could be in rapid succession, with little time to wrap up a previous call.

During the attendant message, callers can speak over the message. Mission Critical Partners recommends call takers receive refresher training on active listening as soon as a call is connected to avoid missing pertinent information.

11.3 Fire Station Alerting

Currently fire stations are toned out and alerted with a voice announcement from a fire/EMS dispatcher. A printer in each station prints out the location and details of the incident. While this is an acceptable practice and is done throughout the country, it is somewhat antiquated for a career department that is always staffed.

CFD is in the process of procuring and deploying a fire station alerting system from Locution. Fire station alerting is an automated process of alerting (dispatching) fire personnel to an incident. Locution is a well-known alerting system and allows the department to have an up-to-date system that is flexible in its set up and use. Data has shown that products like Locution improve response time and Cincinnati should be commended for this move.

11.4 Geographic Information Systems

A geographic information system (GIS) is a framework for gathering, managing, and analyzing data. Rooted in the science of geography, GIS integrates many types of data. It analyzes spatial location and organizes layers of information into visualizations using maps and 3D scenes. With this unique capability, GIS reveals deeper insights into data, such as patterns, relationships, and situations—helping users make smarter decisions.¹⁰⁰

Historically, many GIS programs in a City of County are not a single cohesive mapping solution. For example, the planning department might have its own set of data, tracking building owners, and the water department might have its own data, tracking water mains and hydrants. Many times, this data is not shared in one cohesive system. In other jurisdictions, these programs are centralized in a single department or agency that all departments have access to. When reviewing the variety of city and/or county departments, at times, public safety has a need for all the information, or at the very least critical parts of it.

¹⁰⁰ "What is GIS?" Overview, esri, 2018. <https://www.esri.com/en-us/what-is-gis/overview>.

There are current GIS layers common to most CAD maps. These consist of road centerlines with address ranges, site/structure address points, PSAP boundaries or City/County boundaries, and emergency service zones (ESZs). Additionally, law enforcement, fire, and EMS response areas are denoted. Today Cincinnati has these layers, and each are available to ECC call takers and dispatchers. Additionally, CFD has a hydrant layer that depicts hydrant locations. The Cincinnati region has a robust GIS group, Cincinnati Area GIS or CAGIS, and are to be applauded for its approach.

In the future and with NG911 on the horizon, CAGIS should review its compliance to NG911. Namely the ability to align spatially with neighboring jurisdictions without overlap or gaps—internally to a PSAP and across PSAP boundaries. Significant effort must be made by each jurisdiction to ensure that mission-critical GIS data layers are accurate, maintained regularly and frequently, and conform to established NG911 standards. Mission Critical Partners recommends the milestones below are reviewed for future needs of NG911.

- Milestone 1 – Local Stakeholders Education
 - GIS data will be a critical component of NG911 implementation and it is very important to educate local stakeholders about the role that GIS is going to play in the success of NG911. Educating data stewards on minimum NENA standards as well as newly developed standards and guidelines to create and maintain public-safety-grade GIS data is key to the development of critical NG911 GIS data.
- Milestone 2 – Standards and Best Practices Development
 - An initial review of GIS data throughout the CAGIS region is necessary to ensure local jurisdictions are using common standards and best practices to create and maintain public safety GIS data.
- Milestone 3 – GIS Data Development and Remediation
 - Next Generation Core Services (NGCS) will depend on complete and accurate data for required layers like road centerlines and site/structure address points, as well as PSAP, emergency service and provisioning boundaries. CAGIS should ensure that PSAPs, in collaboration with neighboring PSAPs, are working on GIS data development and enhancement projects for these required layers. GIS data should be developed that adheres to established NENA standards and is suitable for provisioning into NGCS.
 - GIS data should be topologically clean and maintained according to the NENA standards, so that it can be leveraged in NG911 emergency response operations.
- Milestone 4 – Streamline GIS Data Workflows
 - GIS data is created and maintained by various jurisdictions and authorities in the CAGIS region. A successful NG911 implementation will require not only proper coordination between different entities but also a streamlined workflow to prepare GIS data for provisioning into NGCS in a timely manner. Current NENA recommendations stipulate that new addresses or changes to address data should be reflected in the GIS within three business days. CAGIS should encourage all GIS authorities to work on the following:

- Implementing workflows between different addressing authorities
 - Identifying and mitigating addressing needs and issues
 - Standardizing addressing formats and accuracy requirements
- Milestone 5 – GIS Data Maintenance Planning
 - GIS data is very dynamic in nature. The rate of change makes maintaining the GIS data as important as creating it. CAGIS and the City should encourage processes and procedures for an ongoing ALI/Master Street Address Guide (MSAG) and GIS data synchronization during the transition to NG911.

11.5 Mobile Data Systems

CPD and CFD use in vehicle computers known as mobile data terminals or computers (MDTs/MDCs). From an MDC, each unit should be capable of viewing the CAD events and a map that is the same as the map viewed by the dispatcher. Presently this is not the case in Cincinnati as CFD has a more detailed map and CPD has a basic map without detail. Mission Critical Partners recommends that CPD upgrade to the same mapping technology that CFD uses, which coincides with the ECC's map.

CFD also uses automatic vehicle location (AVL) technology. AVL denotes on the map where each response unit is at any given time. The AVL is also linked through the CAD system and suggest units that are closest to an incident. CPD does not use AVL technology. Mission Critical Partners recommends that CPD procure the AVL equipment needed.

The underlying mapping technology of both systems provides a distinct advantage to dispatchers and field responders in locating addresses and especially locating wireless callers who might be in an area that is void of buildings such as parks and large parking lots. This technology can be life-saving and there should be no reason that anyone blocks this initiative.

11.6 Logging Recorder

Cincinnati ECC utilizes a NICE Inform™ logging recorder that records telephone and radio traffic. The master recorder is in an equipment room accessible by IT personnel.

Call takers and dispatchers have access to an instant recall recorder at each workstation. Most PSAPs set the retaining threshold to at least 20 minutes of audio; meaning, 20 minutes' worth of phone and radio conversations would be available to a call taker or dispatcher before it is over-written.

Cincinnati ECC does position-based recording. The recording starts when the call is routed to an available call taker. The call is then recorded in two places: the Intrado VIPER Power 911 phone system (short-term recording) used for playback and the NICE Inform (long-term) recording system. The audio is split and sent to both recording solutions simultaneously, but separately.

Mission Critical Partners recommends that supervisors and personnel who perform QA reviews have access to the main recorder. Some ECC staff do not have access and should due to their job function.

12 SWOT Analysis

SWOT is an acronym that stands for Strengths, Weaknesses, Opportunities, and Threats. Strengths describe the positive attributes internal to an organization; these are within an organizations control. Weaknesses describe the negative factors that detract from an organization’s value; these areas require enhancement to be competitive. Opportunities are external, positive factors from which an organization may benefit. Threats are external factors beyond an organization’s control.

Table 17: ECC SWOT

Strengths	Weaknesses
Dedicated, knowledgeable employees Benefits package Adaptability of staff Teamwork Back-up center in place Technology improvements moving forward Robust GIS department	High stress environment Inconsistent leadership Short-staffed and under-staffed Routine patching of dispatch channels Lack of consistency in training; reliance on on-the-job training Policies and procedures Lack of structured call process Supervisory span of control Overtime Morale Internal Communications Fairness in discipline across all shifts
Opportunities	Threats
Cross-training of supervisory staff Text-to-911 and text-from-911 implementation NG911 technological enhancements Career development Training of field responders on communications center technology and verbiage	Improving economy Greater pay available in private sector Changing environment with millennial employees Liability issues Political and legislative effects Loss of key staff due to retirements

Some other opportunities from which Cincinnati ECC may benefit are as follows:

- Revamping of training program
- Structured call processing guidelines

13 Conclusion

The City of Cincinnati has implemented several changes to the ECC over the last few months and is working to improve the entire 911 communications and response system. Mission Critical Partners applauds these efforts and believes the City is moving in the right direction. Transitioning a 911 center to a civilian-run organization is a large undertaking requiring careful planning and a commitment by all parties to work together.

During organizational change, a well-thought-out detailed communications plan is a key component of success. Although, this was not done prior to the change, there are still steps that can be taken to alleviate concerns voiced by staff during interviews. Mission Critical Partners has made several recommendations throughout the report to assist ECC leadership in establishing a method to bring staff into the decision-making process and allow those staff to become advocates of change within the center.

An immediate focus of the City should be governance of Cincinnati ECC. Suggested timeframes for beginning each initiative are provided for each.

Recommendations	Report Section	Timeframe
Governance		
Install an advisory board comprised of the police chief, the fire chief, and the deputy city manager	Section 10.2	1 st quarter 2019
Implement new leadership structure: 911 director, deputy director, operations manager responsible for the floor, technology manager, training supervisor and Q/A supervisor (Note: the deputy director position should be held until after a new 911 director is hired)	Section 10.1	2 nd quarter 2019
Create advisory subcommittees	Section 10.2	2 nd quarter 2019
Establish a hiring committee to hold a nationwide search for a new 911 director	Section 10.1	1 st quarter 2020

Following the establishment of an advisory board and subcommittees, there are five priorities on which the ECC, under the current 911 director, should focus; the primary focus being the creation of a strategic plan with stakeholder input. A well-defined plan with goals and objectives will provide ECC staff, City leadership, and CPD and CFD stakeholders the overarching vision to advance 911 services. In addition, performance measurements identified in the plan will allow all stakeholders to measure progress made.

Recommendations	Report Section	Timeframe
Top 5 Priorities		
Modify IT work hours to have at least one staff member available for a portion of the night shift until all issues are resolved	Section 11	1 st quarter 2019
Create a comprehensive strategic plan	Section 10.2.1	2 nd quarter 2019 Ongoing
Analyze the entire network through an independent vendor	Section 11	2 nd quarter 2019
Establish an SOP committee to thoroughly review and rewrite, where necessary, all operational SOPs	Section 8	2 nd quarter 2019
Conduct a comprehensive review of the training program, to include the training manual	Section 7.2	2 nd quarter 2019

The timeframes listed above are suggestions only. Mission Critical Partners cautions Cincinnati ECC against undertaking too many initiatives at the same time to avoid stretching personnel too thin.

There are numerous other recommendations throughout the report. Mission Critical Partners has listed most of them below, with suggested timeframes for beginning the initiatives. This does not imply the initiative is to be completed within the timeframe, just begin. Mission Critical Partners encourages Cincinnati ECC during development of the strategic plan to modify these timeframes as best meets the needs of the center.

Recommendations	Report Section	Timeframe
Staffing and Operations		
Consider implementing text-from-911	Section 8.2	1 st quarter 2019
Continue staffing a police sergeant to serve as a liaison on every shift	Section 10.1	1 st quarter 2019 Ongoing
Annually review call and incident volume statistics to identify any trends	Section 5.2.4	2 nd quarter 2019 Ongoing
Work to engage staff through the strategic planning process	Section 10	2 nd quarter 2019 Ongoing

Recommendations	Report Section	Timeframe
Implement three civilian supervisors per shift: one supervisor and two assistant supervisors	Section 5.2.3	2 nd to 3 rd quarter 2019
Assign the assistant supervisors to the floor, one to the call take area and one to the police dispatch area	Section 5.2.3	2 nd to 3 rd quarter 2019
Transition call backs requested by police officers from PC01 to the Inquiry position	Section 4.3	3 rd quarter 2019
Re-evaluate the handling of the CELL incident type	Section 8.2	3 rd quarter 2019
In cooperation with CPD, consider a policy requiring dispatch for a second call received from the same cellular number	Section 8.2	3 rd quarter 2019
Provide call takers with refresher training on active listening	Section 11.2	3 rd quarter 2019
Implement a second power shift from 3:00 p.m. to 11:00 p.m. to assist with the evening hour call volume	Section 5.2.1	4 th quarter 2019
Increase authorized call taker strength to 52, if needed after reaching current authorized strength of 50	Section 5.2.1	4 th quarter 2019
Review job descriptions and including NG911 responsibilities, such as text-to-911 roles	Section 5.3	4 th quarter 2019
Implement a comprehensive employee stress management program	Section 7.3	4 th quarter 2019
Continue to track the incident volumes and parse the data by district; if at the end of 2019, incident volumes have increased, in concert with CPD, begin long-term planning to split the busiest district into two districts on two talkgroups	Section 5.2.2.1	1 st quarter 2020 Ongoing
Reintroduce some type of staff meeting that provides valued information and gives staff a chance to ask questions and air issues	Section 9	1 st quarter 2020
Implement a 360-degree annual performance review program for supervisors and managers	Section 7.2.6	1 st quarter 2020
Develop a mentoring program for new hires and those aspiring to supervisory positions	Section 7.3	1 st quarter 2020
QA and Training		
Provide employee feedback for above-average job performance more frequently and ensure that all treatment of employees by supervisors is fair and consistent	Section 9	1 st quarter 2019

Recommendations	Report Section	Timeframe
Fill current call taker and dispatcher vacancies in the 911 center before opening a competitive process to fill QA/QI positions	Section 6	2 nd quarter 2019 (or later)
Develop a structured QA/QI program with sufficient resources to support the program	Section 6	3 rd quarter 2019
Send promoted supervisors, as well as those in current leadership roles who have not done so previously, to leadership courses	Section 7.2.6	4 th quarter 2019
Implement a 360-degree annual performance review program for training officers	Section 7.2.4	1 st quarter 2020
Measure the effectiveness of the training program	Section 7.2.2.5	2 nd quarter 2020 Ongoing
Technology		
Analyze the entire network through an independent vendor	Section 11	1 st quarter 2019
Modify IT work hours to have at least one staff member available for a portion of the night shift until all issues are resolved	Section 11	1 st quarter 2019
Review GIS milestones for future needs of NG911	Section 11.4	2 nd to 3 rd quarter 2019

Many of these recommendations will begin to position Cincinnati ECC to become an accredited center through CALEA. This is a years-long process and will require an accreditation manager. Mission Critical Partners recommends Cincinnati ECC consider accreditation as a future goal, beginning the process in 2021, after the new 911 director has been hired.

Cincinnati ECC has dedicated staff that are proud of the job they perform. As in any organization, there are strengths that must be capitalized on and weaknesses that must be addressed. The City has made a considerable investment in recent months to support 911 operations and is to be commended. That is just the beginning, however. The ECC will need to prioritize its goals and begin to address internal operations. Mission Critical Partners believes that the ECC can be successful in meeting the challenges that await.

Appendix A – National 911 Program Minimum Training Guidelines for the Telecommunicator

The National 911 Program's *Minimum Training Guidelines for the Telecommunicator*, can be found on the following pages.

Recommended Minimum Training Guidelines for the Telecommunicator Section I –

Introduction

Society and communications are becoming increasingly more mobile and accessible. With that mobility, the ability to access 9-1-1 services at any time and in any place has become a constant, and the need for consistent minimum training for the telecommunicator has been recognized by the 9-1-1 community. Developed by all members of the Working Group—which includes the Association of Public-Safety Communications Officials International (APCO), Denise Amber Lee Foundation, International Academies of Emergency Dispatch (IAED), National Association of State 9-1-1 Administrators (NASNA), National Emergency Number Association (NENA), National Fire Protection Association (NFPA), PowerPhone, and industry professionals—the recommended minimum training topics described in this document were agreed upon in principle with input from 9-1-1 professionals working within the Public Safety Answering Point (PSAP) environment throughout the U.S.

It should be noted that, while the National 9-1-1 Program has facilitated this project by providing a forum for discussion and development, the Guidelines are not federally owned or mandated—rather, they are the joint product of members of the Working Group listed above.

These recommended topics are suggested for inclusion in minimum training for those who aspire to the role of telecommunicator (call-taker and/or dispatcher) as defined by the authority having jurisdiction. It is important to note the basic telecommunicator training topics described herein provide minimum-level understanding. In order to field and manage emergency calls in a live environment, telecommunicators must receive supplemental training that will enable them to process the emergency calls that are specific to their respective PSAP or Emergency Services Provider. We recognize that the authorities having jurisdiction will establish the qualifications for their PSAPs and telecommunicators at the state and/or local levels.

Classroom training is one of the key elements for providing the baseline level of knowledge for any profession. This document provides the elements of that baseline knowledge. Training regarding policies, procedures, and discipline-specific protocols, as well as on-the-job training and continuing education, are vital and should be considered. The length of time devoted to each topic shall directly correlate to the needs and services rendered within each authority having jurisdiction (AHJ). It is understood that some agencies or AHJ might not have direct involvement in every area (such as telematics, military operations, or private security services); however, it is important that every telecommunicator be familiar with industry terms, technologies, and resources. The intent is that every telecommunicator will receive nationally recognized minimum training that will be the foundation for ongoing professional development.

Section II provides discussion regarding the broad training categories and a list of recommended training topics for each category. It is intended to provide general guidance regarding topics that might be included in the specific sections of the document. Similar to Section I, the recommended training topics contained herein are not all-inclusive.

Appendix A provides a listing of the recommended training topics for ease of reference.

Section II – Categorical Explanation and Recommended Training Topics

Roles and Responsibilities: Each telecommunicator should understand the roles and responsibilities of their position as it relates to the stakeholders, citizens, and community served. Stakeholders are not limited to the public, but also include response and ancillary agencies, as well as other PSAPs, that might be involved in the incident from inception to completion. The level of professionalism exemplified by the telecommunicator is a direct reflection upon the agency, the AHJ, and the public safety industry.

Recommended Training Topics – ROLES AND RESPONSIBILITIES

- Introduction, Mission, Terminology
- Public Safety Team
- Ethics, Professionalism, Values, Personal Conduct, Image
- Policies, Procedures, Rules, Regulations
- Duties and Responsibilities
- Communities and Agencies Served
- Responder Safety

Legal Concepts: The telecommunicator should be acutely aware that every action taken could be scrutinized within a court of law, as well as by the community served. This section will highlight the rules and regulations—from local to federal and from PSAP to response agencies served—that govern telecommunicator performance. This might include concepts specific to law enforcement, fire/rescue, emergency medical services (EMS) and public safety communications.

Recommended Training Topics – LEGAL CONCEPTS

- Liability, Confidentiality, Negligence, Duty
- Law Enforcement Agencies
- Fire/Rescue Agencies
- EMS Agencies
- Public Safety Communications Agencies
- Documentation, Freedom of Information Act (FOIA), Recording, and Records Retention
- Privacy Laws

Interpersonal Communications: The techniques used by the telecommunicator could prove to be the difference between a favorable outcome and a disaster. This section should focus heavily on the knowledge, skills, and abilities that every telecommunicator should have in their toolbox when assisting with a variety of incidents. It is not sufficient to train only on the skill sets needed for call taking and inquiry, such as listening, hearing, diction, and perception, but also might involve additional topics related to race, age, nationality, and speech and hearing impairments.

Recommended Training Topics – INTERPERSONAL COMMUNICATIONS

- Communications Techniques
- Information Processing, Communication Cycle
- Problem Solving, Critical Thinking
- Customer Service
- Diversity/Demographics
- Non-Native-Language Callers
- Communication-Impaired callers

Emergency Communications Technology: Each PSAP within the U.S. faces a constantly changing landscape of communications technologies and advancements. It is important telecommunicators understand the terminology associated with call delivery, call processing, and dispatch infrastructure. Each subtopic is intended to be customized to meet the instructing AHJ's needs, with the understanding that the technology component serves as a building block for future learning environments. Topics might include: selective routing; wireline; wireless; text; multiline telephone system (MLTS) and/or private branch exchange (PBX) operations; Voice over Internet Protocol (VoIP); and Class of Service, to name a few.

Recommended Training Topics – EMERGENCY COMMUNICATIONS TECHNOLOGY

- Telephony Technologies (e.g., PBX/MLTS/VoIP)
- Basic 9-1-1 and Enhanced 9-1-1
- Automatic Number Identification (ANI)/Automatic Location Identification (ALI)
- Wireless Phase I and Phase II
- Next Generation 9-1-1 (NG9-1-1)
- Telecommunications Device for the Deaf (TDD)/Teletypewriter (TTY)/Telephone Relay Service (TRS)
- Text to 9-1-1
- Telematics
- Computerized Mapping/Geographic Information Systems (GIS)
- Logging Recorders
- Computer-Aided Dispatch (CAD) Systems
- Mobile Data Systems, Automatic Vehicle Location (AVL), Paging, Alarms, etc.
- Call Transfers, Alternate and Default Routing, etc.
- Mass Notification
- Security Breaches, Cybersecurity Threats

Call Processing: This section covers many of the most essential skills that a telecommunicator needs to possess. The telecommunicator must be able to process a variety of incident types and sizes. The management of the call from delivery through categorization, prioritization, pre-arrival instructions, and dispatch of appropriate resources is the core of the telecommunicator position. Even when PSAPs are discipline specific (i.e., law enforcement only), the reality of multidiscipline incidents is evidence that telecommunicators need to have a working knowledge of other disciplines. The development of a local curriculum that includes all response disciplines is in the best interest of the responder and the public.

Topics might include: processing 9-1-1 hang-up and open-line calls, as well as TDD/TTY challenges; ascertaining proper information, location, and call nature or type; escalating incidents, such as domestic violence, active shooter, or suicidal subjects; specialty callers, such as children, elderly, and mentally or emotionally challenged persons; callers that are communications-impaired, such as individuals who are deaf, deaf-blind, hard of hearing or have speech disabilities; and high-risk incidents, such as just-occurred or in-progress calls, crisis notifications, changing prioritization, AMBER alerts, etc.

PSAPs might divide the call-taking and dispatch portions of the telecommunicator position. However, every telecommunicator should have an understanding of how the incident information flows to the responder. For PSAPs with segregated call taking and dispatch, this might be an overview of common terminology and how to pass on information. Other PSAPs might have a need to instruct on all aspects of the telecommunicator function, including the dispatching of multiple-discipline response.

Recommended Training Topics – CALL PROCESSING

- Call Receiving
- Interviewing/Interrogation Techniques
- Controlling the Call
- Managing High-Risk Calls
- Managing Specialty Calls
- Call Categorization/Prioritization
- Event Categorization
- Homeland Security/Terrorism/Weapons of Mass Destruction (WMD)
- Aircraft/Rail Incidents/Marine
- Hazardous Materials Incidents
- Missing/Exploited/Trafficked Persons
- Fire Service Overview
- Fire Service Call Processing
- Fire Service Dispatching
- EMS Overview
- EMS Call Processing

- EMS Call Dispatching
- Structured Call-Taking Protocols and Standards Overview
- Law Enforcement Overview
- Law Enforcement Call Processing
- Law Enforcement Dispatching
- Responder-Initiated Calls
- Special-Needs Callers

Emergency Management: The telecommunicator plays a pivotal role in the management of emergency incidents, especially as the scope of an incident grows in complexity. Having a minimum-level understanding of Incident Management and Incident Command Systems is necessary to help the telecommunicator more effectively serve small incident response to disaster-level events. Additional training courses might include Federal Emergency Management Agency (FEMA) Independent Study Courses IS-100 and IS-700, as well as a review of local Emergency Operations Plans.

Recommended Training Topics – EMERGENCY MANAGEMENT

- Introduction to Incident Command System (ICS)
- National Incident Management System (NIMS)
- Emergency Management Roles and Responsibilities
- Disaster Preparedness
- Mutual-Aid/Telecommunicator Emergency Response Taskforce (TERT)

Radio Communications: With the majority of emergency calls coming from mobile devices, it is important to understand radio systems play a lead role in both call delivery and dispatch functions. The telecommunicator should possess an understanding of the rules, regulations, abilities, and limitations of the local radio system and how this can affect the response. Topics might include rate of speech, common terminology and language, and technical topics such as system types, channel acquisition, common malfunctions, and system coverage.

Recommended Training Topics – RADIO COMMUNICATION

- Radio Communication Techniques
- Radio Technology and Equipment
- Rationale for Radio Procedures and Protocols
- Radio Discipline
- Federal Communications Commission (FCC) Rules

Stress Management: All members of the public safety family experience intense levels of stress. As a telecommunicator begins to experience and deal with stressful incidents, it is important for them to understand the effects of stress on their job performance and social interactions. A well-designed

stress-management program, accounting for both personal and organizational needs, results in a better quality of life for the telecommunicator and a higher level of service for the responder and citizen. Topics might include Employee Assistance Program (EAP), peer support, lifestyle changes, and formal critical incident stress debriefings.

Recommended Training Topics - STRESS MANAGEMENT

- Definition, Causation, Identification
- Strategies for Dealing with Stress
- Management of Critical Incident Stress

Quality Assurance: To ensure a training program is effectively meeting the needs of the telecommunicator and the organization, metrics should be put in place to measure the success of the program as a whole. Items such as daily observation reports (DOR) and skills performance testing are beneficial in gauging progress and identifying areas of improvement needed. The same process should be applied to all telecommunicators to ensure that the organization is providing a uniformly high level of service to its customers.

Recommended Training Topics – QUALITY ASSURANCE

- Quality Assurance (QA)/Quality Control (QC)/Quality Improvement (QI)
- DOR/Skills Performance Testing/Performance Standards
- Identify Trends from QA to Address in Continuing Education/In-Service for QI

On-The-Job Training (Agency-Specific Training): While outside the scope of this project, any training curriculum should ensure adequate time for the review of AHJ, the agency or departmental policies and procedures. The inclusion of a hands-on, supervised training experience is the practicum portion of a training program. It provides the telecommunicator with the experience and confidence needed for the position, and allows the AHJ, agency and/or the department to define any areas of improvement needed.

Recommended Training Topics - ON-THE-JOB TRAINING

- Agency and Departmental Policies and Procedures
- Agency and Departmental Information Technologies Operations
- Interagency Networks and Databases
- Console Systems and Equipment
- Structure of Local Governance
- National Crime Information Center (NCIC)
- National Law Enforcement Telecommunications System (NLETS)
- Governmental and Private Resources
- Media/Information Dissemination
- Geography/GIS

- Documentation, FOIA Requirements, Recording, and Records Retention
- Call-Tracing and Records-Retrieval Procedures
- Records Management Systems (RMS)
- Roles of Federal Government Resources

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Appendix A – Recommended Training Topics

ROLES AND RESPONSIBILITIES

- Introduction, Mission, Terminology
- Public Safety Team
- Ethics, Professionalism, Values, Personal Conduct, Image
- Policies, Procedures, Rules, Regulations
- Duties and Responsibilities
- Communities and Agencies Served
- Responder Safety

LEGAL CONCEPTS

- Liability/Confidentiality/Negligence/Duty
- Law Enforcement Agencies
- Fire/Rescue Agencies
- EMS Agencies
- Public Safety Communications Agencies
- Documentation, FOIA Requirements, Recording, and Records Retention
- Privacy Laws

INTERPERSONAL COMMUNICATIONS

- Communications Techniques
- Information Processing, Communication Cycle
- Problem Solving, Critical Thinking
- Customer Service
- Diversity/Demographics
- Non-Native-Language Callers
- Communications-Impaired Callers (individuals who are deaf, deaf-blind, hard of hearing or have speech disabilities)

EMERGENCY COMMUNICATIONS TECHNOLOGY

- Telephony Technologies (PBX/MLTS/VoIP)
- Basic 9-1-1 and Enhanced 9-1-1
- ANI/ALI
- Wireless Phase I and Phase II
- NG9-1-1

- Text to 9-1-1
- TDD/TTY/TRS
- Telematics
- Computerized Mapping/GIS
- Logging Recorders
- CAD Systems
- Mobile Data Systems, AVL, Paging, Alarms, etc.
- Call Transfers, Alternate and Default Routing, etc.
- Mass Notification
- Security Breaches, Cybersecurity Threats

CALL PROCESSING

- Call Receiving
- Interviewing/Interrogation Techniques
- Controlling the Call
- Managing High-Risk Calls
- Managing Specialty Calls
- Call Categorization/Prioritization
- Event Categorization
- Homeland Security/Terrorism/WMD
- Aircraft/Rail Incidents/Marine
- Hazardous Materials Incidents
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- EMS Overview
- EMS Call Processing
- EMS Call Dispatching
- Structured Call-Taking Protocols and Standards Overview
- Law Enforcement Overview
- Law Enforcement Call Processing
- Law Enforcement Dispatching
- Responder-Initiated Calls
- Special-Needs Callers

EMERGENCY MANAGEMENT

- Introduction to ICS
- NIMS
- Emergency Management Roles and Responsibilities
- Disaster Preparedness
- Mutual-Aid/TERT

RADIO COMMUNICATION

- Radio Communication Techniques (Rate of Speech, Common Language, etc.)
- Radio Technology (System Types, Coverage Area, Common Malfunctions, etc.)
- Procedures and Protocols
- Radio Discipline
- FCC Rules

STRESS MANAGEMENT

- Definition, Causation, Identification
- Strategies for Dealing with Stress
- Management of Critical Incident Stress

QUALITY ASSURANCE

- QA/QC/QI
- DOR/Skills Checklist/Performance Standards
- Identify Trends from QA to Address in Continuing Education/In-Service for QI

ON-THE-JOB TRAINING

- Agency and Departmental Policies and Procedures
- Agency and Departmental Information Technologies Operations
- Interagency Networks and Databases
- Console Systems and Equipment
- Structure of Local Governance
- NCIC
- NLETS
- Governmental and Private Resources

- Media/Information Dissemination
- Geography/GIS
- Documentation, FOIA, Recording, and Records Retention
- Call-Tracing and Records-Retrieval Procedure
- RMS
- Roles of Federal Government Resources

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Appendix B – Employee Feedback Survey

The Employee Feedback Survey questions can be found below.

QUESTIONS		Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1	COMMENTS (OPTIONAL)
INFORMATION & COMMUNICATION							
1	Cincinnati ECC leadership does a good job communicating information about changes that may affect employees.						
2	At the Cincinnati ECC, leadership communicates a clear sense of direction.						
3	Supervisors communicate consistently with ECC staff.						
4	I understand the goals of the Cincinnati ECC.						
5	I understand the link between my job and ECC's objectives.						
6	I understand how my job contributes to the success of 9-1-1 in Cincinnati.						
7	Management gives staff a clear vision of the direction in which we are going.						
8	Do you believe a shift briefing would help improve communications?						
9	Do you believe a shift briefing would help improve shift dynamics?						
10	I feel supported when handling a difficult or critical call.						
11	The department celebrates achievements and acknowledges the professional accomplishments of you and your co-workers.						

QUESTIONS		Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1	COMMENTS (OPTIONAL)
12	Do you believe previous sworn management tried to address specific comments that had been raised? Please provide an example, if available.						
13	Do you believe current management has tried to address specific comments that had been raised? Please provide an example, if available.						
	What is your suggestion for improving the issue(s) you mentioned?						
WORK ENVIRONMENT							
15	Decisions are made in the ECC without unreasonable delay.						
16	All ECC employees cooperate to get the work done.						
17	My physical work space provides a productive and professional environment for me.						
18	Meetings are conducted effectively to make decisions and/or inform those in attendance.						
19	Staff meetings have open and honest participation.						
20	My co-workers work well together to accomplish departmental goals.						
21	Employees in the ECC are able to participate in deciding how the work gets done.						
22	Do you believe management has tried to address specific comments that have been raised? Please provide an example, if available.						
	What is your suggestion for improving the issue(s) you mentioned?						

QUESTIONS		Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1	COMMENTS (OPTIONAL)
LEARNING & GROWTH							
24	Cincinnati ECC offers me the necessary training to do my job well.						
25	The information I need to do my job is readily available.						
26	I feel I have reasonable opportunity for career advancement.						
27	I know what I need to do if I want to advance in the department.						
28	Cincinnati ECC provides me with the necessary resources to do my job well.						
29	In your opinion, are the skills required for the position the skills that are needed to do the job effectively?						Yes / No
30	Did your training adequately prepare you for your position?						
31	Do you believe current management has tried to address specific comments that have been raised related to training? Please provide an example, if available.						
	What is your suggestion for improving the issue(s) you mentioned?						
MANAGEMENT							
33	I can contact the ECC senior management if needed.						
34	Management recognizes me when I do a good job.						
35	Management treats employees with fairness and an even hand.						
36	Management focuses on solving problems instead of finding fault.						

QUESTIONS		Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1	COMMENTS (OPTIONAL)
37	Management resolves conflict consistently, effectively and quickly.						
38	My supervisors recognize me when I do a good job.						
39	My supervisors treat employees with fairness and an even hand.						
40	My supervisors focus on solving problems instead of finding fault.						
41	My supervisors resolve conflict consistently, effectively and quickly.						
42	My supervisors get my input and buy-in when making key decisions that impact me at work.						
43	Do you believe current management has tried to address specific comments that may been raised related to management or supervisory issues? Please provide an example, if available.						
	What is your suggestion for improving it?						
JOB SATISFACTION							
45	I feel my job is secure.						
46	I know what my supervisor expects of me in my job.						
47	My work is challenging and interesting.						
48	I feel satisfied with the pay and benefits.						
49	I feel my pay and benefits are competitive.						
50	I know and understand my job responsibilities.						
51	I plan to be working at Cincinnati ECC a year from now.						
52	I would encourage friends and others to work at Cincinnati ECC.						
53	Overall, I am satisfied at Cincinnati ECC.						

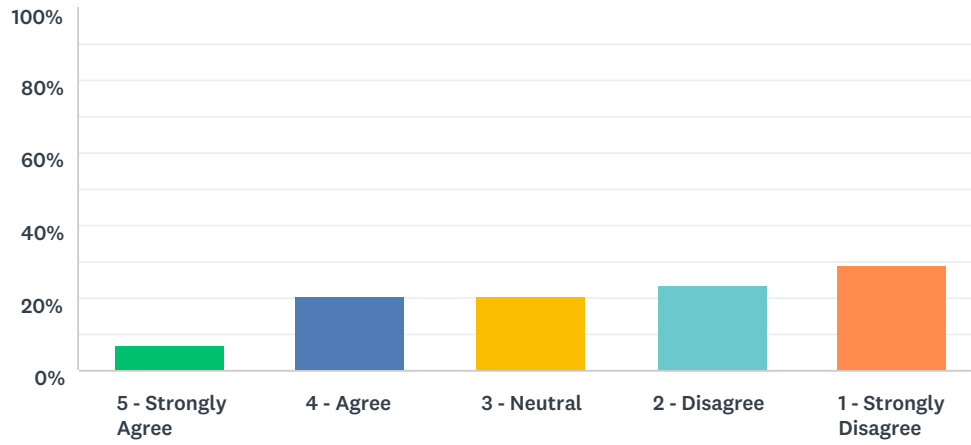
QUESTIONS		Strongly Agree 5	Agree 4	Neutral 3	Disagree 2	Strongly Disagree 1	COMMENTS (OPTIONAL)
54	Do you believe current management has tried to address specific comments that might have been raised related to job satisfaction?						
	What is your suggestion for improving it?						
MISCELLANEOUS							
56	What steps can be taken to improve operational processes?						Changes in process or procedure / Changes in software and systems / Better internal communications of expectations / Added staffing
57	What were the motivating factors for wanting to work with Cincinnati ECC?						Helping my community / Stability / Compensation / Hours / Being part of the police or fire department / Being part of a team / Other
DEMOGRAPHIC INFORMATION							
WHICH GENERATION ARE YOU?							Drop-down box
HOW MANY YEARS HAVE YOU BEEN WITH CINCINNATI ECC?							Drop-down box
ARE YOU WITH POLICE OR FIRE?							Drop-down box
ARE YOU A CALL TAKER ONLY OR DISPATCHER?							Drop-down box

Appendix C – Employee Feedback Survey Responses

The Employee Feedback Survey aggregated responses can be found on the following pages.

Q1 Current Cincinnati ECC leadership does a good job communicating information about changes that may affect employees.

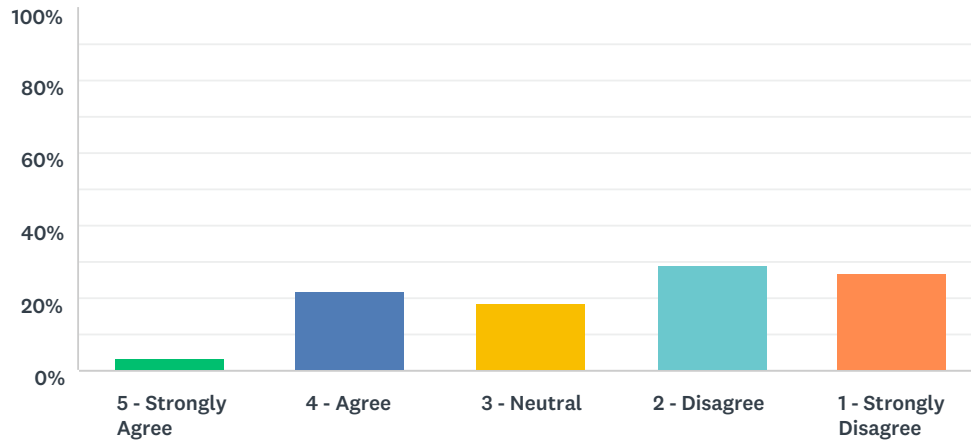
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ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	6.78%	4
4 - Agree	20.34%	12
3 - Neutral	20.34%	12
2 - Disagree	23.73%	14
1 - Strongly Disagree	28.81%	17
TOTAL		59

Q2 At the Cincinnati ECC, leadership communicates a clear sense of direction.

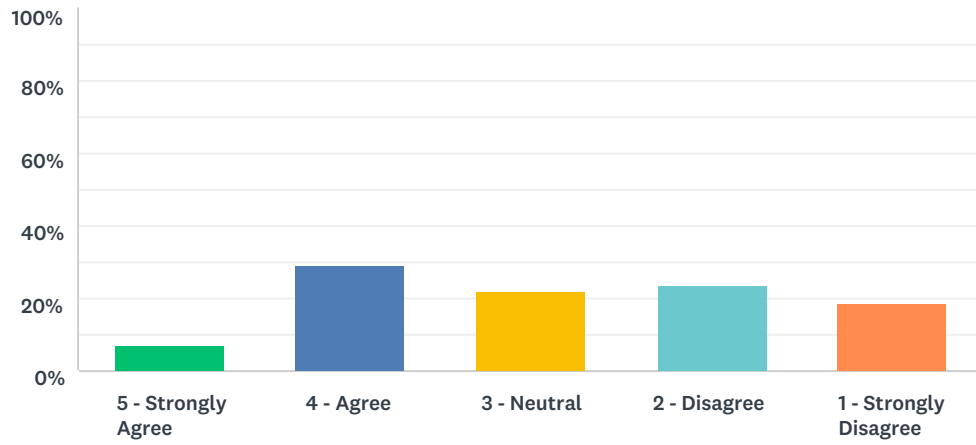
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ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	3.39%	2
4 - Agree	22.03%	13
3 - Neutral	18.64%	11
2 - Disagree	28.81%	17
1 - Strongly Disagree	27.12%	16
TOTAL		59

Q3 Supervisors communicate consistently with ECC staff.

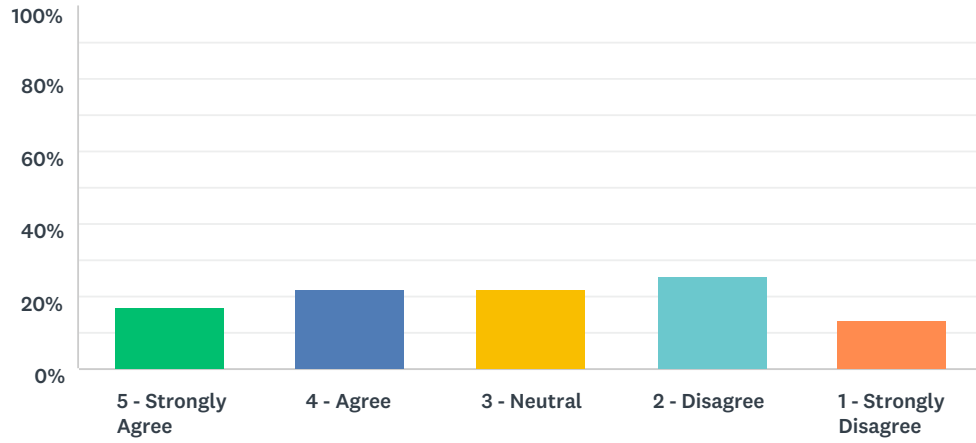
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ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	6.78%	4
4 - Agree	28.81%	17
3 - Neutral	22.03%	13
2 - Disagree	23.73%	14
1 - Strongly Disagree	18.64%	11
TOTAL		59

Q4 I understand the goals of the Cincinnati ECC.

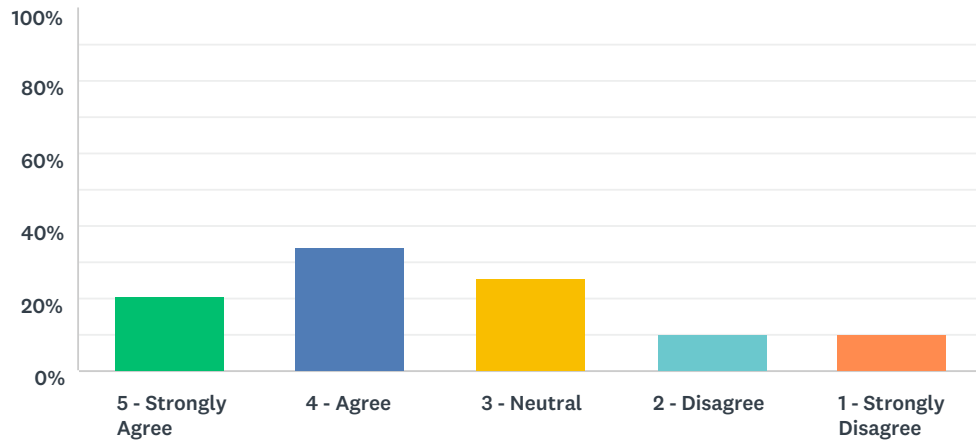
Answered: 59 Skipped: 0



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	16.95%	10
4 - Agree	22.03%	13
3 - Neutral	22.03%	13
2 - Disagree	25.42%	15
1 - Strongly Disagree	13.56%	8
TOTAL		59

Q5 I understand the link between my job and ECC's objectives.

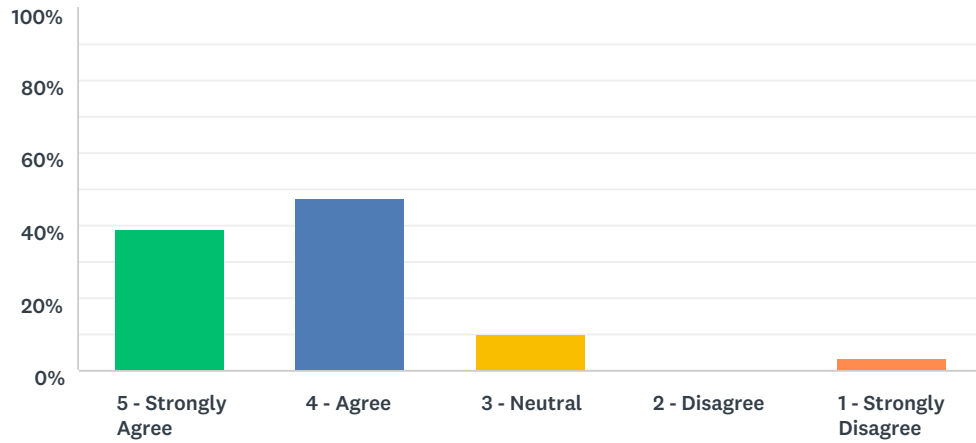
Answered: 59 Skipped: 0



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	20.34%	12
4 - Agree	33.90%	20
3 - Neutral	25.42%	15
2 - Disagree	10.17%	6
1 - Strongly Disagree	10.17%	6
TOTAL		59

Q6 I understand how my job contributes to the success of 9-1-1 in Cincinnati.

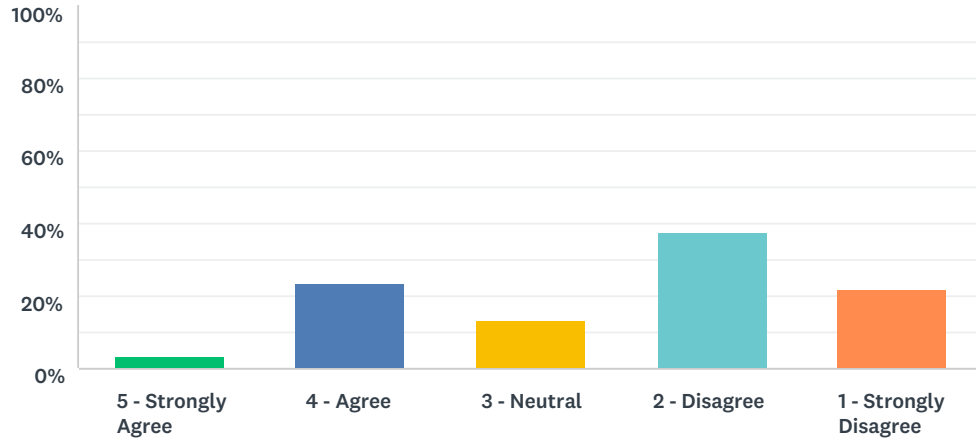
Answered: 59 Skipped: 0



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	38.98%	23
4 - Agree	47.46%	28
3 - Neutral	10.17%	6
2 - Disagree	0.00%	0
1 - Strongly Disagree	3.39%	2
TOTAL		59

Q7 Management gives staff a clear vision of the direction in which we are going.

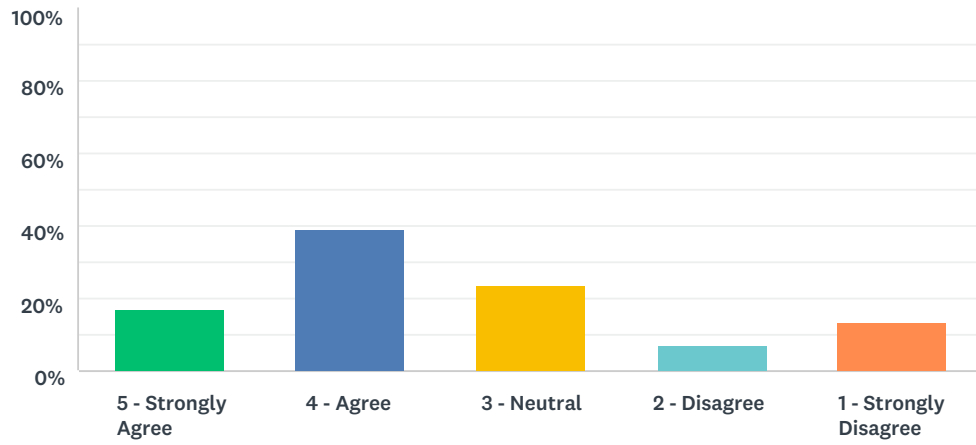
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ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	3.39%	2
4 - Agree	23.73%	14
3 - Neutral	13.56%	8
2 - Disagree	37.29%	22
1 - Strongly Disagree	22.03%	13
TOTAL		59

Q8 Do you believe a shift briefing would help improve communications?

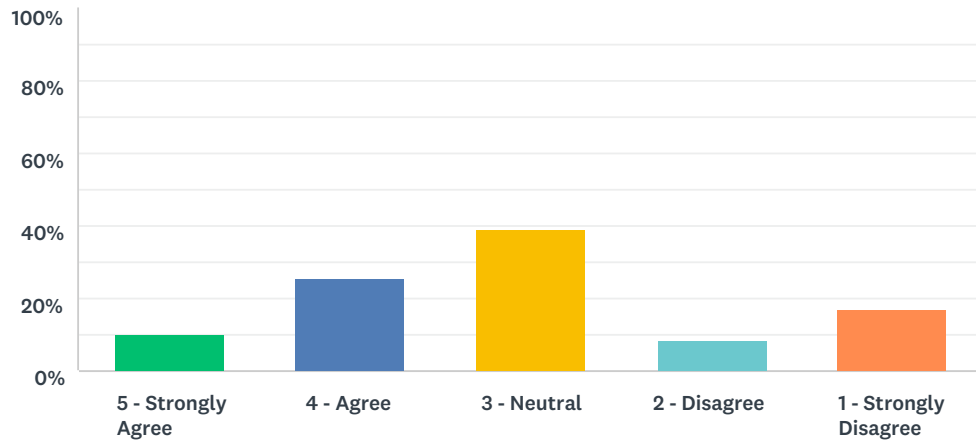
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ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	16.95%	10
4 - Agree	38.98%	23
3 - Neutral	23.73%	14
2 - Disagree	6.78%	4
1 - Strongly Disagree	13.56%	8
TOTAL		59

Q9 Do you believe a shift briefing would help improve shift dynamics?

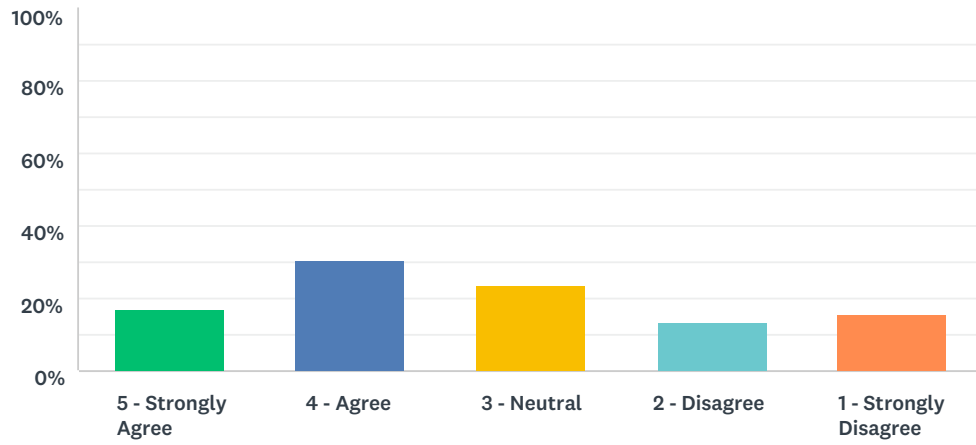
Answered: 59 Skipped: 0



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	10.17%	6
4 - Agree	25.42%	15
3 - Neutral	38.98%	23
2 - Disagree	8.47%	5
1 - Strongly Disagree	16.95%	10
TOTAL		59

Q10 I feel supported when handling a difficult or critical call.

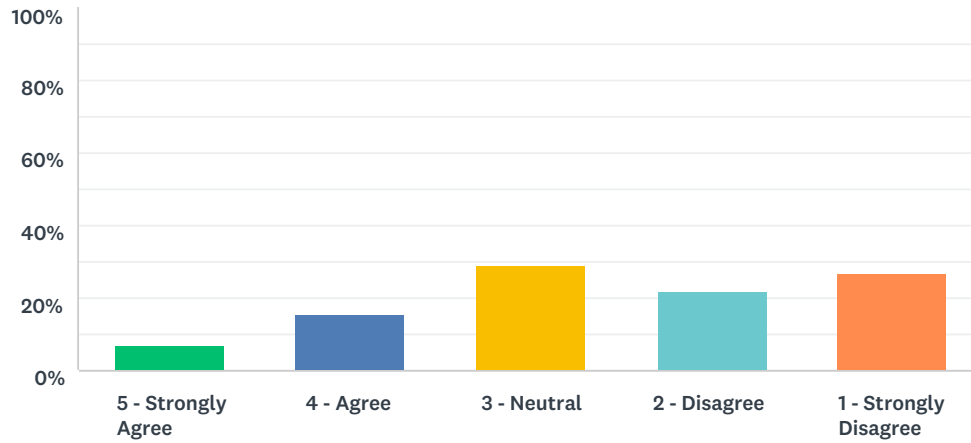
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ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	16.95%	10
4 - Agree	30.51%	18
3 - Neutral	23.73%	14
2 - Disagree	13.56%	8
1 - Strongly Disagree	15.25%	9
TOTAL		59

Q11 The department celebrates achievements and acknowledges the professional accomplishments of you and your co-workers.

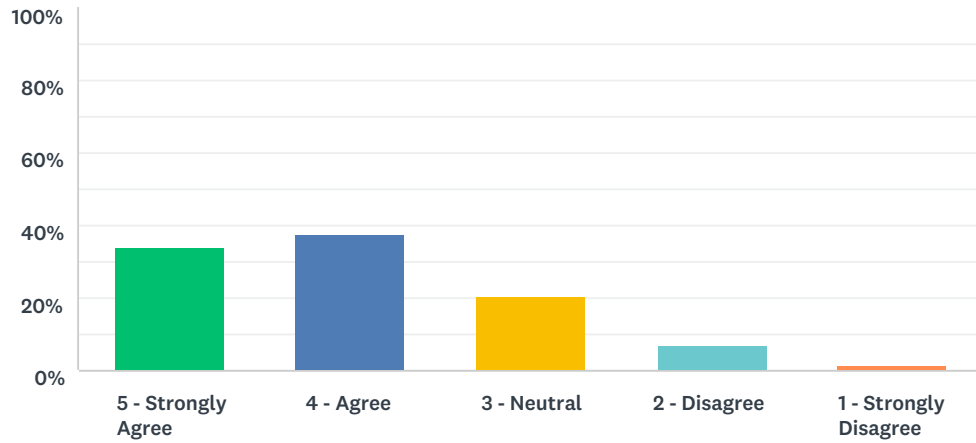
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ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	6.78%	4
4 - Agree	15.25%	9
3 - Neutral	28.81%	17
2 - Disagree	22.03%	13
1 - Strongly Disagree	27.12%	16
TOTAL		59

Q12 Do you believe previous sworn management tried to address specific comments that had been raised? Please provide an example, if available.

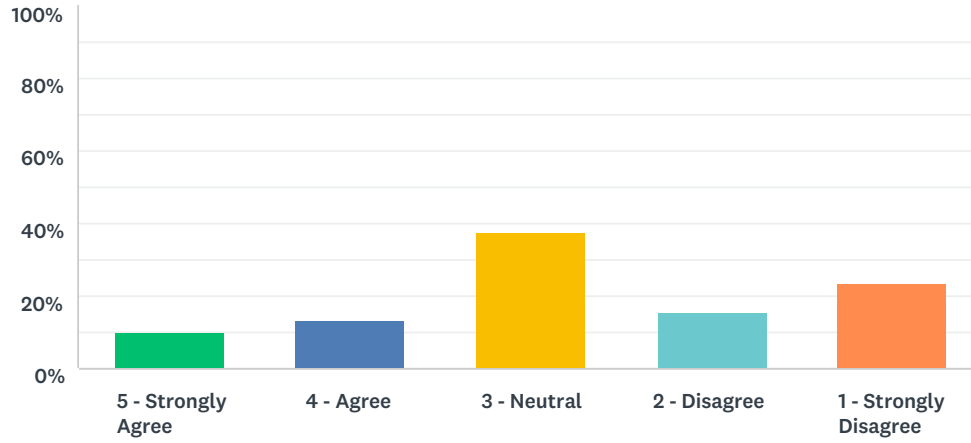
Answered: 59 Skipped: 0



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	33.90%	20
4 - Agree	37.29%	22
3 - Neutral	20.34%	12
2 - Disagree	6.78%	4
1 - Strongly Disagree	1.69%	1
TOTAL		59

Q13 Do you believe current management has tried to address specific comments that had been raised? Please provide an example, if available.

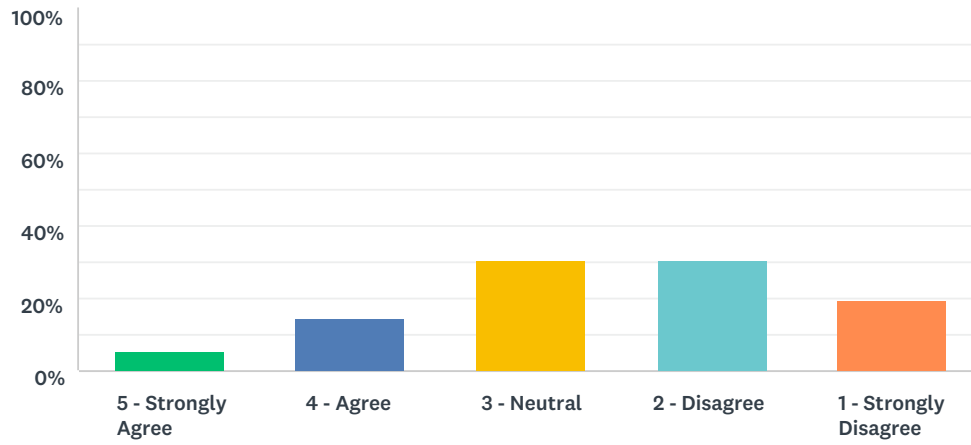
Answered: 59 Skipped: 0



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	10.17%	6
4 - Agree	13.56%	8
3 - Neutral	37.29%	22
2 - Disagree	15.25%	9
1 - Strongly Disagree	23.73%	14
TOTAL		59

Q15 Decisions are made in the ECC without unreasonable delay.

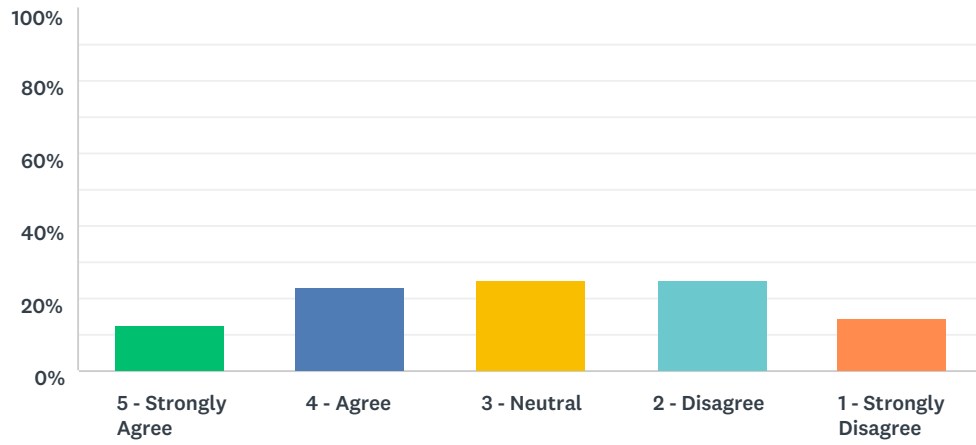
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ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	5.36%	3
4 - Agree	14.29%	8
3 - Neutral	30.36%	17
2 - Disagree	30.36%	17
1 - Strongly Disagree	19.64%	11
TOTAL		56

Q16 All ECC employees cooperate to get the work done.

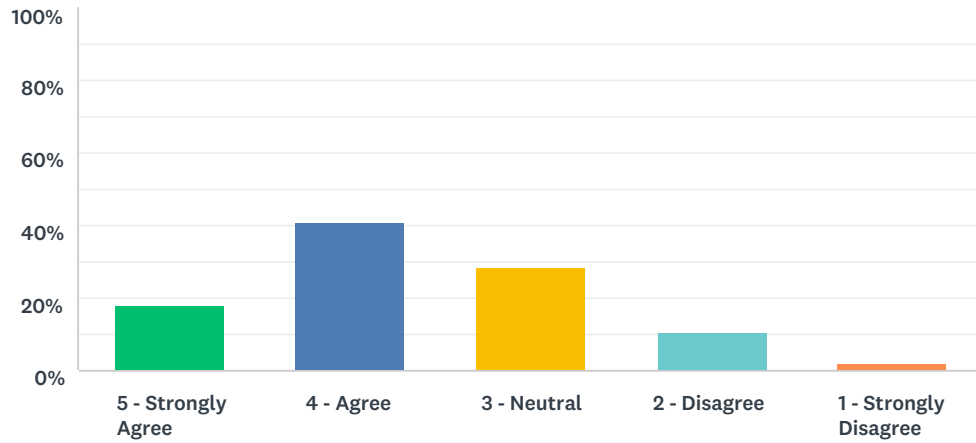
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	12.50%	7
4 - Agree	23.21%	13
3 - Neutral	25.00%	14
2 - Disagree	25.00%	14
1 - Strongly Disagree	14.29%	8
TOTAL		56

Q17 My physical work space provides a productive and professional environment for me.

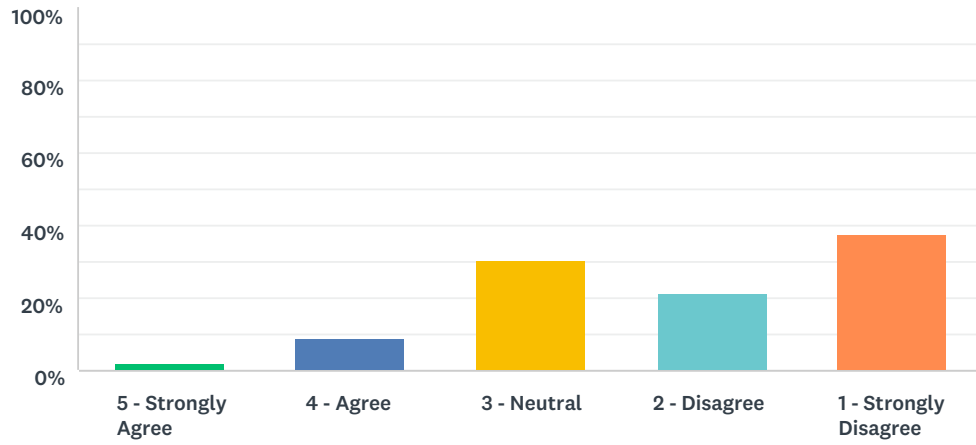
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	17.86%	10
4 - Agree	41.07%	23
3 - Neutral	28.57%	16
2 - Disagree	10.71%	6
1 - Strongly Disagree	1.79%	1
TOTAL		56

Q18 Meetings are conducted effectively to make decisions and/or inform those in attendance.

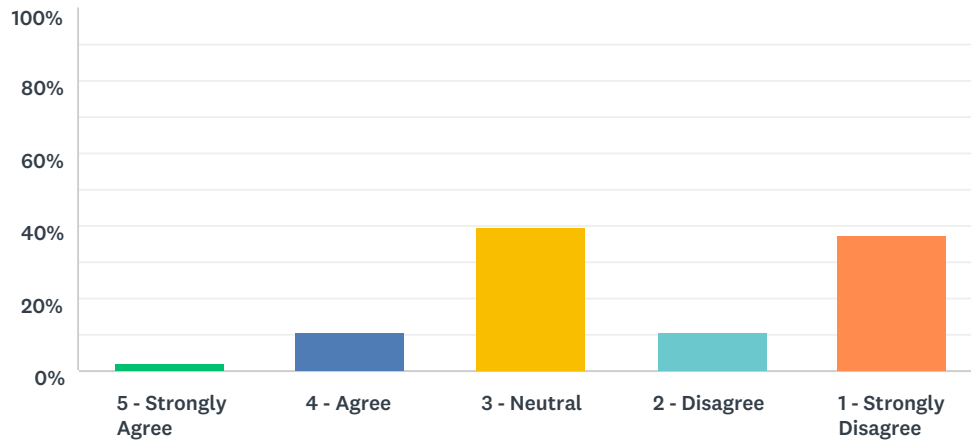
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	1.79%	1
4 - Agree	8.93%	5
3 - Neutral	30.36%	17
2 - Disagree	21.43%	12
1 - Strongly Disagree	37.50%	21
TOTAL		56

Q19 Staff meetings have open and honest participation.

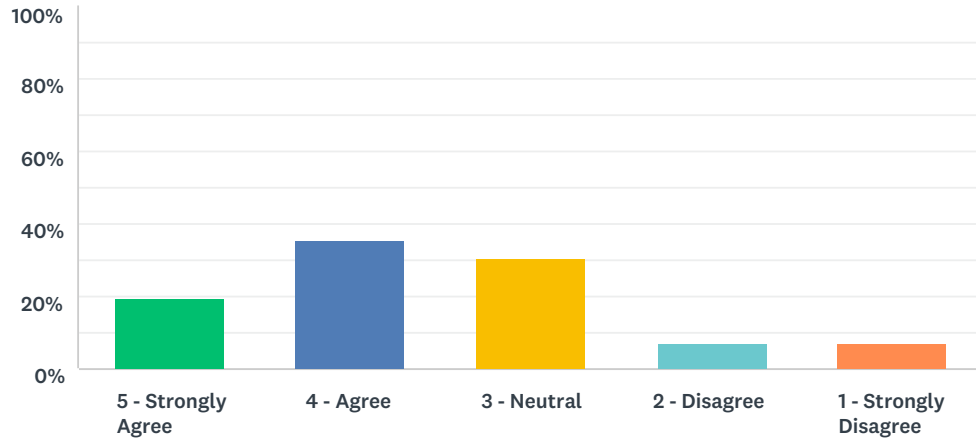
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	1.79%	1
4 - Agree	10.71%	6
3 - Neutral	39.29%	22
2 - Disagree	10.71%	6
1 - Strongly Disagree	37.50%	21
TOTAL		56

Q20 My co-workers work well together to accomplish departmental goals.

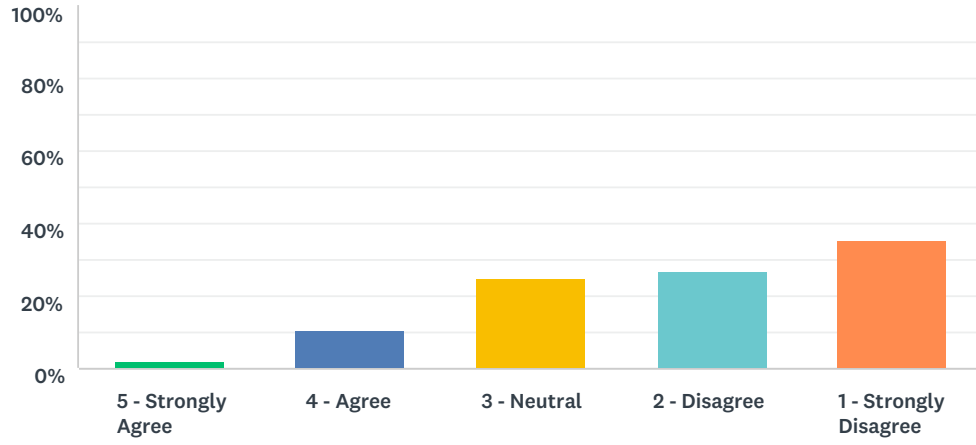
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	19.64%	11
4 - Agree	35.71%	20
3 - Neutral	30.36%	17
2 - Disagree	7.14%	4
1 - Strongly Disagree	7.14%	4
TOTAL		56

Q21 Employees in the ECC are able to participate in deciding how the work gets done.

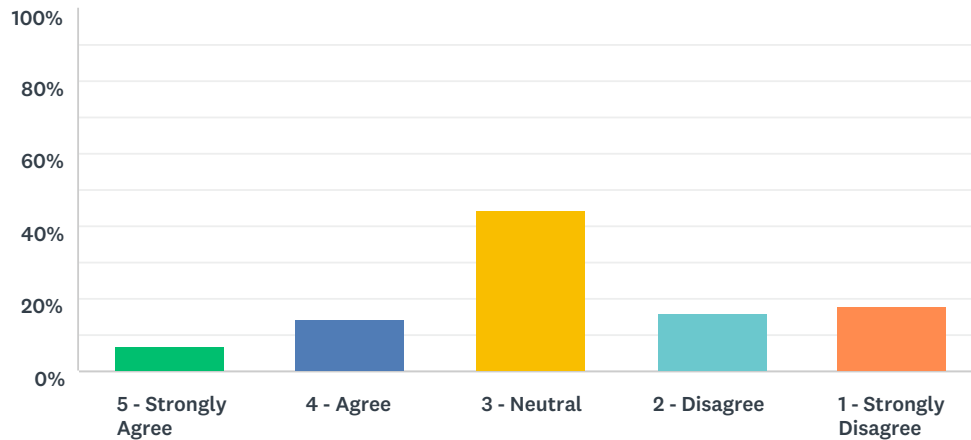
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	1.79%	1
4 - Agree	10.71%	6
3 - Neutral	25.00%	14
2 - Disagree	26.79%	15
1 - Strongly Disagree	35.71%	20
TOTAL		56

Q22 Do you believe current management has tried to address specific comments that have been raised? Please provide an example, if available.

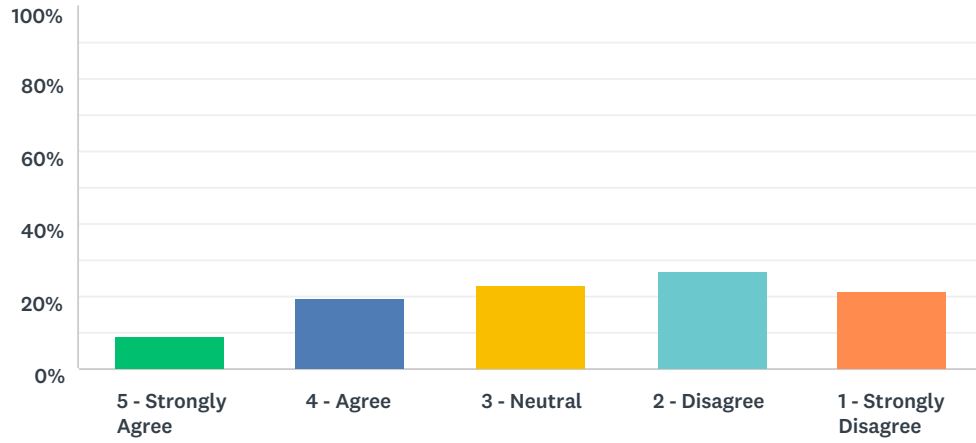
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	7.14%	4
4 - Agree	14.29%	8
3 - Neutral	44.64%	25
2 - Disagree	16.07%	9
1 - Strongly Disagree	17.86%	10
TOTAL		56

Q24 Cincinnati ECC offers me the necessary training to do my job well.

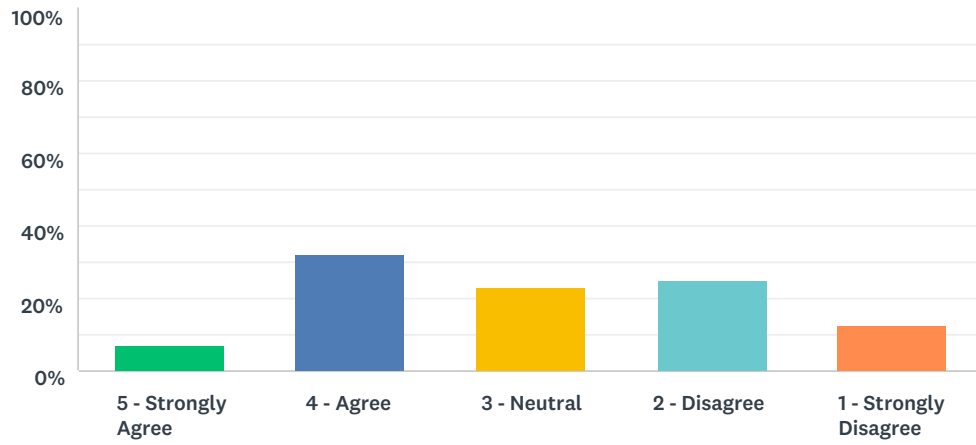
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	8.93%	5
4 - Agree	19.64%	11
3 - Neutral	23.21%	13
2 - Disagree	26.79%	15
1 - Strongly Disagree	21.43%	12
TOTAL		56

Q25 The information I need to do my job is readily available.

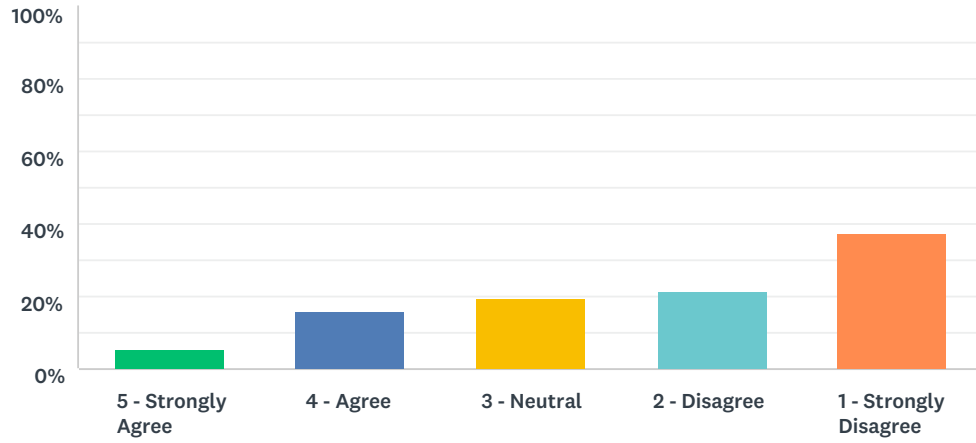
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	7.14%	4
4 - Agree	32.14%	18
3 - Neutral	23.21%	13
2 - Disagree	25.00%	14
1 - Strongly Disagree	12.50%	7
TOTAL		56

Q26 I feel I have reasonable opportunity for career advancement.

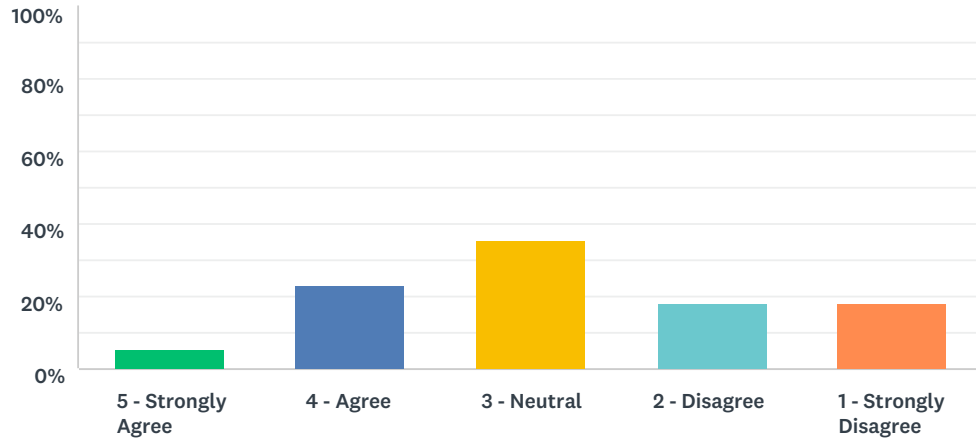
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	5.36%	3
4 - Agree	16.07%	9
3 - Neutral	19.64%	11
2 - Disagree	21.43%	12
1 - Strongly Disagree	37.50%	21
TOTAL		56

Q27 I know what I need to do if I want to advance in the department.

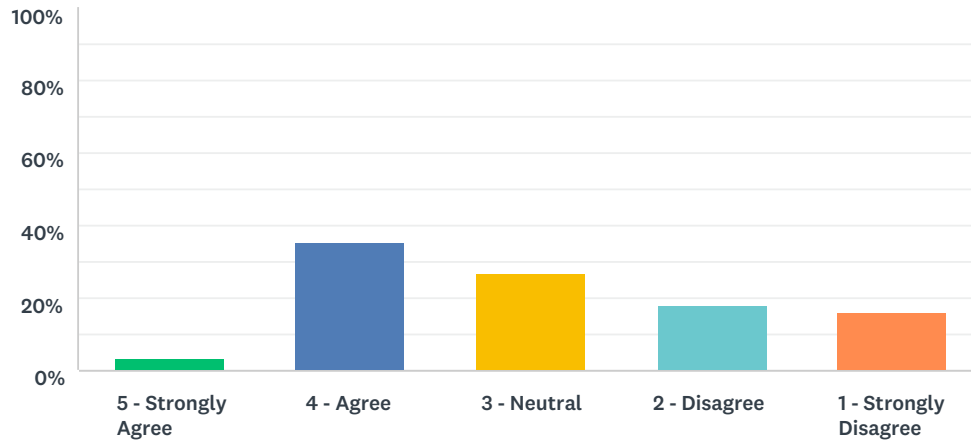
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	5.36%	3
4 - Agree	23.21%	13
3 - Neutral	35.71%	20
2 - Disagree	17.86%	10
1 - Strongly Disagree	17.86%	10
TOTAL		56

Q28 Cincinnati ECC provides me with the necessary resources to do my job well.

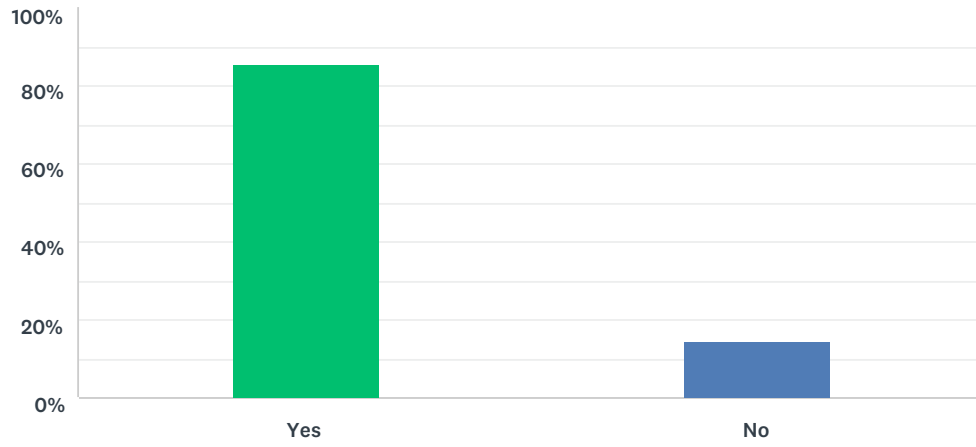
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	3.57%	2
4 - Agree	35.71%	20
3 - Neutral	26.79%	15
2 - Disagree	17.86%	10
1 - Strongly Disagree	16.07%	9
TOTAL		56

Q29 In your opinion, are the skills required for the position the skills that are needed to do the job effectively?

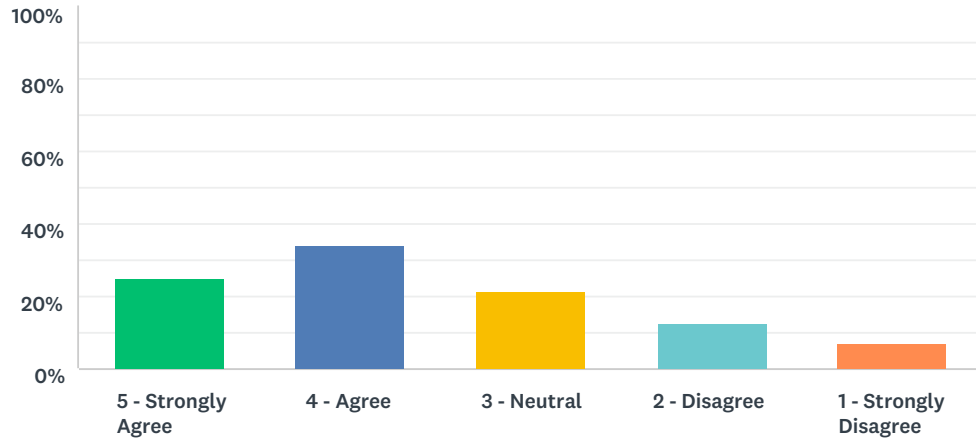
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
Yes	85.71%	48
No	14.29%	8
TOTAL		56

Q30 Did your training adequately prepare you for your position.

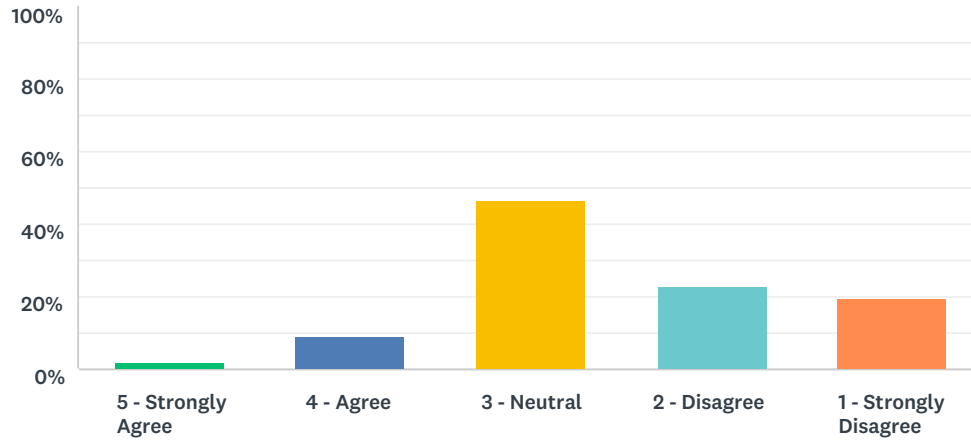
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	25.00%	14
4 - Agree	33.93%	19
3 - Neutral	21.43%	12
2 - Disagree	12.50%	7
1 - Strongly Disagree	7.14%	4
TOTAL		56

Q31 Do you believe current management has tried to address specific comments that have been raised related to training? Please provide an example, if available.

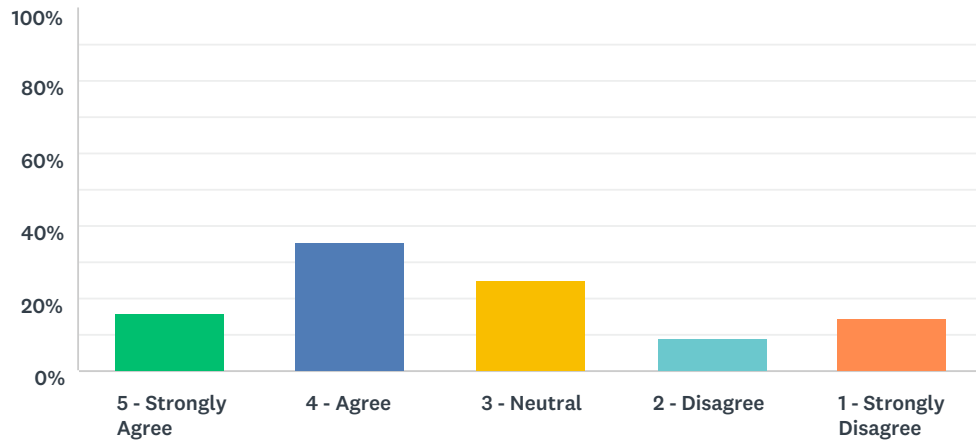
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	1.79%	1
4 - Agree	8.93%	5
3 - Neutral	46.43%	26
2 - Disagree	23.21%	13
1 - Strongly Disagree	19.64%	11
TOTAL		56

Q33 I can contact the ECC senior management if needed.

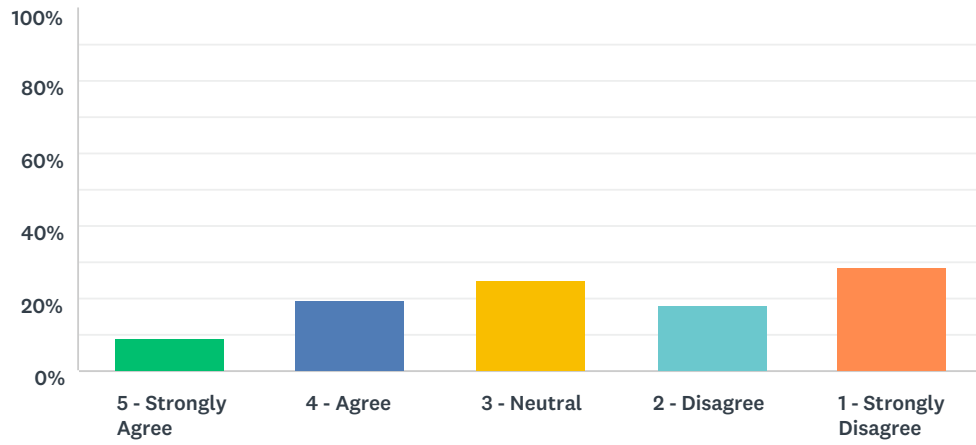
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	16.07%	9
4 - Agree	35.71%	20
3 - Neutral	25.00%	14
2 - Disagree	8.93%	5
1 - Strongly Disagree	14.29%	8
TOTAL		56

Q34 Management recognizes me when I do a good job.

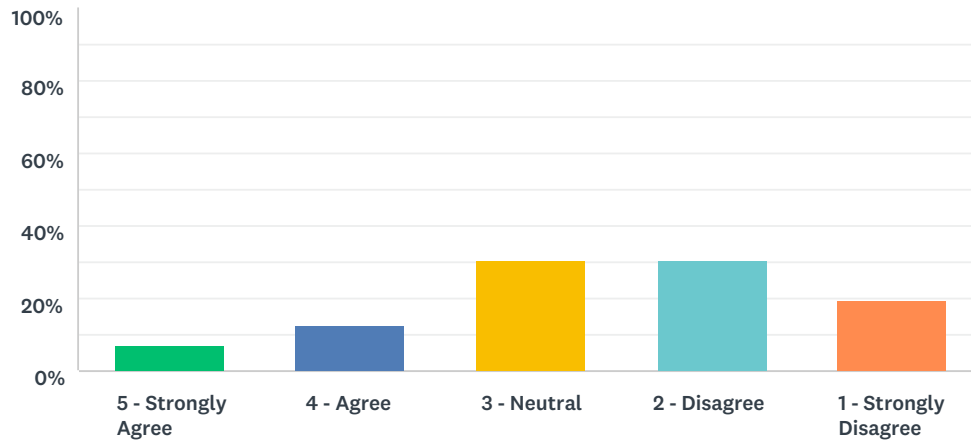
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	8.93%	5
4 - Agree	19.64%	11
3 - Neutral	25.00%	14
2 - Disagree	17.86%	10
1 - Strongly Disagree	28.57%	16
TOTAL		56

Q35 Management treats employees with fairness and an even hand.

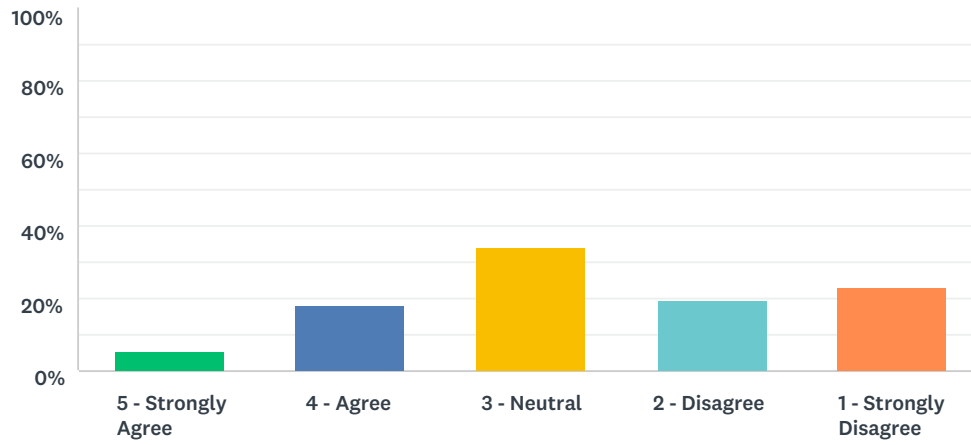
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	7.14%	4
4 - Agree	12.50%	7
3 - Neutral	30.36%	17
2 - Disagree	30.36%	17
1 - Strongly Disagree	19.64%	11
TOTAL		56

Q36 Management focuses on solving problems instead of finding fault.

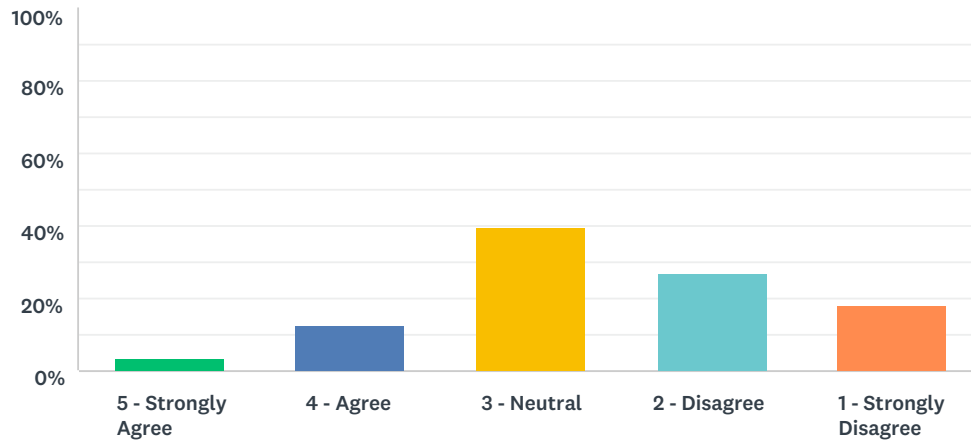
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	5.36%	3
4 - Agree	17.86%	10
3 - Neutral	33.93%	19
2 - Disagree	19.64%	11
1 - Strongly Disagree	23.21%	13
TOTAL		56

Q37 Management resolves conflict consistently, effectively and quickly.

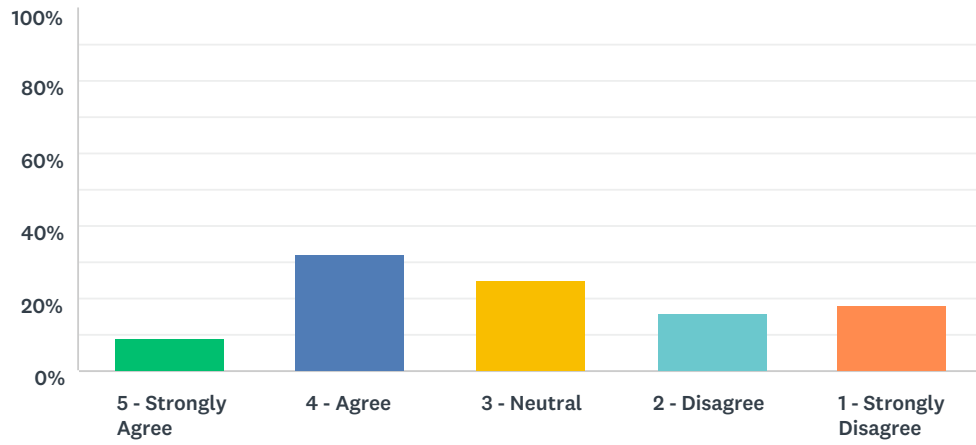
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	3.57%	2
4 - Agree	12.50%	7
3 - Neutral	39.29%	22
2 - Disagree	26.79%	15
1 - Strongly Disagree	17.86%	10
TOTAL		56

Q38 My supervisors recognize me when I do a good job.

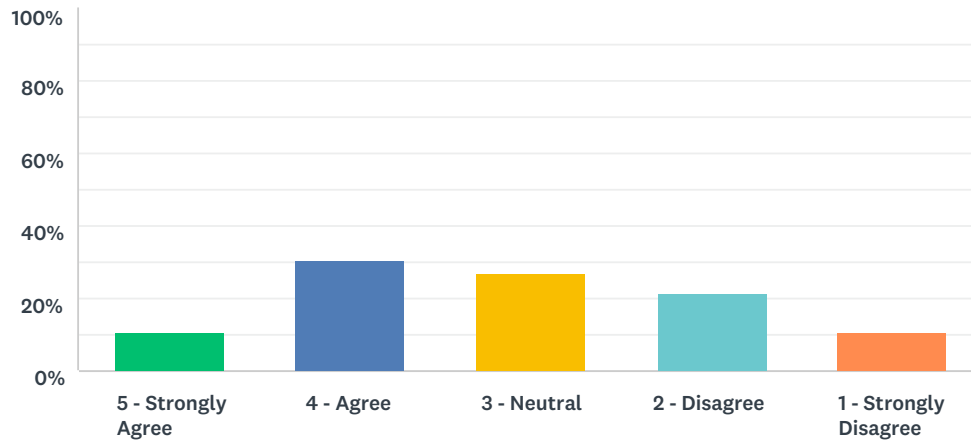
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	8.93%	5
4 - Agree	32.14%	18
3 - Neutral	25.00%	14
2 - Disagree	16.07%	9
1 - Strongly Disagree	17.86%	10
TOTAL		56

Q39 My supervisors treat employees with fairness and an even hand.

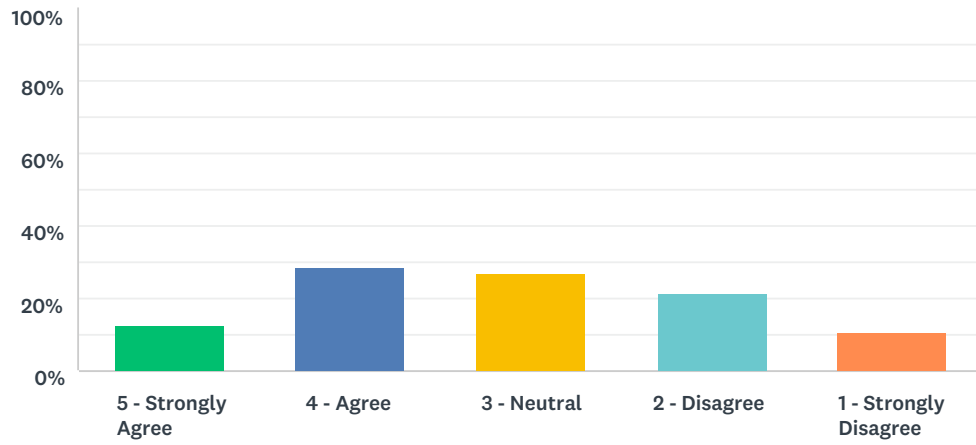
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	10.71%	6
4 - Agree	30.36%	17
3 - Neutral	26.79%	15
2 - Disagree	21.43%	12
1 - Strongly Disagree	10.71%	6
TOTAL		56

Q40 My supervisors focus on solving problems instead of finding fault.

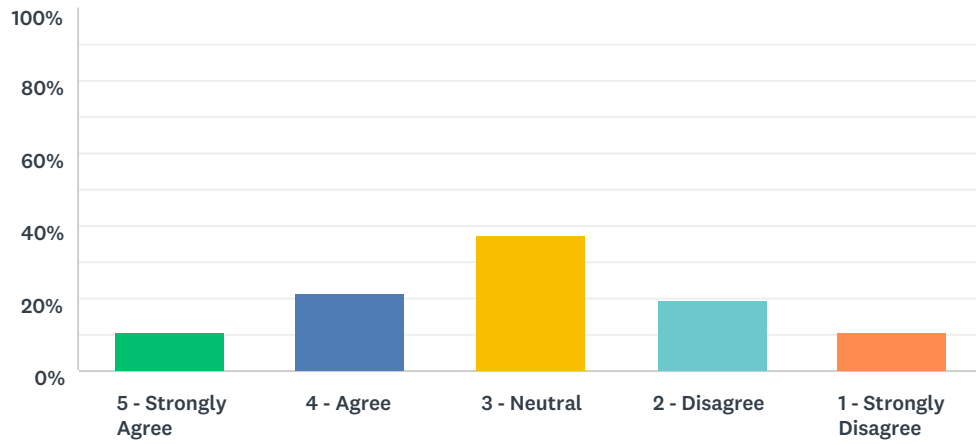
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	12.50%	7
4 - Agree	28.57%	16
3 - Neutral	26.79%	15
2 - Disagree	21.43%	12
1 - Strongly Disagree	10.71%	6
TOTAL		56

Q41 My supervisors resolve conflict consistently, effectively and quickly.

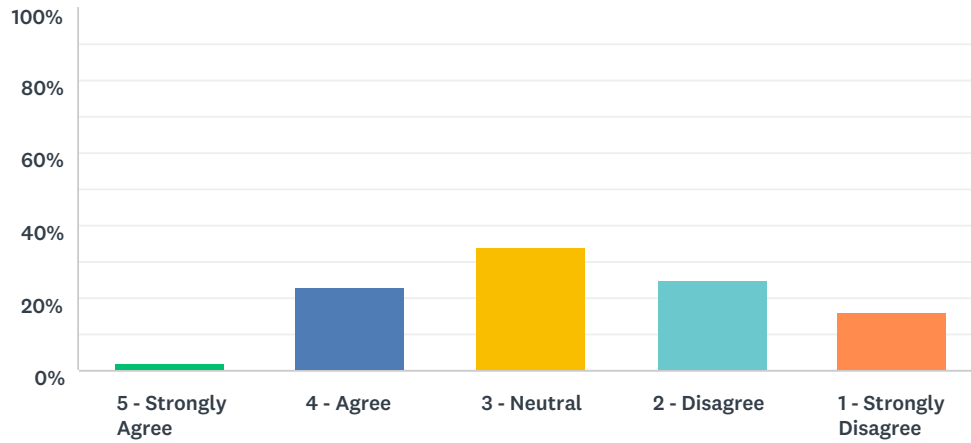
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	10.71%	6
4 - Agree	21.43%	12
3 - Neutral	37.50%	21
2 - Disagree	19.64%	11
1 - Strongly Disagree	10.71%	6
TOTAL		56

Q42 My supervisors get my input and buy-in when making key decisions that impact me at work.

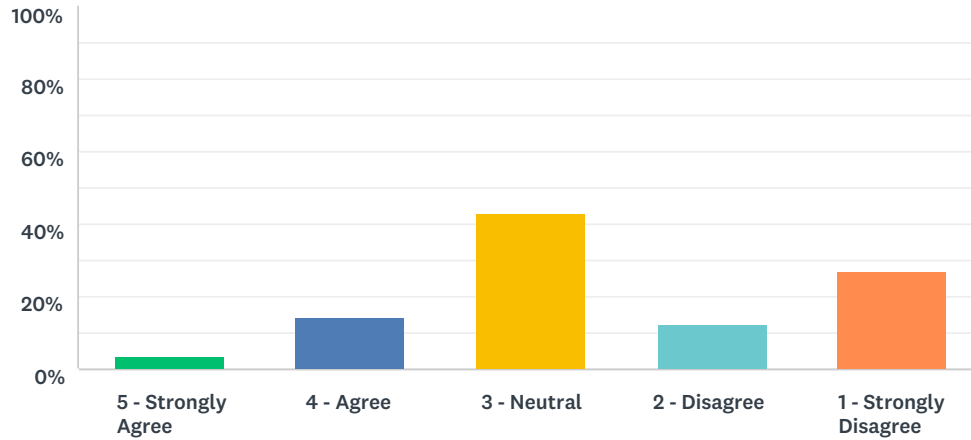
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	1.79%	1
4 - Agree	23.21%	13
3 - Neutral	33.93%	19
2 - Disagree	25.00%	14
1 - Strongly Disagree	16.07%	9
TOTAL		56

Q43 Do you believe current management has tried to address specific comments that may have been raised related to management or supervisory issues? Please provide an example, if available.

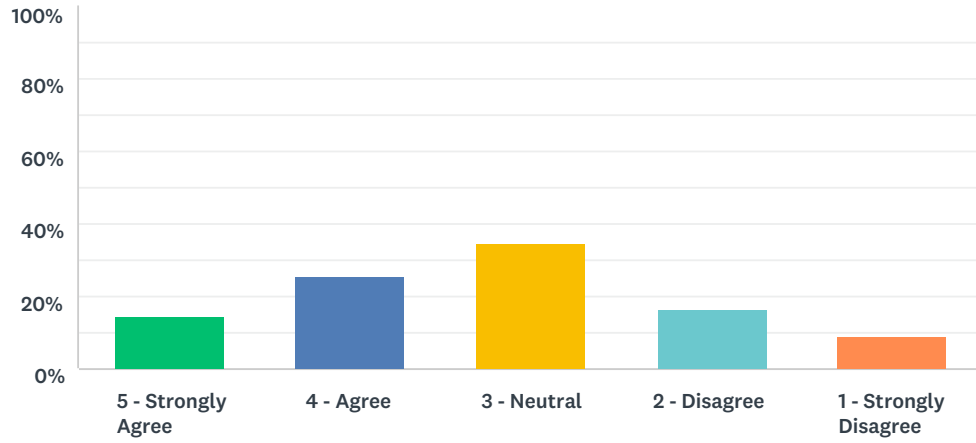
Answered: 56 Skipped: 3



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	3.57%	2
4 - Agree	14.29%	8
3 - Neutral	42.86%	24
2 - Disagree	12.50%	7
1 - Strongly Disagree	26.79%	15
TOTAL		56

Q45 I feel my job is secure.

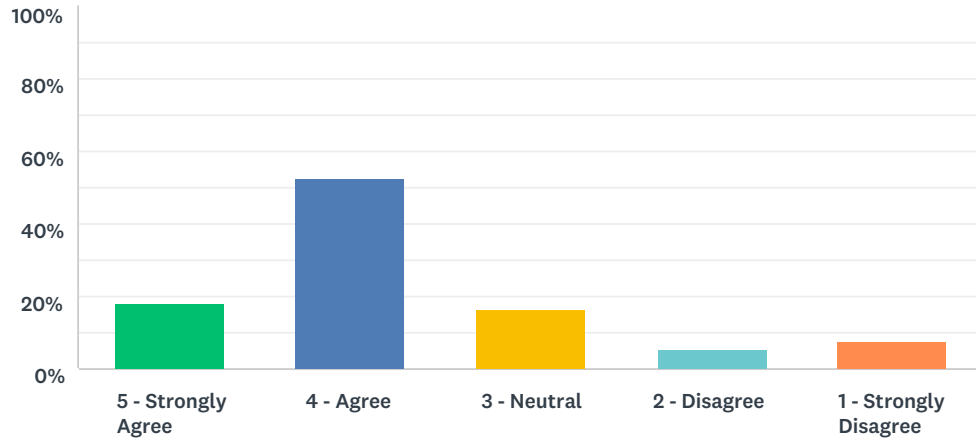
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	14.55%	8
4 - Agree	25.45%	14
3 - Neutral	34.55%	19
2 - Disagree	16.36%	9
1 - Strongly Disagree	9.09%	5
TOTAL		55

Q46 I know what my supervisor expects of me in my job.

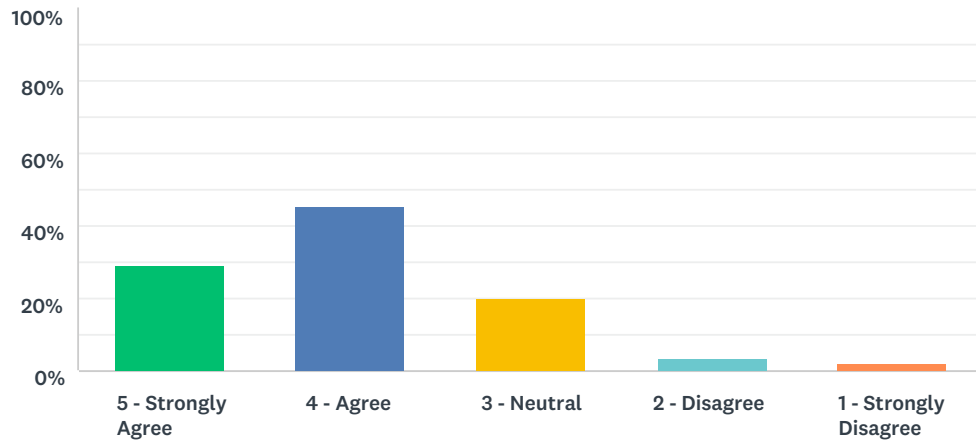
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	18.18%	10
4 - Agree	52.73%	29
3 - Neutral	16.36%	9
2 - Disagree	5.45%	3
1 - Strongly Disagree	7.27%	4
TOTAL		55

Q47 My work is challenging and interesting.

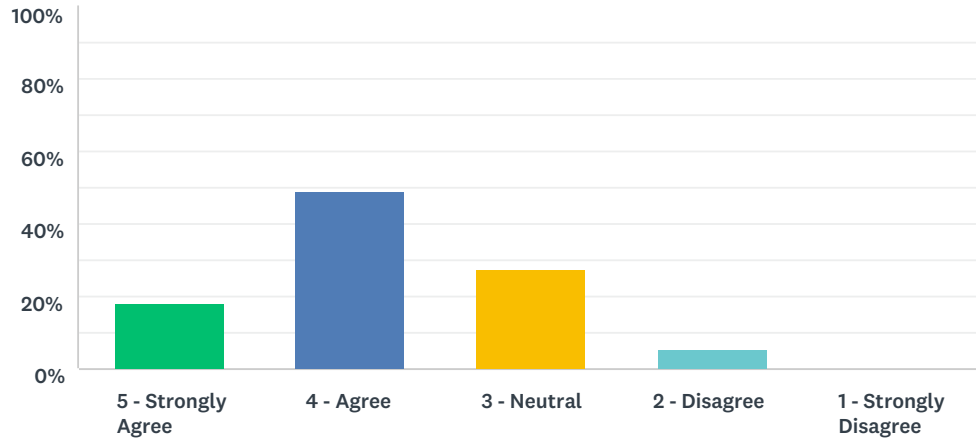
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	29.09%	16
4 - Agree	45.45%	25
3 - Neutral	20.00%	11
2 - Disagree	3.64%	2
1 - Strongly Disagree	1.82%	1
TOTAL		55

Q48 I feel satisfied with the pay and benefits.

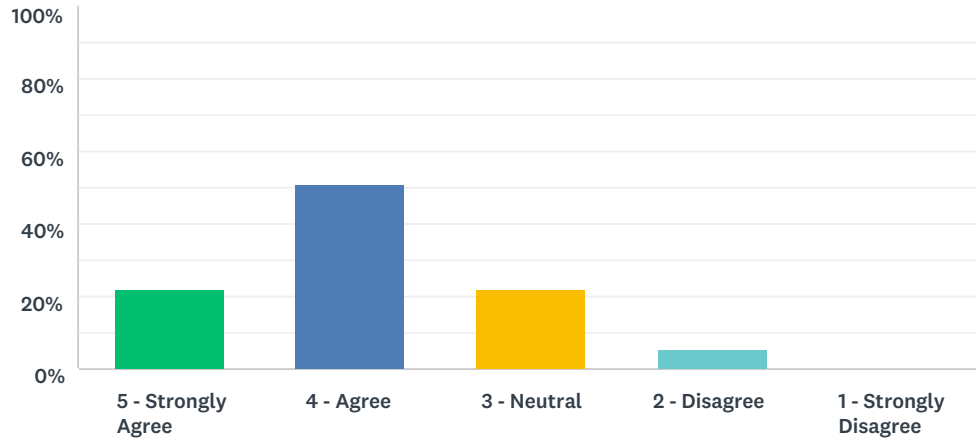
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	18.18%	10
4 - Agree	49.09%	27
3 - Neutral	27.27%	15
2 - Disagree	5.45%	3
1 - Strongly Disagree	0.00%	0
TOTAL		55

Q49 I feel my pay and benefits are competitive.

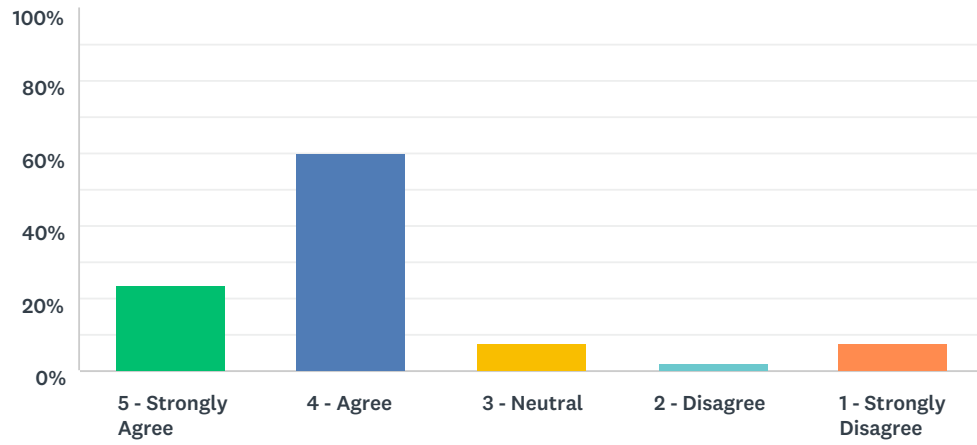
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	21.82%	12
4 - Agree	50.91%	28
3 - Neutral	21.82%	12
2 - Disagree	5.45%	3
1 - Strongly Disagree	0.00%	0
TOTAL		55

Q50 I know and understand my job responsibilities.

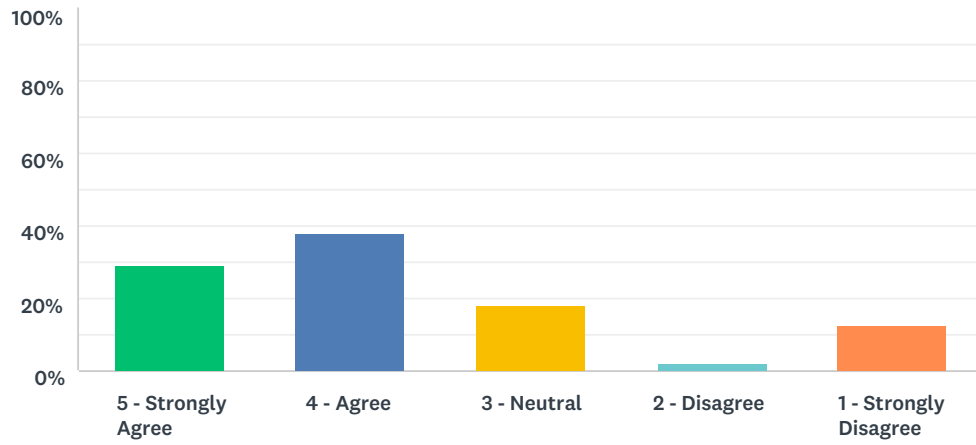
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	23.64%	13
4 - Agree	60.00%	33
3 - Neutral	7.27%	4
2 - Disagree	1.82%	1
1 - Strongly Disagree	7.27%	4
TOTAL		55

Q51 I plan to be working at Cincinnati ECC a year from now.

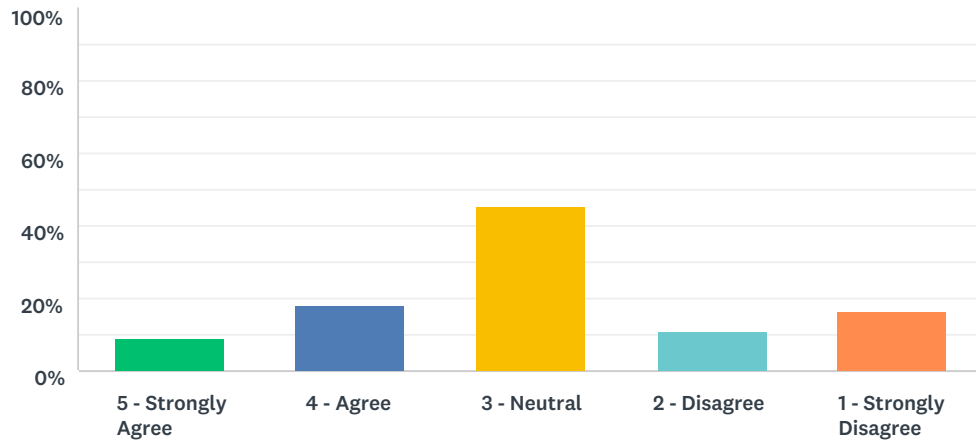
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	29.09%	16
4 - Agree	38.18%	21
3 - Neutral	18.18%	10
2 - Disagree	1.82%	1
1 - Strongly Disagree	12.73%	7
TOTAL		55

Q52 I would encourage friends and others to work at Cincinnati ECC.

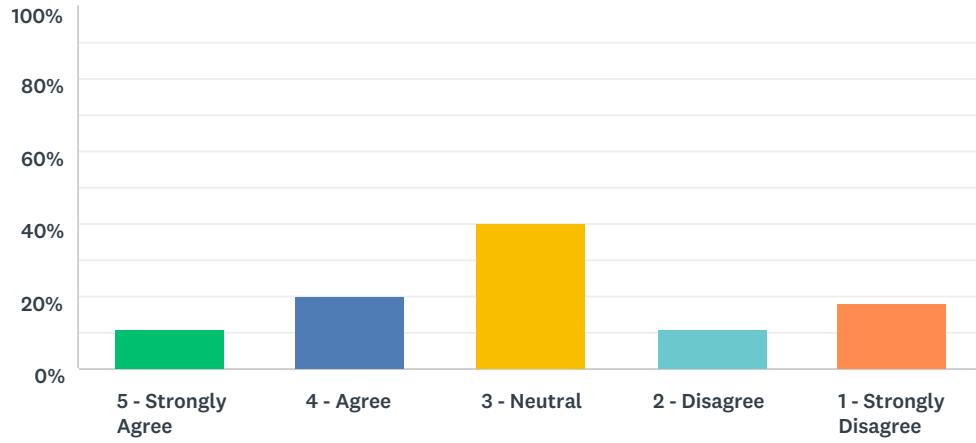
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	9.09%	5
4 - Agree	18.18%	10
3 - Neutral	45.45%	25
2 - Disagree	10.91%	6
1 - Strongly Disagree	16.36%	9
TOTAL		55

Q53 Overall, I am satisfied at Cincinnati ECC.

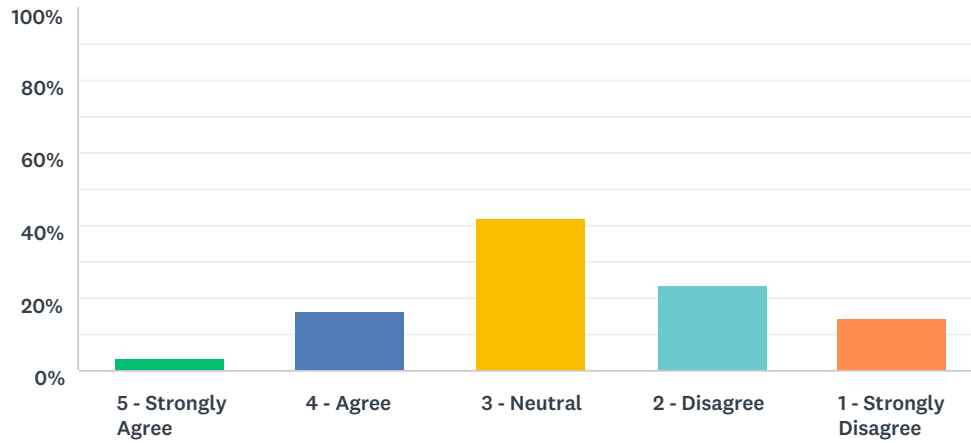
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	10.91%	6
4 - Agree	20.00%	11
3 - Neutral	40.00%	22
2 - Disagree	10.91%	6
1 - Strongly Disagree	18.18%	10
TOTAL		55

Q54 Do you believe current management has tried to address specific comments that might have been raised related to job satisfaction?

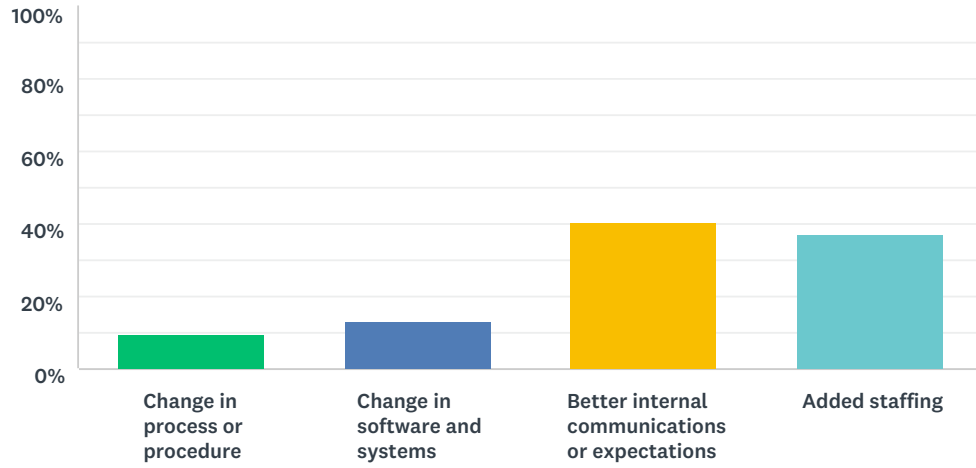
Answered: 55 Skipped: 4



ANSWER CHOICES	RESPONSES	
5 - Strongly Agree	3.64%	2
4 - Agree	16.36%	9
3 - Neutral	41.82%	23
2 - Disagree	23.64%	13
1 - Strongly Disagree	14.55%	8
TOTAL		55

Q56 What steps can be taken to improve operational processes?

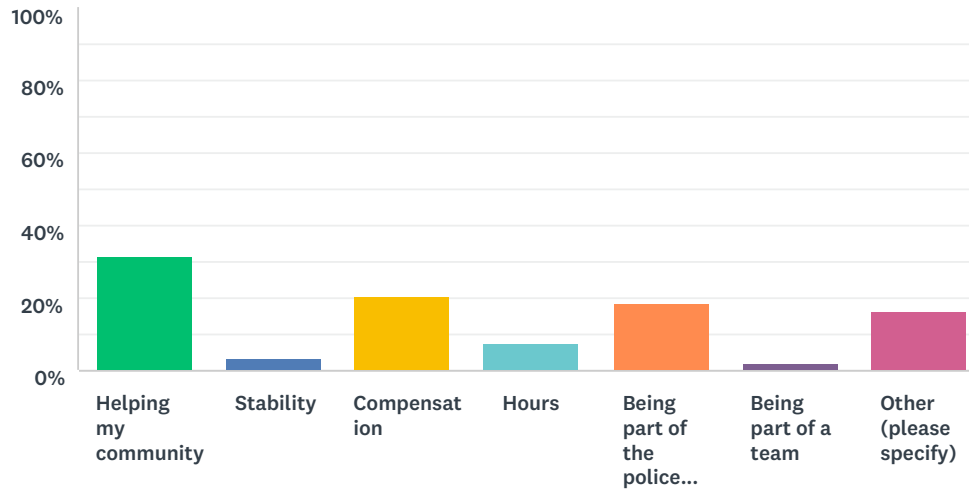
Answered: 54 Skipped: 5



ANSWER CHOICES	RESPONSES	
Change in process or procedure	9.26%	5
Change in software and systems	12.96%	7
Better internal communications or expectations	40.74%	22
Added staffing	37.04%	20
TOTAL		54

Q57 What were the motivating factors for wanting to work with Cincinnati ECC?

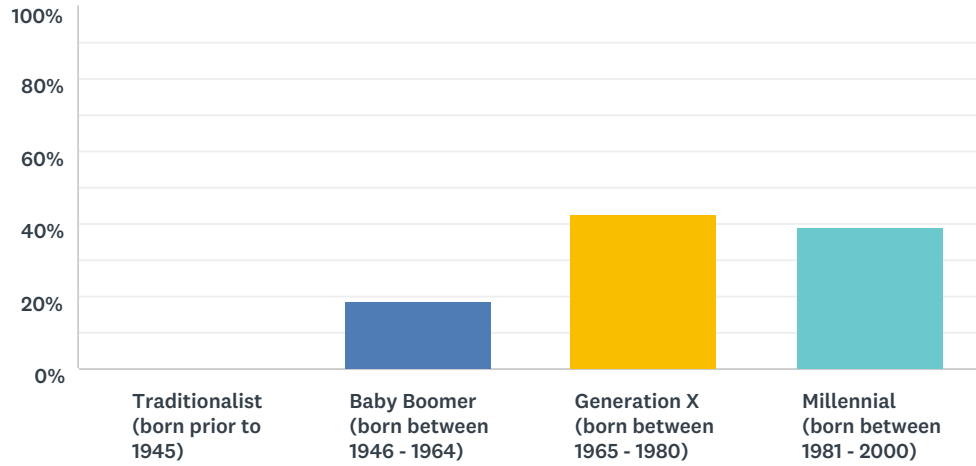
Answered: 54 Skipped: 5



ANSWER CHOICES	RESPONSES	
Helping my community	31.48%	17
Stability	3.70%	2
Compensation	20.37%	11
Hours	7.41%	4
Being part of the police or fire department	18.52%	10
Being part of a team	1.85%	1
Other (please specify)	16.67%	9
TOTAL		54

Q58 Which generation are you?

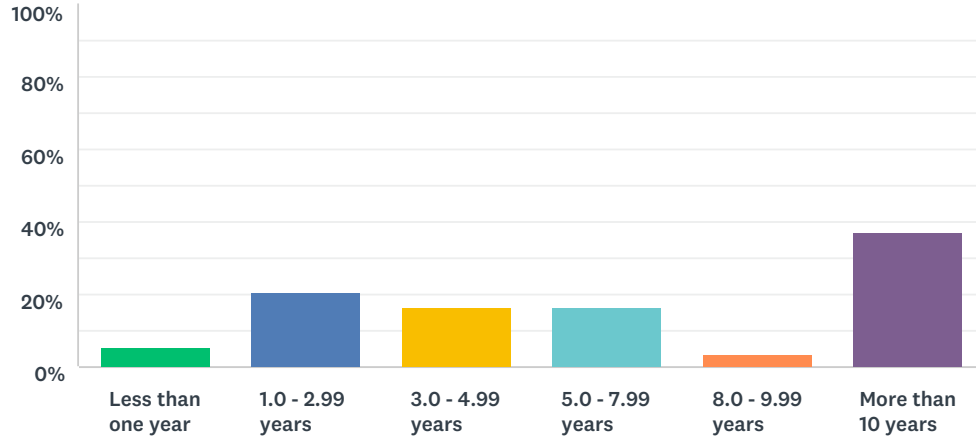
Answered: 54 Skipped: 5



ANSWER CHOICES	RESPONSES	
Traditionalist (born prior to 1945)	0.00%	0
Baby Boomer (born between 1946 - 1964)	18.52%	10
Generation X (born between 1965 - 1980)	42.59%	23
Millennial (born between 1981 - 2000)	38.89%	21
TOTAL		54

Q59 How many years have you been with Cincinnati ECC?

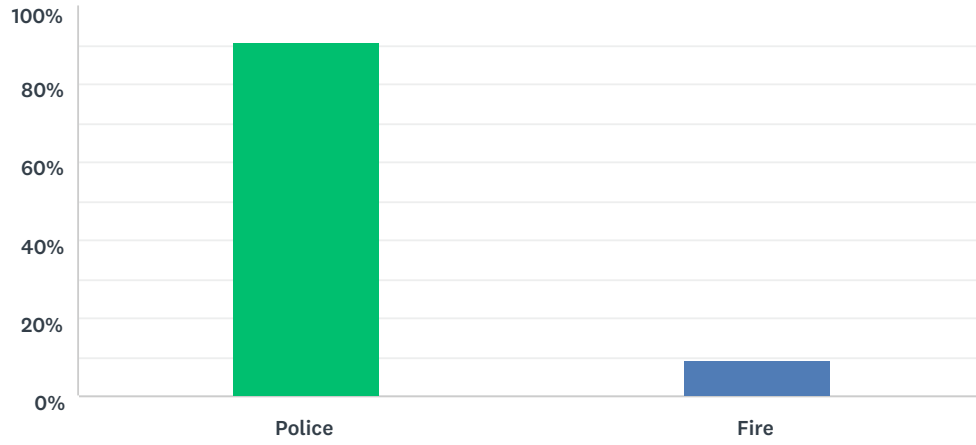
Answered: 54 Skipped: 5



ANSWER CHOICES	RESPONSES	
Less than one year	5.56%	3
1.0 - 2.99 years	20.37%	11
3.0 - 4.99 years	16.67%	9
5.0 - 7.99 years	16.67%	9
8.0 - 9.99 years	3.70%	2
More than 10 years	37.04%	20
TOTAL		54

Q60 Are you with Police or Fire?

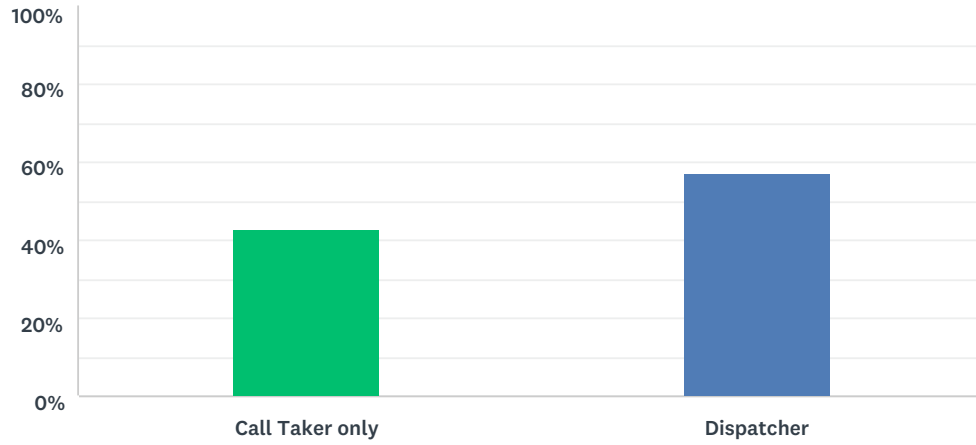
Answered: 54 Skipped: 5



ANSWER CHOICES	RESPONSES	
Police	90.74%	49
Fire	9.26%	5
TOTAL		54

Q61 Are you a Call Taker only or Dispatcher?

Answered: 54 Skipped: 5



ANSWER CHOICES	RESPONSES	
Call Taker only	42.59%	23
Dispatcher	57.41%	31
TOTAL		54