Emergency Communications Center Overtime

March 2018

Performance Audit Report (FY 2018 – 01)

Contents

REPORT HIGHLIGHTS

Why the Auditor Did This Study	As part of the FY 2018 Annual Audit Work Plan, the County Auditor performed an audit of overtime in the Emergency Communications Center (ECC), which is within Public Safety Communications and Emergency Management (PSCEM). Overtime in ECC has grown over the period FY 2015-2017, and determining the cause of these increases can help improve ECC operations, as well as having a potential fiscal impact. The initial audit objective was to assess the administration and use of overtime in ECC. This objective was refined into four audit fieldwork objectives, focusing on training, the impact of non-emergency calls, whether authorized staffing levels fit ECC's needs, and the adequacy of management data.
What the Audit Found	The audit has three findings: 1. A more efficient training process could result in greater staffing efficiency, and potentially reduce overtime. 2. Non-emergency calls to ECC are rising, which burdens existing staff and calls for a multi-faceted solution. 3. The audit did not identify a current need for additional authorized positions, and quicker access to better data should be a priority.
What the Audit Recommends	The audit includes the following key recommendations. **Finding 1**: ECC should use its available training officers to focus on getting as many staff as possible to the highest level (ECT III) to increase flexibility. ECC should prioritize those closest to completing their training, and then progress on to the next group. ECC should continue working on long-term strategies for not falling back into the current situation. **Finding 2:** PSCEM should formalize follow-up on an internal innovation team's findings on non-emergency calls, and prioritize those areas where PSCEM has the most control. PSCEM should also look at additional options for handling non-emergency calls, such as volunteers. **Finding 3:** While addressing other causes of overtime, PSCEM and ECC management should work with the Fire Department and Police Department to evaluate changing the role of Police and Fire personnel in ECC. Changing the role would help further reduce overtime costs. Rather than prioritizing new authorized staff, ECC should prioritize quicker access to better management data.

BACKGROUND

As part of the FY 2018 Annual Audit Work Plan, the County Auditor performed an audit of overtime in the Emergency Communications Center (ECC).[1]

Public Safety Communications and Emergency Management (PSCEM) oversees ECC functions.[2] ECC serves as the public safety answering point for emergency calls, and for non-emergency calls related to police and fire related incidents; ECC staff also dispatch police, fire, or emergency medical personnel to respond as appropriate.

ECC Structure and Budget

There are two divisions within ECC: Operations and Systems. Operations is responsible primarily for call-taking; dispatching; and training; while Systems manages internal resources such as the Computer Aided Dispatch system; the radio system; and the Virginia Criminal Information Network terminal. The ECC Administrator has two staff members who report directly to him, in addition to the Deputy Administrators of Operations and Systems.

In FY 2018, ECC's authorized budget is approximately $10.1 million. This amount was an increase of eight percent over the FY 2017 adopted budget. As part of the FY 2018 budget, three call-taker positions were added in ECC.

This audit focuses on overtime in ECC's Operations division. According to staffing information provided by PSCEM management, staffing in the ECC for FY 2018 includes a total of 59.5 authorized FTEs (Full-time equivalent positions). Forty-eight of these FTEs are for call-takers, dispatchers, and supervisory positions. ECC operators and supervisors are divided into four shift groups. According to the ECC organizational chart dated February 4, 2018, each shift group has 10 authorized operator positions, and two supervisor positions. Ten of the full-time operator or supervisor positions were vacant as of January 2018, though two trainees were anticipated to join ECC in March 2018.[3] The remaining 11.5 positions include the ECC Administrator, two Deputy Administrators, five ECC Systems staff, the Training program manager, a half-time training support position, and two emergency management-related positions.

Overtime Expenditures

ECC's overtime expenditures were higher in FY 2017 than in the previous two years, as shown by the following table. The primary sources of overtime spending are: covering for planned and unplanned leave by call center staff; the 12-hour schedule for the call center staff; and the use of police and fire department personnel to assist with coverage for police and fire radio dispatch. Table 1 below shows total overtime expenditures for ECC in FY 2015-2017, as well as overtime as a percent of personnel expenditures.

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[1] For the objectives, scope, and methodologies of the report, see page 16.

[2] The Director of PSCEM reports to the Deputy County Manager that also oversees the Police and Fire Departments. Deputy County Managers report to the County Manager. For more information on the County organizational chart see https://departments.arlingtonva.us/organizational-chart/.

[3] PSCEM management reports that ECC has authority for five overhire positions if funds are available and vacancies exist. These positions are in addition to the 59.5 authorized positions reported above.

Table 1: ECC Overtime Expenditures

Fiscal Year	Total ECC Overtime Expenditures	Overtime as Percent of Personnel Expenditures
2015	$1,300,434	19.72
2016	$1,276,284	19.22
2017	$1,392,213	22.08

Source: Unaudited ECC data

According to data provided by PSCEM, overtime expenditures for ECC result from various sources, including: covering planned and unplanned leave with other ECC staff, police personnel, or fire personnel, or; overtime related to shifts and minimum staffing (see following section). As shown in Figure 1, in FY 2017 these categories comprised 82 percent of ECC overtime in FY 2017. Of the remaining sources of overtime, the largest, administrative overtime, is for management staff and others who are eligible to receive overtime. According to ECC, this "Admin" category is not related to ECC call taking activities.

Figure 1: Sources of FY 2017 ECC Overtime Expenditures
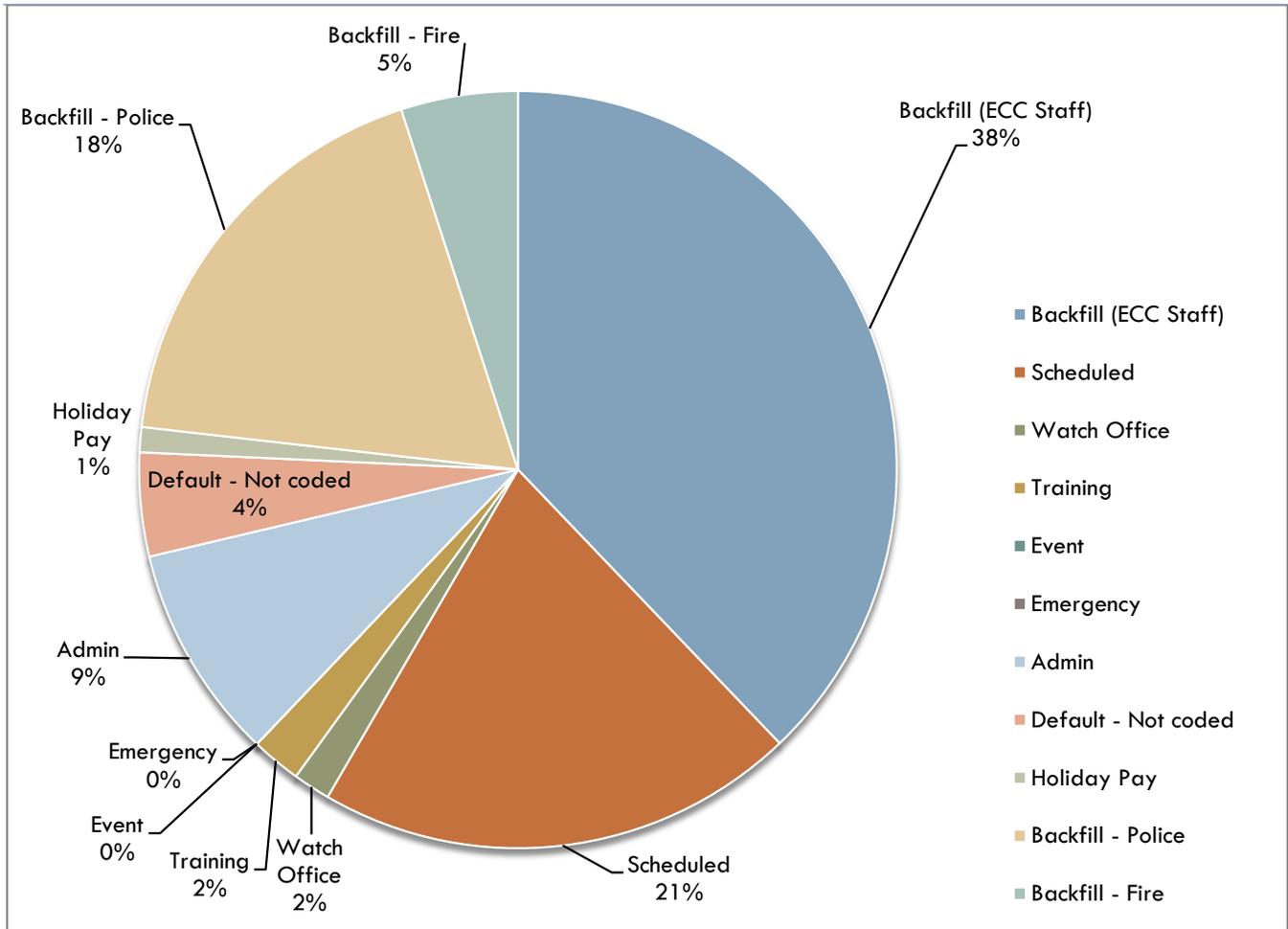
Source: Unaudited ECC data

Shifts and Minimum Staffing

ECC operators and supervisors work 12 hour shifts beginning at 7:00 AM or 7:00 PM. Prior to the shift is a roll call that typically lasts 15 minutes. The roll call allows for supervisors to share key information with staff that may be relevant for the shift. Some days, the roll call session may be lengthened to 30 minutes to allow for a training refresher.

Each 12-hour shift is worked by an alternating shift group.

- Shifts 1 and 2 work the day shift. Their schedule calls for the following pattern over a two-week period: 2 days on, 2 days off, 3 days on, 2 days off, 2 days on, 3 days off.
- Shifts 3 and 4 work the night shift. Their schedule calls for working 4 days on, then 4 days off.

In reality, call center staff do not work only the days they are scheduled, as many staff members are called in for overtime work to cover for both planned and unplanned leave.

Both the day and night schedules results in some built-in overtime. According to unaudited data provided by ECC, overtime that results naturally from the schedule construction was about 19 percent of total overtime in FY 2017, approximately $266,000. In previous years, ECC staff worked eight or 10 hour shifts. ECC management reported that the 12-hour schedule was adopted in part to allow call center staff to have fewer trips to work, and thereby help to reduce attrition.

ECC management has identified a minimum staffing level that should be maintained to manage the volume of work. This involves at least eight staff members, in each of two shift groups, during each twelve-hour period. ECC management has determined that each of the shift groups should minimally include: two police dispatchers; two fire dispatchers; one teletype operator; one call taker; one fill-in; and one supervisor.

Call Volume

According to unaudited data provided by ECC, call volume to ECC has dropped from FY 2015-FY 2017. However, at the same time, the percentage of calls that are non-emergency calls is increasing. Table 2 provides an overview of call volume, including non-emergency calls. ECC data for FY 2018 is current through December 2017. These data indicate that the trend of non-emergency calls as an increasing percentage of total calls is continuing.

Table 2: ECC Call Volume and Type

Fiscal Year	Total Calls	Outgoing	Emergency	Non-Emergency	Non-Emergency Percent of Total
2015	496,587	159,048	108,223	229,316	46.2
2016	472,541	142,878	101,186	228,477	48.4
2017	446,217	129,639	93,333	223,245	50.0
2018 (partial)[4]	225,012	61,907	45,291	117,814	52.4

Source: Unaudited ECC data

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[4] FY 2018 data is July-December 2017.

Training Process

The ECC Training Program is divided into five stages. ECC staff must successfully complete each stage before moving to the next stage. According to ECC management and internal documents, completing the five stage training program should take about 18 months.

Stage 1

Orientation: The first stage of training is orientation. During this stage the trainee receives an overview of ECC, as well as of the Police and Fire Departments and their responsibilities. Further, the trainee receives Level C training for the Virginia Criminal Information Network (VCIN).[5] The trainee must pass written examinations for each element to successfully complete this stage.

Stage 2

Call taking: Non-Emergency and Emergency: The second stage of training provides hands-on computer training and telephone call taking for both non-emergency and emergency (9-1-1) calls. A trainee must demonstrate proficiency by written examination and satisfactory practical application. At the end of Stage 2, a trainee advances to the ECT (Emergency Communication Technician) I level.

Stage 3

Teletype: A teletype is an electronic system that allows the transmission of law enforcement information between jurisdictions. Teletype operators must know how to use criminal justice information systems, and handle criminal justice information in a legal and ethical manner. To become a certified teletype operator, the ECT I must successfully complete the state mandated VCIN Level A and B certification courses, as well as successfully completing the ECC training program for this stage.

Stage 4

Police or Fire Radio Training: During the fourth stage of training, trainees become certified as a Police or Fire Dispatcher, which focuses on dispatching through the police or fire radio. To successfully complete the Police Dispatch or Fire Dispatch portion, a trainee must demonstrate proficiency by written examination, operation of all associated radio channels, and practical application of concepts presented during training. The Police Radio Training has two elements: Police Administrative and Police Dispatch. After an ECT I completes Stages 3 and 4 of the training program he or she advances to the ECT II level.

Stage 5

Police or Fire Radio Training: During the fifth stage of training, trainees become certified on the radio discipline not completed in Stage 4. which focuses on dispatching through the police or fire radio. As in Stage 4, a trainee must demonstrate proficiency by written examination, operation of all associated radio channels, and practical application of concepts presented during training. After an ECT II completes Stage 5 of the training program he or she advances to the ECT III level.

In addition to the above outlined training, trainees must successfully complete other courses as assigned, including:

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[5] VCIN is managed by the Virginia State Police. The primary mission of VCIN is to provide a means of rapid communications for criminal justice agencies throughout Virginia. It is a statewide data communications network incorporating computerized links to regional and national law enforcement systems. For more information, see http://www.vsp.state.va.us/CJIS_VCIN.shtm. There are different levels of access provided to VCIN, each with a separate training requirement. Level C is the lowest level of access.

- One-week Emergency Medical Dispatch/CPR Course
- Two-week Commonwealth of Virginia Basic Telecommunications Course

Certified Training Officers

Once ECC operators advance to the ECT III level, they are eligible to become Certified Training Officers (CTOs). Individuals who are CTOs are the primary source of training for newer staff. As of February 4, 2018, there were 12 CTOs, who also maintain their call-taking, dispatch, or teletype responsibilities in addition to serving as training officers. During shifts where the ability to maintain minimum staffing is threatened, ECC prioritizes the CTOs discharging their call-taking, dispatch, or teletype responsibilities over the training work, which involves overseeing other staff in call-taking, dispatch, or teletype.

Data

ECC generates significant data that may be used in management of both personnel and overall business operations, though these data exist in different systems. For example, data captured in the phone system includes call data, and some limited audio of the call. Full call audio data is captured in the NICE recording system. Similarly, information about an incident, which is gathered by the call-taker, is captured in a system other than the phone system. In addition, ECC uses the County's PRISM system for human resources related data, including leave usage and overtime. The PRISM system does not interface with the ECC phone system data. In addition, some PRISM information must be separately extracted to allow for easier data analysis.

Appreciation

The County Auditor commends the management and staff of the PSCEM and ECC for their assistance and cooperation during the audit.

FINDING 1 – MORE EFFICIENT TRAINING PROCESS WILL LIKELY REDUCE OVERTIME

Finding Summary: The Emergency Communications Center (ECC) has not been able to meet its internal goal of training call center staff in all skills within eighteen months, and completing this training more efficiently would result in greater staff flexibility while likely reducing overtime usage. Further, additional steps can be taken to retain this progress.

Fully training call center staff offers greater flexibility

ECC focuses on providing its call center operators and supervisors with high quality training befitting a demanding profession. Call center operators field emergency calls that periodically are highly stressful, and dispatch police or fire personnel into situations that range from routine to life-threatening. To manage this high variation in types of calls, ECC works to adhere to professional training standards such as those promulgated by the Association of Public Safety Communications Officials. The ECC training program is designed to ensure that call center staff are trained on five key disciplines within an eighteen-month period: 1) call-taking for emergency and non-emergency calls; 2) teletype usage; 3) fire dispatch; 4) police administrative calls; and 5) police dispatch. Operators who are fully qualified on all five disciplines attain a level of Emergency Communications Technician (ECT) III.

ECC management desires that as many operators as possible are trained in each of the five disciplines, as this offers greater flexibility for staffing decisions and the greater likelihood of high quality work by the communications staff. For example, if an ECT III calls in sick, an ECT I, who is not qualified to dispatch either fire or police, cannot replace the ECT III. Depending on need, an ECT II, who is qualified to dispatch police or fire but not both, may also not be able to replace an ECT III. So the management policy to bring staff up to ECT III allows for more options to manage in situations where call center staff is under strength.

In addition, ECT IIIs allow ECC to potentially reduce the reliance on police and fire personnel who incur overtime – paid by ECC – to assist ECC in fire and police dispatch roles. However, because the fire and police personnel only handle dispatch for their own department, and do not handle emergency or non-emergency calls, their ability to assist ECC is much more limited than an ECT III.

Current resources are available to speed up training

While the ECC goal is to train staff on all call center disciplines within eighteen months, six of the 10 staff who not yet ECT III are already beyond the eighteen-month training timeframe. Further, three of the remaining four staff are not likely to complete their training within eighteen months, based on their current rate of completion.

ECC management ascribes the relative slowness in the training process to the need for Certified Training Officers (CTOs), who are ECT IIIs that have qualified to serve as trainers, to function primarily as call-takers and dispatchers. These roles take priority over training, and staff strength is often not sufficient to allow a CTO to sit with a trainee, as this takes the CTO away from the phones or dispatch radios. Based on the number of vacancies among call center staff, and the fact that overtime to cover for planned and unplanned leave represents over half of all overtime costs, management's assessment has merit.

However, as of February 4, 2018, ECC has 12 CTOs to train only eight individuals who are not yet to the ECT III level.[6] This leaves four CTOs who are available to serve as trainers, or as backup for phone and radio coverage. As of February 4, 2018, three of eight trainees lack only training on one of the five disciplines to complete their progression to ECT III. Once these individuals are fully trained, three more CTOs will available to be redeployed to complete training for other staff, and the three new ECT IIIs will offer greater flexibility for coverage. In addition, PSCEM has been authorized for four additional CTOs, bringing the total to 16. These four additional CTOs have to be trained and brought up to standards, but by FY19, PSCEM expects to have 16 CTOs in place out of our authorized positions.

To help achieve greater staff flexibility, ECC management should prioritize completing training for the ECT IIs closest to completing their fifth discipline of training, even if that means incurring short-term overtime.

Recommendation 1.1: To help achieve greater staff flexibility, ECC management should prioritize completing training for the ECT IIs closest to completing their fifth discipline of training, even if that means incurring short-term overtime.

This use of overtime would be an investment with a return of greater flexibility in using staff. Specifically, more ECT IIIs should allow management greater options to redeploy available staff in a shift before resorting to overtime to cover planned and unplanned leave. Once the ECT IIs closest to completing their fifth discipline of training have advanced to ECT III, the CTOs should be redeployed to focus on training the staff who are likely to advance to ECT III most quickly. If PSCEM management sets a goal to get the current ten trainees to ECT III by a certain time, such as the end of calendar year 2018, the training process would be further facilitated.

Recommendation 1.2: Once the ECT IIs closest to completing their fifth discipline of training have advanced to ECT III, the CTOs should be redeployed to focus on training the staff who are likely to advance to ECT III most quickly.

The data currently available was not sufficient for the County Auditor to develop a specific estimate of overtime savings that would occur if the call center staff had even more ECT IIIs. However, according to data provided by ECC, in FY 2017 approximately $794,000 in overtime costs (57%) was either due to calling in ECC staff to cover planned or unplanned leave, or due to using police and fire department personnel to provide dispatch coverage. Having more staff that can cover all the disciplines of ECC should allow for fewer "call-ins" of ECC staff and less reliance on police and fire staff for dispatching.

Additional efforts needed to retain progress

While opportunities for short-term training progress are available now, a concurrent focus on retaining those gains is important. If the most highly skilled people leave the organization, the call center would likely find itself back in its current situation regarding overtime usage.

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[6] Two trainees were out on leave as of February 4, 2018.

One way to do this is to make the training goal more aggressive. Eighteen months to complete training is a long time to wait for new ECT IIIs. According to ECC training documents, the eighteen-month process builds in six month of training pauses to assimilate information. With more CTOs available to ensure that training continues without interruptions due to staff shortages, and by eliminating most or all of the training pauses, the training timeframe could realistically be reduced to 12 or 14 months. Eighteen months could then be the deadline, rather than the aspirational goal. ECC management should reduce the current training timeline, perhaps to as little as twelve months.

Recommendation 1.3: ECC management should reduce the current training timeline, perhaps to as little as twelve months.

Additional steps can also be taken to help support the reduction in the training timeline, helping to ensure that unplanned leave does not interrupt or reduce progress made in getting as many call center staff to the ECT III level as possible. For example, ECC management should work to make as many of the new ECT IIIs into CTOs as are interested and capable. The training program is stronger, more flexible, and more efficient when more CTOs are available. Other ECC options for consideration include:

- Using ECC management personnel to fill in potential interruptions in training time.
- Using contractors to help cover training on an as needed basis to mitigate against interruptions in training.

Recommendation 1.4: ECC management should work to make as many of the new ECT IIIs into CTOs as are interested and capable.

Recommendation 1.5: Other ECC options for consideration include: 1) using ECC management personnel to fill in potential interruptions in training time; 2) using contractors to help cover training on an as needed basis to mitigate against interruptions in training.

Finally, the ECC training program is managed by a training coordinator who also serves as the hiring and recruitment coordinator. However, the training program effort does not leave enough time for this individual to develop and implement a strategic recruitment plan. Such a plan would help to improve the quality of applicant pools by more specifically targeting the skills needed to excel in public safety communications in 2018 and in the years to come. ECC management has pointed to the upcoming of NextGen9-1-1, which will allow individuals to text pictures and video to the 9-1-1 call center, as an innovation that may change significantly the skills needed to be a successful ECC operator. In addition, ECC has suffered quick attrition with some new hires. For example, seven individuals hired in 2017 left within eight months. While quicker training should help with retention, there is still a need to identify applicants who are not a good fit for ECC before they are hired.

To address this need, Public Safety Communications and Emergency Management (PSCEM) management should consider the hiring a contractor on a short-term basis to focus on developing a recruitment and hiring strategy, including but not limited to: a profile of a successful ECC operator; ways to target the right applicants in the recruiting process; benchmarking of other successful organizations in recruiting and retaining staff; changes to the hiring process that may be needed to attract and retain the right staff; and impediments to retaining current staff.

Recommendation 1.6: Public Safety Communications and Emergency Management (PSCEM) management should consider the hiring a contractor on a short-term basis to focus on developing a recruitment and hiring strategy, including but not limited to: a profile of a successful ECC operator; ways to target the right applicants in the recruiting process; benchmarking of other successful organizations in recruiting and retaining staff; changes to the hiring process that may be needed to attract and retain the right staff; and impediments to retaining current staff.

During the audit, the County Auditor also learned that ECC has not regularly conducted and documented exit interviews for departing staff. Exit interviews can be an important management tool for identifying improvements to business operations, impediments to retaining staff, and possible weaknesses in culture and leadership. Exit interviews are also useful in developing trends that need attention from more senior management. As part of the process to develop a recruiting and hiring strategy, ECC management should also begin systematically conducting exit interviews of its staff, including call center operators and supervisors, documenting the results, and periodically sharing the results and analysis with PSCEM management.

Recommendation 1.7: As part of the process to develop a recruiting and hiring strategy, ECC management should also begin systematically conducting exit interviews of its staff, including call center operators and supervisors, documenting the results, and periodically sharing the results and analysis with PSCEM management.

FINDING 2 – NON-EMERGENCY CALLS ARE A GROWING PROBLEM, CREATING UNNECESSARY WORK

Finding Summary: In the period FY 2015-2017, the proportion of totals calls to the Emergency Communications Center (ECC) that were non-emergency calls has risen, which has created an unnecessary burden on current ECC operators. Public Safety Communications and Emergency Management (PSCEM) management authorized an internal study group to assess the problem of non-emergency calls, and several potential solutions were offered. PSCEM management should formally follow up on these internal recommendations, as well as considering other possible options such as using community volunteers or contractors to handle non-emergency calls.

Percentage of non-emergency calls is increasing and creates a burden

Non-emergency calls are calls that come into ECC outside of the 9-1-1 line. The non-emergency line is intended for public safety purposes (police, fire, or sheriff-related inquiries) but based on interviews with ECC management and operators, other calls come into the line ranging from water line breaks to requests for directions in Arlington. Unfortunately, the data are not available to identify specifically how many of the non-emergency calls are not related to public safety agencies.

As noted in the Background (p.4), the percentage of total ECC calls that are non-emergency is rising during the period FY 2015-2017. This provides an opportunity to reduce the burden on current ECC staff and allow them to focus on the areas where their professional skills are best used: emergency calls and police and fire dispatch.

The increasing percentage of non-emergency calls has an anecdotal impact on ECC staff. While the quantitative data are unclear on the connection, County Auditor interviews with ECC management and staff indicate that burnout due to overwork is impacting sick leave usage and ECC attrition. While hiring additional staff to take on this work is one possible solution, this is costly, time-consuming, and does not account for the current issues with an inefficient training process. A more feasible solution is to work to bring down the workload by focusing on reducing non-emergency calls, which are time-consuming but not the best use of ECC operators' training and skills. Absent better quantitative data, the connection between reducing non-emergency calls and reducing overtime cannot be precisely estimated, but the data developed during this audit strongly suggest that reducing the workload of time-consuming non-emergency calls will improve the work environment, reduce burnout, and possibly reduce attrition, thus enhancing the likelihood of reducing overtime usage.

Internal innovation team assessed the issue of non-emergency calls

In FY 2017, EMIT – an internal emergency management innovation team – worked to identify some of the causes for the increasing percentage of non-emergency calls, and offered several recommendations. Among the key causes EMIT identified were:

- The non-emergency number is published numerous places, including on the County website and business cards.
- The number is promoted heavily by County departments as a good source for potential problem resolution.

- Callers like using the non-emergency line, as it provides a human voice and good customer service.

However, EMIT also found that ECC operators spent significant time dealing with these calls, which were clearly lower priority. In addition, EMIT was limited by an inability to get data that would identify whether calls to the non-emergency line were coming from inside the County phone system, and what times of day the calls were being made. The County Auditor's interviews with ECC management and staff, and observations of data limitations, resulted in replicating these EMIT finding.

To address the problems posed by the increasing percentage of non-emergency calls, EMIT identified several recommendations. These include:

- Renaming the non-emergency line as the "Non-emergency Public Safety Line."
- Making County staff aware of the need to make only proper referrals to the non-emergency line.
- Revising the County website to eliminate references to the non-emergency line for uses outside of public safety.
- Creating an announcement on the non-emergency line clarifying its purpose, and prompting callers to self-select out if calling with non-public safety calls, prior to connecting the call into ECC.
- Working with County agencies, such as the Treasurer's Office, Police Department, and special events coordinators, to communicate the purpose of the non-emergency line to the public.

While some of these recommendations are outside its direct control, PSCEM management should work to prioritize implementation of the EMIT recommendations regarding renaming the non-emergency line; identifying areas where the non-emergency number can be removed from the County website; and creating an announcement on the non-emergency line clarifying its purpose for callers before the call is connected to ECC.

Recommendation 2.1: PSCEM management should work to prioritize implementation of the EMIT recommendations regarding renaming the non-emergency line; identifying areas where the non-emergency number can be removed from the County website; and creating an announcement on the non-emergency line clarifying its purpose for callers before the call is connected to ECC.

In addition, PSCEM management should determine which of EMIT non-emergency line recommendations it plans to implement. Management should then task one of its officials to formally track and periodically report on the implementation status of each of the EMIT recommendations, to help ensure that the effort of EMIT is not lost.

Recommendation 2.2: PSCEM management should determine which of EMIT non-emergency line recommendations it plans to implement. Management should then task one of its officials to formally track and periodically report on the implementation status of each of the EMIT recommendations.

Outside assistance would help relieve ECC staff

While the EMIT recommendations may help to reduce the number of non-public safety non-emergency calls over time, in the near term additional steps are need to help address non-emergency calls.

One approach is to bring in outside contractors to help answer calls. The advantage of contractors is that they can be deployed and pulled back as needed. However, contractors cost dollars that likely would be better used for other areas. A similar but less costly option would be to recruit and use volunteers from the Arlington community to help with non-emergency calls, especially with those that are not public safety related. Using volunteers from the community has several advantages:

- Volunteers have lower costs than contractors, even accounting for the cost of training volunteers.
- Handling non-emergency calls requires the least amount of training of any ECC discipline.
- Arlington is a civic-minded, highly educated community, with people interested in giving back to the community.
- There is an existing tradition of using volunteers in public safety roles, such as reserve police officers, who in communities take on tasks such as traffic control to create more opportunities for full-time police to focus on solving crimes or crime prevention.

The Maryland Natural Resources police are already using volunteers in the police communications center to handle non-emergency calls.[7] This could serve as a model for using volunteers in ECC. Consequently, PSCEM management should consider a pilot program to bring in community volunteers for training and deployment in handling non-emergency calls, to help further reduce the burden on ECC operators.

Recommendation 2.3: PSCEM management should consider a pilot program to bring in community volunteers for training and deployment in handling non-emergency calls, to help further reduce the burden on ECC operators.

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[7] See story entitled *Wildlife calls: Reserve officers relieve dispatch overload* dated September 22, 2017 on the Maryland Department of Natural Resources website (http://news.maryland.gov/dnr/2017/09/22/wildlife-calls-reserve-officers-relieve-dispatch-overload/).

FINDING 3 – ADDITIONAL AUTHORIZED POSITIONS NOT NEEDED AT THIS TIME AND DATA ACCESS SHOULD BE A HIGHER PRIORITY

Finding Summary: Data provided by ECC shows that many current authorized positions are not filled, ECC is operating below minimum staffing on many shifts, and that the volume of incoming calls is decreasing. In addition, the audit findings identified several opportunities for reducing overtime usage even without creating new positions. This indicates that there is not a current need for increases in authorized positions. However, there is a need for quicker and more robust data access, which should be a higher priority.

Internal data do not show a current need for additional positions

Unaudited data provided by ECC show multiple indicators that the current level of authorized positions is sufficient for now.

- As of January 2018, ECC has ten unfilled operator or supervisor positions. While this creates a burden for current staff, filling the current positions is a necessary precursor to demonstrating the need for additional authorized staff. Two additional positions are expected to be filled in March 2018.
- ECC data on how often minimum staffing was achieved, broken down by month, is available from July 2017 through January 2018. These data indicate that the number of shifts that did not meet minimum staffing ranged from 13 percent to 38 percent. During this period, the County Auditor did not observe significant negative consequences from dipping below minimum staffing on up to 38 percent on many shifts.
- The volume of incoming calls to the 9-1-1 and non-emergency lines has declined in both FY 2016 and FY 2017, and is on pace for another decline in FY 2018. When the primary driver of work for ECC is declining, the case for additions to authorized strength is weakened.

Operating below authorized strength and below minimum staffing is clearly not ideal, and no guarantee that future problems will not occur. However, by focusing on the recommendations made in this audit, ECC has an opportunity to increase staff flexibility, train future operators more efficiently, hire and retain ECC operators effectively, and reduce further non-emergency calls, a key component of ECC workload. By implementing these recommendations, ECC will likely reduce its use of overtime without any need for additional authorized staff.

Opportunity to consider how police and fire personnel used in ECC

One staffing adjustment that is worth considering, though, is how police and fire personnel are used in ECC. Police and fire personnel are used to cover for ECC staff in performing police and fire dispatch functions, but police and fire do not handle incoming emergency or non-emergency calls. Both ECC management and operators noted that the value of having police and fire personnel is even higher than merely providing coverage. County Auditor interviews indicated that police and fire personnel provide useful insight and sources of information for dispatching and handling emergency calls. None of the ECC management or operators expressed a desire for police and fire personnel to no longer serve in ECC. However, both ECC management and operators noted that it is a detriment to ECC operator morale seeing police and fire

personnel make higher overtime pay for a more limited range of work than is performed by ECC operators. Further, ECC data indicate that police and fire overtime is consistently 20-22 percent of total ECC overtime costs for FY 2015-2017.

While fuller staffing is being achieved, training process efficiency is being improved, and non-emergency calls are being reduced, there is also an opportunity to assess whether the role of police and fire personnel with respect to ECC can be changed once the staffing needs can be covered internally. PSCEM management should work with the Police Department, Fire Department, and the Department of Management and Finance, to evaluate assigning police and fire personnel to ECC as a duty station, with their pay taken on by the Police and Fire Departments.

Recommendation 3.1: PSCEM management should work with the Police Department, Fire Department, and the Department of Management and Finance, to evaluate assigning police and fire personnel to ECC as a duty station, with their pay taken on by the Police and Fire Departments.

Quicker Access to Better Data Needed

As noted previously, access to data can be a challenge for ECC management. The ECC Finance Officer has to manually create reports to track overtime usage, types of overtime used, sick leave, vacancy trends, and other critical budget-related data. This work is necessary, but an inefficient use of time. In addition, ECC management has limitations in the data available through its phone systems, which ideally are a source of very rich data for real-time analysis and use. Instead, PSCEM and ECC management extract various data and manually input these data into SharePoint spreadsheets. Manual data creation introduces the possibility of operator error, and thus reduces the reliability of the data. Further, other County analyses are limited by the lack of data availability. As discussed in Finding 2, EMIT was not able to identify how many calls from the non-emergency line came from inside the County phone system, nor was the team able to identify when non-emergency calls were coming in during the day. The latter information could help ECC management to more strategically manage its staffing in response to variations in non-emergency calls. Even this small amount of information could have an impact on ECC management's ability to better manage overtime usage.

Although the current need for authorized staff increases has not been demonstrated, the need for quicker access to better data has been demonstrated. PSCEM and ECC management should assess their specific short-term and long-term needs regarding improved data access, and prioritize additional data access needs over authorized staff increases in the next PSCEM budget proposal.

Recommendation 3.2: PSCEM and ECC management should assess their specific short-term and long-term needs regarding improved data access, and prioritize additional data access needs over authorized staff increases in the next PSCEM budget proposal.

OBJECTIVES, SCOPE, AND METHODOLOGIES

Objectives

The initial audit objective as approved in the FY 2018 Audit Work Plan was to assess the administration and use of overtime in ECC. After the planning phase of the audit was complete, fieldwork audit objectives were developed. The fieldwork audit objectives were to:

- Determine whether the process of training ECC staff could be improved to reduce overtime
- Determine whether non-emergency calls to ECC impacted overtime usage
- Determine whether data indicated the level of authorized staffing should be increased
- Determine whether management had adequate data to manage ECC overtime

Scope

The audit focused on ECC processes and data within the ECC Operations group as of February 8, 2018. The audit did not include a review of overtime in the ECC Systems group, or for employees underneath the ECC Administrator. These areas include a total of eight employees out of ECC's 57 total employees, as of February 4, 2018. In some cases, data availability varied and the report presents data based on availability, generally FY 2015-2017.

Methodologies

During the audit, the County Auditor obtained information through interviews of PSCEM and ECC management, and by conducting a four hour "sit-along" with various ECC staff in the call center. The County Auditor also gathered relevant information from other County Officials, primarily during the audit's first (Planning) phase.

In addition, the County Auditor gathered various ECC documents and data, such as:

- General documents, including staffing schedules and organizational charts
- The ECC training manual, lesson plans, training overviews, and CTO assignments
- Results of Emergency Management Innovation Team analyses of non-emergency calls and ECC training
- Call data and training data captured by ECC or PSCEM management
- Leave and Overtime data developed by PSCEM management
- Previous ECC staffing studies

Finally, the County Auditor gathered external data such as performance audits of 9-1-1 call center overtime in other local jurisdictions; and best practice information for communications officials issued by organizations such as the Association of Public Safety Communication Officials and the National Emergency Number Association.

ABOUT US

Compliance Statement

The County Auditor conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Authority

The County Auditor is appointed by the Arlington County Board under the authority of § 15.2-709.2 of the Code of Virginia, 1950, as amended. The County Auditor conducted this audit as part of the FY 2018 Annual Audit Work Plan approved by County Board on June 21, 2017.

County Auditor Function

The County Auditor reports to the County Board, independent of management, and is charged with conducting performance audits of departments, offices, boards, commissions, activities, and programs of Arlington County that directly or indirectly report, or are accountable, to the County Board. Performance audits encompass a variety of scopes and objectives, including effectiveness and efficiency, economy, transparency, internal controls, and compliance.

County Board

Katie Cristol, Chair
Christian Dorsey, Vice-Chair
Libby Garvey
Erik Gutshall
John Vihstadt

County Auditor

Chris Horton, Ph.D., CIA, CGAP, County Auditor

Audit Committee

An Audit Committee has been established by the County Board to provide advice to the Board regarding the exposure of Arlington County government and its component units to risk, such as financial, operational, and reputational risks. The Audit Committee has numerous responsibilities enumerated in the County Auditor Board Charge, as amended on June 21, 2017.

Erik Gutshall, Co-chair
John Vihstadt, Co-chair
Mark Schwartz, County Manager
Stephen Agostini, Director, Department of Management and Finance
Tenley Peterson, Citizen member (Fiscal Affairs Advisory Commission representative)
Hal Steinberg, Citizen member
Nancy Tate, Citizen member

MANAGEMENT RESPONSE

ARLINGTON
VIRGINIA

March 16, 2018

Chris Horton, Ph.D., CIA, CGAP
County Auditor
2100 Clarendon Blvd, Suite 300
Arlington VA, 22201

Dear Dr. Horton,

The Department of Public Safety Communications and Emergency Management is pleased to respond to the Emergency Communications Center (ECC) Overtime Performance Audit Report. We would like to thank you for your thoroughness in understanding the unique environment of the ECC and for your diligence in maintaining constant communication with us throughout the process.

In the review of the ECC operations and overtime, your audit report produced the following three findings:

1. More efficient training processes will likely reduce overtime
2. Non-Emergency calls are a growing problem, creating unnecessary work
3. Additional authorized positions not needed at this time and data access should be a higher priority.

Across these three findings, are twelve recommendations that are designed to change the current course of the performance in those areas and result in less overtime being spent within the ECC. While the department agrees with most of the recommendations, as well as the concept that short-term gains must be realized, we must also assess the long-term impact of these efforts and analyze ways to permanently change the underlying conditions that cause these recommendations to be needed.

Finding One: More Efficient Training Processes Will Likely Reduce Overtime

There are seven recommendations under this finding that range in focus but mostly on changing the training process to ensure a quicker, more efficient process that results in more staff moving to ECT III status to achieve the greatest flexibility in terms of skill-sets, as well as providing the ECC with more candidates eligible for Certified Training Officer (CTO) positions to train other staff.

The ECC agrees that steps must be taken in order to make the training cycle more efficient in terms of time to move employees through the various disciplines, however these steps must be taken in concert with other management practices not addressed to ensure that the overall quality of the training process is not compromised for the sake of quantity. The department will look to

implement the recommendations where we agree laid out the in the following pages along with steps and timelines enumerated in each response. The ECC view these recommendations as short term in nature and is evaluating its approach to training that may result in sustainable reductions in overtime.

Finding Two: Non-Emergency Calls are a Growing Problem, Creating Unnecessary Work

There are three recommendations under non-emergency calls that are recommended by this report, and most of the steps taken to address these are already underway. We are working with County working groups and the Communications and Public Engagement teams to implement key elements from the EMIT report; two out of three recommendations identified will be completed by the end of the fiscal year. The final recommendation regarding volunteers will be explored as to its viability within the center.,

Finding Three: Additional Authorized Positions Not Needed at this Time; Data Should be a Higher Priority

Over the past few fiscal years, the ECC has requested and received authorized positions to address staffing shortages. These investments have increased authorized staffing levels and led to short-term improvement in percent of shifts at minimum staffing, and helped sustain the center when turnover rates increased. While there are still struggles that exist in staffing due to the various items mentioned, staff resources are a critical component to operational effectiveness.

When analyzing the various needs for resources, staff rely on data from various systems to help inform decisions, however those systems are not often integrated, nor is the data available in real-time for instant analysis. The ECC agrees that the presence of easily accessible data would help supervisors and staff adjust various processes that could positively impact staffing, however we do not believe that one recommendation should be at the expense of another. Given the complexity and significant cost of ECC systems, the viability of finding a perfect solution for data may be more challenging than any of the identified recommendations.

We agree that examining the possibility of police and fire personal being assigned to the ECC as a duty station is an option but it requires the allocation of new positions and this is outside our scope of authority.

In closing, we would like to thank you again for your thoroughness and diligence in working with us on this report, its recommendations, and its action plan. We look forward to beginning the process of implementing many of these recommendations, seeing results, and planning for the long-term sustainable performance of the center.

William N. Flagler Jr.
Acting Director

Finding 1: More efficient training process will likely reduce overtime

Recommendation 1.1: To help achieve greater staff flexibility, ECC management should prioritize completing training for the ECT IIs closest to completing their fifth discipline of training, even if that means incurring short-term overtime.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion
Agree	ECC Staff: Deputy Administrator of Operations and ECC Training Manager Support Staff: DPSCEM Support Staff	**Plan Begin: May, 2018** **Plan Complete: November 2018** Because of the findings of this audit review, as well as based on research and analysis by staff, ECC is taking steps to separate the recruitment and retention functions from the training functions, and allow each to operate with renewed focus. This approach will begin in the spring using existing ECC resources. Staff will report back within six months and next steps for the remainder of the fiscal year. ECC Staff agree with the recommendation of prioritizing training over other matters to reduce overtime. However, staff views this recommendation as a short-term solution and is evaluating its approach to training that may result in sustainable reductions in overtime.

Recommendation 1.2: Once the ECT IIs closest to completing their fifth discipline of training have advanced to ECT III, the CTOs should be redeployed to focus on training the staff who are likely to advance to ECT III most quickly.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: ECC Training Manager Support Staff: DPSCEM Support Staff	**Plan Begin: May, 2018** **Plan Complete: November 2018** Based on conversations had during this audit process, ECC will institute a twelve-hour training mode split among 2 CTOs to increase efficiency and decrease training cycle time by adding hours to the training time allotted to staff. ECC management agrees that training of personnel who learn and advance quickly is an efficient mechanism to advance personnel to the ECT III level. ECC management believes that this is a good short term focus when there are no ECT Trainees, however when new staff comes on board, the priority must remain with ECT-Ts,

		especially during the probationary year.

Recommendation 1.3: ECC management should reduce the current training timeline, perhaps to as little as twelve months.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: Deputy Administrator of Operations and ECC Training Manager Support: DPSCEM Support Staff	**Plan Begin – May, 2018** **Plan in Place – July, 2018** Action Plan: Evaluate current approach to training.

Recommendation 1.4: ECC management should work to make as many of the new ECT IIIs into CTOs as are interested and capable.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: ECC Training Manager Support Staff: DPSCEM Support Staff	**Plan Begin: May 2018** **Plan in Place: July 2018** New training cycles to move staff into ECT III positions is strongly encouraged to increase the skill sets available on shift. ECT III designation qualifies an individual as eligible to become a CTO, and ECC will follow established processes to determine if staff has the experience and skills necessary to add to the training cadre. ECC management must also balance the full implications of additional CTOs with the reality that once the current environment of staffing shortages is stabilized, there will most likely not be a need for a cadre of more than 16 CTOs to maintain routine training needs. However, further evaluation and study is needed to validate that number.

Recommendation 1.5: Other ECC options for consideration include: 1) using ECC management personnel to fill in potential interruptions in training time; 2) using contractors to help cover training on an as needed basis to mitigate against interruptions in training.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
1.5.1 Disagree	1.5.2	**Plan Begin: May 2018**

| 1.5.2 Agree | ECC Staff: ECC Recruitment Manager

Support Staff: DPSCEM Support Staff | **Plan Complete: September 2018**
1.5.1: Disagree: If ECC management, which already assists with filling vacant positions on the floor as available, are tasked with additional training duties, this further prevents them from accomplishing their normally assigned tasks.

1.5.2: Agree: We agree with the use of the contractors, and we are looking to collaborate with regional partners who have similar needs. ECC staff will work with purchasing staff in DMF and Public Safety to draft requirement for contracted training plans. |

Recommendation 1.6: Public Safety Communications and Emergency Management (PSCEM) management should consider the hiring of a contractor on a short-term basis to focus on developing a recruitment and hiring strategy, including but not limited to: a profile of a successful ECC operator; ways to target the right applicants in the recruiting process; benchmarking of other successful organizations in recruiting and retaining staff; changes to the hiring process that may be needed to attract and retain the right staff; and impediments to retaining current staff.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: ECC Recruitment Manager Support Staff: DPSCEM Support Staff	**Plan Begin: May, 2018** **Plan Completion: August, 2018** ECC is reclassifying a vacant position into a Training Manager in order to split the duties of Recruitment, Retention and Training into two separate, discrete functions and positions. This position can work with an external subject matter expert or contractor on strategy to maximize effective recruitment and retention.

Recommendation 1.7: Recommendation 1.7: As part of the process to develop a recruiting and hiring strategy, ECC management should also begin systematically conducting exit interviews of its staff, including call center operators and supervisors, documenting the results, and periodically sharing the results and analysis with PSCEM management.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: ECC Recruitment Manager	**Plan Begin: May 2018** **Plan Completion: July 2018** Staff will work with Human Resources Department to construct a policy and process to implement this recommendation and the data extracted will substantially help inform the direction of recruiting efforts going forward as well

		as overall retention of ECC staff.

Finding 2: Non-Emergency calls are a growing problem, creating unnecessary work

Recommendation 2.1: PSCEM management should work to prioritize implementation of the EMIT recommendations regarding renaming the non-emergency line; identifying areas where the non-emergency number can be removed from the County website; and creating an announcement on the non-emergency line clarifying its purpose for callers before the call is connected to ECC.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: ECC Administrator Support Staff: DPSCEM Staff	**Plan Begin: March 2018** **Plan Completion: May 2018** The ECC is currently part of a County work group lead by CAPE to identify opportunities to clarify to the public and Arlington County Staff the best use of the Public Safety Non-Emergency Line.

Recommendation 2.2: PSCEM management should determine which of EMIT non-emergency line recommendations it plans to implement. Management should then task one of its officials to formally track and periodically report on the implementation status of each of the EMIT recommendations.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: ECC Administrator Support Staff: DPSCEM Strategic and Finance Staff	**Plan Begin: March 2018** **Plan Completion: May 2018** ECC has incorporated the EMIT recommendations into the discussion with the working group referenced in 2.1 above.

Recommendation 2.3: PSCEM management should consider a pilot program to bring in community volunteers for training and deployment in handling non-emergency calls, to help further reduce the burden on ECC operators.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: Deputy Administrator of Operations	**Plan Begin: July, 2018** **Plan Complete: December, 2018** ECC will examine the viability of the use of the Arlington

	Support Staff: DPSCEM Volunteer Coordinator	County Volunteer Program to assist with the appropriate non-emergency call handling.

Finding 3: Additional authorized positions not needed at this time and data access should be a higher priority

Recommendation 3.1: PSCEM management should work with the Police Department, Fire Department, and the Department of Management and Finance, to evaluate assigning police and fire personnel to ECC as a duty station, with their pay taken on by the Police and Fire Departments.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: ECC Administrator, Deputy Administrator of Operations Support Staff: DPSCEM Support Staff	**Plan Begin: July, 2018** **Plan Complete: December, 2018** ECC management has clearly seen the value of practitioners from the stakeholder agencies such as Police and Fire/EMS embedded within the 9-1-1 center. However, implementation of this recommendation will require additional FTE's in both agencies. (Outside of our scope)

Recommendation 3.2: PSCEM and ECC management should assess their specific short-term and long-term needs regarding improved data access, and prioritize additional data access needs over authorized staff increases in the next DPSCEM budget proposal.

Agree/Disagree	Responsible Individual	Action Plan and Expected Date of Completion (Month/Year)
Agree	ECC Staff: ECC Administrator Support Staff: DPSCEM Support Staff	**Plan Begin: May, 2018** **Plan Complete: September 2019** The ECC management has already articulated moving to performance metrics based management as a high priority initiative to guide operational and managerial decisions, including guidance in staffing levels and resource allocation. Staff is currently evaluating existing datasets for analysis to help inform decisions, and will look to enhanced solutions in the future when new call processing systems come on line and the two processes are not mutually exclusive and can be conducted concurrently.