


PS COMMITTEE #4
January 17, 2019

Worksession

MEMORANDUM

January 16, 2019

TO: Public Safety Committee

FROM: Susan J. Farag, Legislative Analyst 

SUBJECT: **Update:** Emergency Communications Center (ECC)

PURPOSE: To receive an update on ECC operations.

Those expected for this worksession:

Chief Scott Goldstein, Montgomery County Fire and Rescue Service (MCFRS)
Assistant Chief Russ Hamill, Montgomery County Police Department (MCPD)
Assistant Chief Edward Radcliffe, MCFRS
Division Chief John Kinsley, MCFRS
Bill Ferretti, Director, Emergency Communications Center
Lt. Eric Stancliff, MCPD

Background

The ECC answers all 911 calls dialed in the County, as well as non-emergency police service calls. The infrastructure and operational models have changed over the past several years as part of the ECC Consolidation project. Originally, 911 calls were placed on landlines directed to a local Public Safety Answering Point (PSAP), known in Montgomery County as the Emergency Communications Center (ECC). The answer and dispatch function was a bifurcated model with separate Police Department and Fire and Rescue Service call takers and dispatchers. Police call takers answered all incoming calls to determine if the caller needed police, fire, or medical assistance. If the caller needed police assistance, the call stayed on the police side of the ECC operations. If the caller needed fire or medical, the initial police call taker routed the caller to MCFRS call taker (opposite side of the same room), who then further assessed the situation. MCFRS call takers would transfer the call to an MCFRS dispatcher, which Police call takers would transfer the call to a Police dispatcher.

The Public Safety Committee began discussing changes to ECC operations with Executive Branch staff as part of the FY13 budget. At that time, the intent was to move to a Unified Call Taker (UCT) model, which would combine and cross train all call takers so that all

calls could be processed without the need for a second transfer step. The transition was delayed in 2013 due to difficulties with the implementation of the call taking protocol software, and ultimately the procurement was cancelled. At the same time, Executive branch staff began to reevaluate how to move forward. In September 2013, Executive staff discussed with the Committee the need to pause and reassess how to best address several interrelated components that affected ECC operations. Briefly, these included updating the call taking protocol, implementing components of the Public Safety System Modernization (PSSM) including the Computer Aided Dispatch (CAD), addressing staffing shortages, and civilianizing MCFRS staff.

The operational and personnel goals were branded the *ECC Consolidation*. The Executive made the decision to house the entire ECC operation in the Police Department, transition all staff to professional civilian call takers, hire a Police Captain to function as a transition leader (with MCFRS input), and begin the transition to new call taker protocols using a new CAD. The Police Department stressed that because there were several complex competing issues, the transition plan may change as they moved forward.

Major Investments by Fiscal Year:

FY15 Operating Budget: The Police Department and Fire and Rescue Service (MCFRS) developed a transition plan and had hired a Police Captain as the transition leader. Nine positions and \$225,329 were included in the MCFRS operating budget to begin a four-year plan to civilianize Fire dispatch positions, beginning in FY16.

FY16 Operating Budget: The FY16 operating budget included funding and the following assumptions:

- \$770,419 and 23 new full-time positions in the Police operating budget to upstaff the ECC (four to start in FY16 and 19 to start in FY17);
- Civilianization of Fire dispatch positions was to begin;
- New staff cost \$237,162 and the remaining \$533,254 would fund backfill overtime to facilitate training;
- Emergency Police Dispatch (EPD) certification would be completed (requires 32 hours per employee);
- Training on the new CAD; and
- ECC personnel begin Unified Call Taker training in the spring of 2016.

FY17 Operating Budget: added \$348,703 for new positions.

- Deputy Director
- Quality Assurance Specialist Position
- IT Specialist
- Also made Call Floor Modifications at both ECC and the Alternate ECC

FY18 Operating Budget:

- Consolidation Transition Director Term Captain Position (\$193,000)

- Funding shift from MCFRS, including nine additional civilian call taker positions (\$2,307,819)
- PSCC NextGen911 (\$979,307)

FY19 Operating Budget:

- Next Generation 911 Service (\$365,377)

FY19 Capital Budget:

- Purchased leased space for the ECC, HVAC and other upgrades (\$17,569,000)

Timeline

ECC Consolidation		
Change	Date Work Began	Current Status
New CAD	2011	Completed 2017
Radio Infrastructure	2011	Ongoing
Civilianization of MCFRS ECC Staff	2014	Superseded by Consolidation
Increase Staffing to Support Consolidation	2015	2017
Creation of a New Communication Specialist Series	2015	Completed 2016
Operational Oversight Transferred to Police. Civilian Employees are Police Employees	2016	Completed 2017
Primary Renovations to both ECC and AECC	2016	Completed 2017
Cross Training for Universal Call Taking	2016	Ongoing
PSCC Refresh CIP	2017	Building Purchased, Upgrades in Progress
NextGen 911	2017	Contract executed in 2018 for ESINet and NGCS. Initial stages of implementation in 2019

Public Safety Communications Center Status

The PSCC CIP is new for FY19 and includes about \$17.6 million for the purchase of the property as well as upgrades for HVAC, back-up power supplies, and building security. The first phase of battery replacement has been completed and is in operation. The second phase is to increase back-up capacity from 60 minutes to 3.5 hours. This work is scheduled for installation on January 23 and 24.

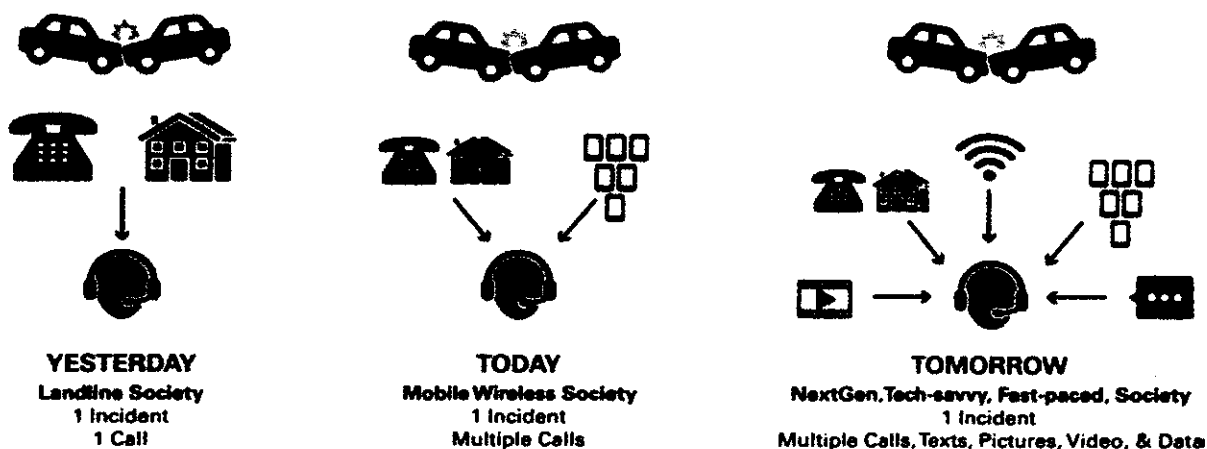
HVAC upgrade equipment orders have been placed, and installation is anticipated to be complete by June 1. This HVAC upgrade is for one area and not the entire building. Upgrades have been prioritized based on criticality. Additional upgrades will be planned based on criticality.

Next Generation 911

Next Generation 911 (NG911) creates a robust and redundant infrastructure that will process all call types, including voice, text-to-911, crash notification, as well as images and video. It will also provide improved location accuracy that will allow emergency personnel to send help more quickly.

The County is working with the State and the Metropolitan Washington Council of Governments (MWWCOG) to transition to NG911. The County has contracted with ATT for ESINet and Next Generation Core Services. The transition from the legacy Verizon 911 network to the ATT ESINet will take place in 2019. The County continues to work with the State and through ATT to implement an interim Text-to-911 solution in 2019. The full NG911 Text solution is still under development.

This graphic, provided by the Executive, illustrates the evolution of 911 technology:



NG911 Benefits

NG911 provides a variety of benefits, including the ability to receive data (texts, images, video, sensor data) that allows citizens to communicate with 911 the same way they communicate with each other. The technology incorporates geospatial data to provide call touring based on the caller's actual location, thereby leading to fewer misrouted calls. This will save time, and potentially save lives. It also provides for call rerouting between 911 centers during disasters and emergencies.

NG911 Concerns

NG911 will require operations staff to process calls and data, and to account for the increased loss of man hours tied to Critical Incident Stress Mitigation. Additional staff may be necessary to review and analyze data in real time, as well as support staff to address a wide range of issues like GIS, cyber security, MPIA requests, and mental health. Mutual Aid Agreements may be needed to cover the rerouting of calls between jurisdictions, and new or amended laws may be required to address operational changes as they occur.

Staffing

Staffing has been an ongoing concern, with the need to plan out and execute cross-training and on-the-job training. The ECC upstaffed several years ago to allow for new training requirements. As of 12/31/2018, Police had filled 154 out of 187 authorized positions. Four FTEs were transferred to Animal Services Division as part of a partial shift of call taking and dispatching of animal-related calls. 28 new Public Safety Emergency Communication Specialists (PSECS) were hired in 2018. Hiring is continuing this year with a goal of 32 new hires across four classes. The next class of six starts at the end of January.

The ECC's attrition rate has averaged 15% over the past five years. It is a continuing challenge, both in the County and nationally, to find and retain qualified applications. The ECC is currently exploring an initiative with Montgomery College for the development of a Certificate Program for 911 professionals.

Call Taking Times

An ongoing concern is the time necessary to place a 911 call and have it dispatched. Council has received complaints over the past several years from residents who feel it takes too long for 911 calls to be handled appropriately. The ECC has provided average times for answering, processing, and dispatching calls on ©5-6. These charts show reductions in answering times and processing times. There is, however, an increase in the average time necessary for a dispatcher to dispatch police priority incidents. In 2016, the average time required was 50 seconds. This spiked to 63 seconds in 2017, and has now fallen to 57 seconds in 2018.

911 Surcharge

The Maryland 911 surcharge is comprised of two separate fees that help offset local and state 911-related capital and operating costs. Of each \$1 charged, 25 cents are deposited into the 911 Trust Fund and allocated to the State Emergency Numbers Systems Board (ENSB) for capital expenditures. The remaining 75 cents comes to the County. For prepaid phones, the fee is 60 cents and is divided between the State and the County in the same proportion as the 911 surcharge.

In FY18, the County received \$7.7 million. This is an increase from the \$7.3 million received in FY17. This amount covered approximately 37.5% of allowable 911 expenses.

Legislation

Two recent State laws impact 911:

Senate Bill 1053, effective June 1, 2018, amended the Maryland Property Tax Code, allowing a County to grant certain property tax credits for 911 Public Safety Telecommunicators. The County has not yet acted on this legislation to amend County Code.

Senate Bill 285, also effective June 1, 2018, established the Commission to Advance NG911 Across Maryland for a term of two years, with reports due to the Governor on December 1, 2018, and December 1, 2019. The Commission Chair is District 17 Senator Cheryl Kagan. The Commission's members comprise experts from 911, government, industry, and technology organized into four subcommittees. Mr. Ferretti is Chair of the Technology and Cybersecurity Subcommittee.

The Commission issued its 2018 report¹ in November 2018 with 23 recommendations, 10 of which were identified as requiring legislative action. These recommendations will form the backbone for 911-related legislation for the current General Assembly Session.

Based on the recommendations of the 2018 report, proposed legislation will likely be introduced to address:

- Updating the 911 fee structure, amounts, and allowable uses;
- Standards for 911 records retention, training, and interconnectivity;
- Cybersecurity protections for 911 networks and systems;
- NG911 service provider liability concerns;
- Recognition of 911 Specialists as members in the team of public safety personnel; and
- Providing certain benefits parity for 911 Specialists with other public safety personnel.

¹ [http://dlslibrary.state.md.us/publications/Exec/DPSCS/SB285Ch302HB634Ch301\(2018\)_2018.pdf](http://dlslibrary.state.md.us/publications/Exec/DPSCS/SB285Ch302HB634Ch301(2018)_2018.pdf)

Potential Discussion Questions

1. What is the impact on the public from transitioning to NG911? When will callers see a difference or have different communication capabilities?
2. Is battery back-up capability of 3.5 hours sufficient in the event of a power failure?
3. How many HVAC units need to be replaced? What is the projected timeline for upgrades and replacements?
4. When NG911 is fully operational and capable of receiving texts, photos, and videos, (audio, too?), what are the potential implications on data storage?
5. How does our 15% attrition rate compare to national experience? What difficulties does this present with operations and training? Did implementing the new PSCS classification series help slow attrition?
6. The proposed FY19 Savings Plan provides savings realized from delaying implementation of certain parts of NG911 from 2018 to April 2019. Were these delays done specifically to achieve savings? What is the operational impact of the delay?
7. Call dispatch times have slowed. What is the likely cause?

This packet contains

ECC responses to questions

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ECC Update

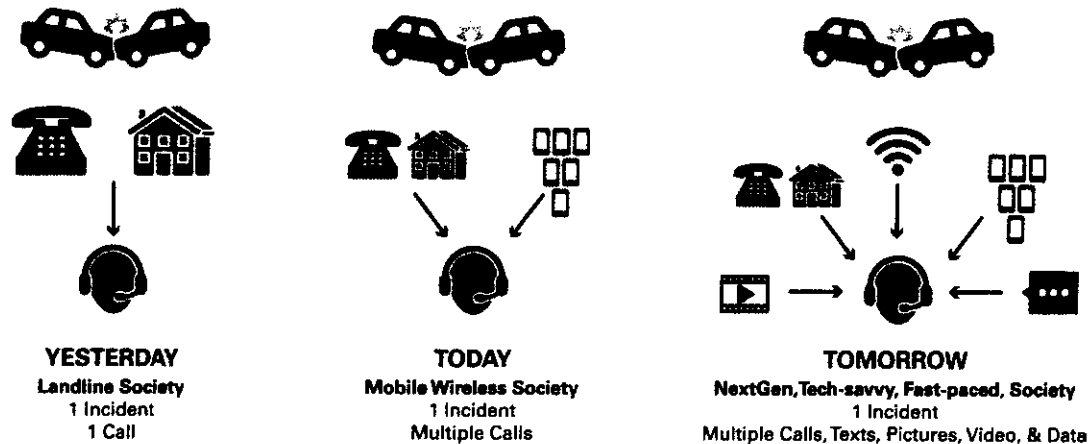
1. Please verify/correct my dates for these significant changes to the ECC.

Change	Date Work Began	Current Status
Operational Oversight Transferred to Police Department. Civilian employees are MCPD employees.	2016	Completed 2017
Civilianization of all MCFRS ECC staff	2014	Superseded by ECC Consolidation
Primary renovations to both PSCC and AECC	2016	Completed 2017
Creation of a New Communication Series	2015	Completed 2016
New Computer-Aided Dispatch (CAD)	2011	Completed 2017
Cross Training for Universal Call-Taking (UCT)	2016	Ongoing
Increased Staffing to Support ECC Consolidation	2015	2017
PSCC Refresh CIP	2017	Building purchased, upgrades in progress
Radio Infrastructure	2011	Ongoing
Next Gen 911	2017	Contract executed in 2018 for ESINet and NGCS. Initial stages of implementation in 2019

2. Please provide a brief overview of the legacy 911 call center system (copper lines, use of MSAG, etc.), the addition of cable/VOIP calls, mobile phones, and then the move to Next Generation 9-1-1 (NG911).

Nationally, the infrastructure on which 9-1-1 service was built was designed more than 50 years ago. Over the years limited modifications have been made to accommodate advancing technology. NG911 creates a robust and redundant infrastructure that will deliver 9-1-1 service today and into the future. It will process all call types—including voice, text-to-9-1-1, and crash notification—as well as images and video. In addition, it will enable improved location accuracy that will allow emergency personnel to send help more quickly.

The image below, from the Commission to Advance Next Generation 9-1-1 Across Maryland 2018 Report, demonstrates the progression of 9-1-1 technology.



The County is working with the State and with the Metropolitan Washington Council of Governments (MWCOC) region to transition to NG911. The County has entered into a contract with AT&T for ESINet and Next Generation Core Services (NGCS). The transition from the legacy Verizon 911 Network to the AT&T ESINet will take place in 2019. Next Generation capabilities will follow in an evolutionary process.

The County continues to work with the State and through the AT&T contract to implement an Interim Text-to-9-1-1 solution in 2019, as the full NG911 Text solution continues to be developed within NGCS.

3. Please provide information on how much we receive from the 911 surcharge each fiscal year, and the overall total budget for our ECC operations.

The Maryland 9-1-1 surcharge is comprised of two separate fees that offset local and state 9-1-1-related capital and operating costs. Of each \$1 charged today, 25 cents are deposited into the 9-1-1 Trust Fund and allocated to the ENSB for capital expenditures. The remaining 75 cents comes to the County. For prepaid phones, the fee is 60 cents and is divided between the state and county in the same proportion as the 9-1-1 surcharge. In FY18, Montgomery County received \$7.7Million in surcharges up from \$7.3Million in FY17. This amount covered approximately 37.5% of allowable 9-1-1 expenses as defined under state law.

ECC Operations

MCPD ECC FY18 Expenditures: \$ 16.95M

MCFRS ECC FY18 Expenditures: \$5.84M

4. What legislation has been introduced in the General Assembly that may impact ECC funding/operations?

In 2018, two bills were passed and signed into law:

SB1053 was signed into law effective June 1, 2018, and amended the Maryland Property Tax Code as enabling legislation authorizing a county or municipal corporation to grant certain property tax credits for 9-1-1 Public Safety Telecommunicators, defined as an employee of a County whose duties and responsibilities include:

- (i) answering, receiving, transferring, and dispatching 9-1-1 calls;
- (ii) other support functions related to 9-1-1 calls; or
- (iii) dispatching law enforcement officers, fire rescue services, emergency medical services, and other public safety services to the scene of an emergency.

The County has not yet acted on this legislation to amend the County Code.

SB0285 was signed into law effective June 1, 2018 and established the Commission to Advance Next Generation 9-1-1 Across Maryland for a term of 2 years with reports due to the Governor on December 1, 2018 and December 1, 2019. The Commission Chair is District 17 (Rockville & Gaithersburg) Senator Cheryl Kagan. The Commission's members comprise experts from 9-1-1, government, industry, and technology organized into four subcommittees focusing on Technology and Cybersecurity, Oversight and Accountability, Staffing, and Finance. ECC Director Bill Ferretti is Chair of the Technology and Cybersecurity Sub-Committee.

The Commission's 2018 Report

([http://dlslibrary.state.md.us/publications/Exec/DPSCS/SB285Ch302HB634Ch301\(2018\)_2018.pdf](http://dlslibrary.state.md.us/publications/Exec/DPSCS/SB285Ch302HB634Ch301(2018)_2018.pdf)) was submitted to the Governor on November 30, 2018 with 23 recommendations, 10 of which were identified as requiring legislation action. These recommendations will form the backbone for 9-1-1 related legislation for the 2019 General Assembly Session.

For the 2019 legislative session, as of 1/8/2019 the following bills have been filed:

SB 5 - Public Information Act – 9–1–1 Communications – Denial of Part of a Public Record

(<http://mgaleg.maryland.gov/webmga/frmMain.aspx?id=SB0005&stab=01&pid=billpage&tab=subject3&ys=2019RS>)

Based on the recommendations put forth in the 2018 Report of the Commission to Advance Next Generation 9-1-1 Across Maryland, proposed legislation will likely be introduced to address:

- Updating the 9-1-1 Fee structure, amounts, and allowable uses
- Standards for 9-1-1 Records Retention, training, and interconnectivity
- Cybersecurity protections for 9-1-1 networks and systems
- NG911 service provider liability concerns
- Recognition of 9-1-1 Specialists as members in the team of public safety personnel
- Providing certain benefits parity for 9-1-1 Specialists with other public safety personnel

5. Please provide information on the benefits of NG911 (e.g., text-911 replaces TDD/TTY?, enhanced location abilities) as well as potential drawbacks (e.g. additional training/staff required?, cybersecurity).

NG911 Benefits:

- Developed and deployed using modern IP-based systems and networks
- Incorporates geospatial data to provide call routing based on the caller's actual location, thereby leading to fewer misrouted calls, saving time and potentially lives
- Provide the ability to receive data (texts, images, video, sensor data) to allow citizens to communicate to 9-1-1 in the same way they communicate with each other
- NG911 data Increases the 9-1-1 center's, situational awareness, decision making ability, and information sharing ability
- New capabilities for call rerouting between 9-1-1 centers during disasters or emergencies

NG911 Concerns:

- Vulnerability to cyberattacks
- Operations staff to process NG9-1-1 calls and data and to account for increased loss of man hours tied to Critical Incident Stress mitigation
- Training for both current and new 9-1-1 specialists
- Analytical staff to review/analyze in real time NG911 data - pictures, videos etc.
- Support staff – GIS, cybersecurity, & MPIA Specialists, Mental Health Professionals
- Develop new Mutual Aid Agreements between jurisdictions to cover the rerouting of calls
- New or amended laws to cover changes that are occurring

6. Please provide a status update on PSCC upgrades for HVAC, back-up power supplies, and building security.

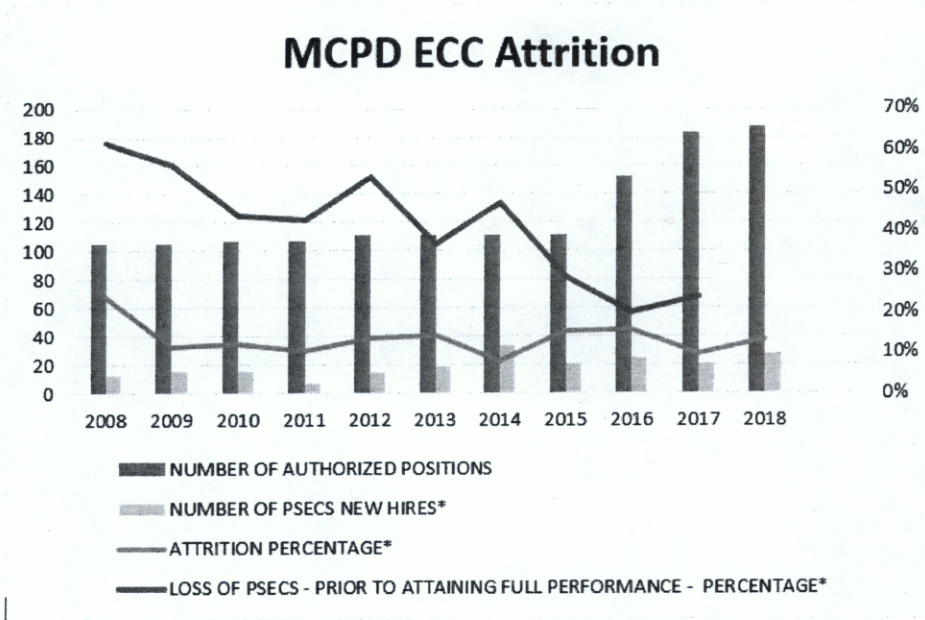
First phase of battery replacement is complete and in operation. Second phase to increase the battery capacity from 60 minutes to 3.5 hours is scheduled for installation dates of January 23rd and 24th.

The HVAC upgrade is designed and equipment orders have been placed. Installation is anticipated to be complete by June 1st. It should be noted that the scheduled HVAC is area specific, not for the entire building and has been prioritized based on criticality. Additional facility upgrades including electrical, HVAC and building security will be planned and implemented based on criticality.

7. Please provide a status update on staffing, including authorized complement, vacancies, training and hiring, including retention/attrition concerns.

As of 12/31/2018, Police ECC had filled 154 out of 187 Authorized Positions. The Authorized Positions reflect the transfer of four FTEs to the Animal Services Division (ASD) as part of a partial shift of the responsibility for call taking and dispatching of Animal Calls. 28 new PSECS

were hired in 2018. Hiring is continuing in 2019 with a goal of 32 new hires per year across four classes. The next class of six starts at the end of January. Our attrition rate over the past five years averaged 15%. It is a continuing challenge for the County and across the country to find and retain qualified applicants. We are exploring an initiative with Montgomery College for the development Certificate Program for 9-1-1 professionals.



As part of the ECC Consolidation, Universal Call Taker Cross-Training is continuing. As of 12/31/2018, 56 operations staff are checked-off. The remainder of the operations staff are scheduled to attend certification and class room training in 2019.

FRS ECC has an authorized compliment of 42 with 6 vacancies. This does not include 5 uniformed firefighter positions that were abolished as part of the consolidation. FRS began a voluntary uniformed dispatch class of 8 on January 7, 2019.

8. Will our new employee class series for Public Safety Emergency Communication Specialist be impacted by any State initiatives?

The class series may be affected depending on how the analysis of NG911 data is incorporated into operational processes. There are different models for assigning this work. One option is to expand the duties within the current series or another existing series within the county, or possible the creation of a new class series. In either case, these may be a need for additional positions/FTEs. There are also different models as to where this function can be housed – as part of 9-1-1, or within another operations center, or elsewhere.

9. Please provide the average time to answer calls, process calls, and dispatch calls over the past three years. If these times are increasing, please explain.

	2016	2017	2018
Average Time to Answer 9-1-1 Calls (Seconds)	8	5	4

MCPD	2016	2017	2018
Average Time for Call Taker to process a call and create Police Priority Incident (Seconds)	146	143	142
Average Time for Dispatcher to dispatch Police Priority Incident (Seconds)	50	63	57

FRS Phone to Pending

All Incidents		ALS2		FFA	
Year	Time in Seconds	Year	Time in Seconds	Year	Time in Seconds
2016	184	2016	162	2016	163
2017	180	2017	161	2017	162
2018	184	2018	164	2018	161

FRSD Pending to Dispatch

All Incidents		ALS2		FFA	
Year	Time in Seconds	Year	Time in Seconds	Year	Time in Seconds
2016	53	2016	41	2016	89
2017	63	2017	50	2017	102
2018	64	2018	46	2018	98

FRS Phone to Dispatch

All Incidents		ALS2		FFA	
Year	Time in Seconds	Year	Time in Seconds	Year	Time in Seconds
2016	220	2016	189	2016	232
2017	225	2017	197	2017	242
2018	227	2018	201	2018	241

EPD implemented March 2016

P1 CAD transition April 2017

10. Please list challenges moving forward.

It has been said that with Next Generation 9-1-1, "the only thing that will be the same about 9-1-1 as we know it is the digits, 9 1 1. Everything will be changing."

The challenges for this transition are varied and well documented in the Commission to Advance Next Generation 9-1-1 Across Maryland 2018 Report and have major impacts on technology and personnel. The County has been proactive in our preparation for this transition and has been engaged at both the State and Regional level. In addition to the Next Generation 9-1-1 challenges, there will be other significant changes occurring at the same time, namely Public Safety Systems Modernization (PSSM) and ECC Consolidation.