MEMORANDUM

September 9, 2014

TO: Public Safety Committee

FROM: Keith Levchenko, Senior Legislative Analyst

SUBJECT: **Discussion: County Emergency Preparedness**

On September 11, the Public Safety Committee will discuss County emergency preparedness issues. The Committee last discussed this topic in general in January 2012. The following officials and staff are expected to attend the worksession:

- Chris Voss, Manager, Office of Emergency Management and Homeland Security (OEMHS)
- Steve Lohr, Chief, Fire and Rescue Service (FRS)
- Scott Goldstein, Division Chief of Operations, FRS
- Betsy Davis, Assistant Chief of Field Services, Police
- Lt. Frank Stone, Special Operations Division, Police
- Dan Hoffman, Chief Innovation Officer, Office of the County Executive
- Keith Young, Enterprise Information Security, Department of Technology Services
- John Reihl, Chief of Traffic Operations Section, Department of Transportation

Attachments to this memorandum include:
- Presentation Slides from OEMHS (©1-20)

Discussion

County Government emergency preparedness involves a repeating cycle of activities, including: planning, organizing/equipping, training, exercising, and evaluating and improving processes.

These components range from high level policy deliberations and decisions (at the County and in some cases at the Regional, State, and National levels) to procedures put in place and activities undertaken by department heads, managers, and employees spread across 275 County facilities. Some of these efforts are mandated by Federal law (such as Facility Emergency Action Plans) and some reflect best practices in the field (such as Continuity of Operations Plans (COOPs) and steps employees should take to be ready for emergencies).

Chris Voss, Manager of OEMHS, will provide a short presentation (slides attached) summarizing these efforts as well as some of the ongoing issues the County is currently addressing. Leadership from

the Police Department, Fire and Rescue Service, and staff from several other Executive departments are also planning to attend to participate in this discussion and provide their departments' perspectives.

Planning Documents

The OEMHS presentation slides (see slide #4) note a number of important plans managed by OEMHS that ensure that Montgomery County is positioned well to deal with a variety of potential County emergency events. Two of these documents, described below, were recently updated and approved by the Council in 2013.

Hazard Mitigation Plan (available for download at:
http://www.montgomerycountymd.gov/council/Resources/Files/REPORTS/MCHazardMitigation-Jul2013.pd)

Hazard mitigation is considered a critical part of emergency management. Over the past two decades, there has been a renewed emphasis placed on planning for disasters before they occur as a complement to effective response and recovery. Under federal regulations developed after passage of The Federal Disaster Mitigation Act of 2000, states and local governments must have an approved and adopted hazard mitigation plan in order to maintain eligibility for pre-and post-disaster mitigation grant funding. The Federal Emergency Management Agency (FEMA) is responsible for approving state and local plans.

The Council approved a 2013 Update to this Plan on July 30, 2013.

The 2013 HMP includes much new and updated information, including:

o Major emergencies over the past 5 years (such as the Derecho, earthquakes, Darnestown wildfire) added to historic charts and into the risk factor information
o New flood maps recognizing areas of repeat claims (frequent flooding) for flood loss (such as White's Ferry, Aspen Hill, and parts of Silver Spring)
o Documentation of the County's three levees
o An updated dam inventory
o Updated population/demographic information
o New mitigation action items resulting from the work of the Core Mitigation Planning Committee members and other stakeholders as coordinated by OEMHS.

Emergency Operations Plan (available for download at:
http://www.montgomerycountymd.gov/council/Resources/Files/REPORTS/EOP-Nov2013.pdf)

The Emergency Operations Plan is a multi-discipline, all-hazards plan that establishes the overall roles and responsibilities for emergency operations in conjunction with other departmental operational procedures, plans, and protocols.

The County's Emergency Operations Plan (EOP) fulfills State requirements for each city and county to prepare and keep current plans to respond to disasters or large scale emergencies. The Council approved a 2013 Update to this Plan on November 19, 2013.

The Emergency Operations Plan is organized into 4 sections:

- Section One is the Basic Plan, which touches upon all aspects of the authority of various agencies, the planning assumptions, background information on the County, and emergency management roles and responsibilities.
- Section Two includes the emergency support functions (ESFs). The EOP organizes County departments and agencies into 16 ESFs to facilitate planning and coordination.
- Section Three categorizes the potential major hazards in Montgomery County.
- Section Four includes functional annexes that address common functional processes, including: damage assessment, training and exercises, and animal protection.

Continuity of Operations Plans (see slides 17-20 for details)

While OEMHS is the lead Executive department for overall disaster planning, each department and office within the County Executive branch is responsible for maintaining its own continuity of operations plan (COOP) for its respective operations. OEMHS provides resources and guidance.

COOPs are intended to ensure the performance of essential governmental functions during emergency situations that disrupt normal government operations. COOPs include elements such as: moving offices to alternative facilities in cases of power failures or other disruptions at current facilities, succession plans in case department heads and other key staff are inaccessible, adjustments in workflows, etc.

On July 30, the County Executive's Office of Internal Audit released a report[1] on the County's Continuity of Operation Planning. The report concluded that County departments have made significant strides in the development and oversight of its COOPs since their inception in 2009. However, the report made four recommendations for further improvement:

1. *Define critical elements that need to be incorporated into each of the County's continuity plans. COOP plan templates to departments should be updated to reflect any additional critical elements identified.*
2. *Conduct additional oversight over the County's continuity planning program. As part of this expanded oversight, OEMHS should develop metrics to track departmental and office documentation of COOP plan critical elements, completion of monthly training, and participation in test exercise programs. Results should be periodically reported to the Office of the County Executive.*
3. *Define continuity planning training requirements for department and office COOP Administrators, key personnel supporting Mission Essential Functions, and other County personnel, reflecting the needs of appropriate levels.*
4. *Define exercise performance requirements for departments and offices to test the reliability and appropriateness of their programs. The results of these exercises should be documented with details about participants involved, testing scenarios, successes and difficulties, and lessons learned.*

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[1] The full Internal Audit Report on Continuity of Operation Planning is available for download at: http://www.montgomerycountymd.gov/exec/Resources/Files/COOP_ReportOfficial_7-30-2014.pdf.

OEMHS Manager Chris Voss and Larry Dykman, Manager of Internal Audit, will be available at the Committee meeting to discuss the report and its recommendations.

Employee Emergency Handbook (available for download at: (http://www.montgomerycountymd.gov/OEMHS/Resources/Files/Montgomery%20County%20Govern ment%20Employee%20Handbook_v3_DRAFT%202013.pdf

OEMHS maintains and updates an Employee Emergency Handbook that provides specific instructions and guidance to County employees for dealing with a variety of emergency situations.

This handbook includes some key assumptions and expectations regarding departmental and employee responsibilities with regard to employee health and safety during emergency events.

WebEOC and Alert Montgomery

WebEOC

OEMHS has been utilizing WebEOC (an online secure data sharing and communications software tool) more and more over the past several years as a means to improve communication flow during EOC activations and to allow for enhanced involvement of Emergency Management Group (EMG) members, even when not on-site at the EOC during an activation. Members of the EMG are required to take an initial training on the system and to complete exercises each month that highlight different elements of the system.

Alert Montgomery (see slide #8)

Montgomery County has over 224,000 Alert Montgomery subscribers (and approximately 400,000 devices) as of August 2014.

OEMHS is in the process of moving the County to a new Alert Montgomery platform (rollout is expected in October 2014) that will provide more internal functionality as well as more seamless external communication with other jurisdictions in the region. The new system has already been rolled out in nearby jurisdictions. However, because Montgomery County has the largest "alert" subscription in the region (for instance, Fairfax County has about 30,000 users), the migration to the new system has involved substantial testing over the past several months to ensure the new system can handle the loads and successfully send messages out in a timely manner.

Other Issues

<u>Backup Power Generation and Power Reliability Trends (see slides 9-16)</u>

The Public Safety Committee has previously discussed backup power generation issues associated with:

- County facilities[2]
- traffic signals at priority intersections
- facilities serving vulnerable populations (such as at nursing homes, assisted living facilities, and high-rise multi-family buildings).

Council Staff has asked Mr. Voss to provide an update on these issues.

Mr. Voss has also included in the OEMHS presentation (see slides 13-16) utility performance trend data (including System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI)) for three electric power distribution companies (Pepco, BGE, and Potomac Edison) that serve Montgomery County. For all three companies, the trends are positive over the past several years.

<u>Other Issues</u>

The Committee may also wish to discuss the latest regional coordination efforts underway (see slide #2) and how the County's current UASI grant dollars are being spent (see slide #3).

One item of growing interest is the issue of unmanned aircraft systems (i.e., drones; see slide #7) and the implications (security, safety, privacy) as both the private sector and governments at all levels consider beneficial uses for this technology. The County's Fire and Rescue Service recently purchased several drones that can provide aerial views at fire incidents. Meanwhile, in anticipation of future changes in FAA regulations to allow commercial drone use, companies like Amazon, Google, and Dominos are testing the concept of delivery drones.

Cyber security issues are frequent news items as both public and private IT systems have been targets of sometimes successful cyber attacks (see slide #6). The Council's Government Operations & Fiscal Policy Committee is the lead committee on this issue.

Attachments
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[2] The Council's Transportation, Infrastructure, Energy & Environment Committee met this past July to discuss WSSC's power reliability. A major concern of the Council is the impact a large-scale electric power outage could have on the County when combined with a loss of key WSSC infrastructure (such as the Potomac Water Filtration Plant, water pumping stations, sewage treatment facilities, and others) which is heavily reliant on electricity. WSSC completed a power reliability study and is in the process of implementing a number of recommendations from that study. WSSC also has an ongoing energy efficiency program that has included energy efficient equipment upgrades at its facilities funded through energy performance contracts. WSSC is also studying the potential for creation of a microgrid at the Potomac Water filtration Plant in order to improve system reliability.
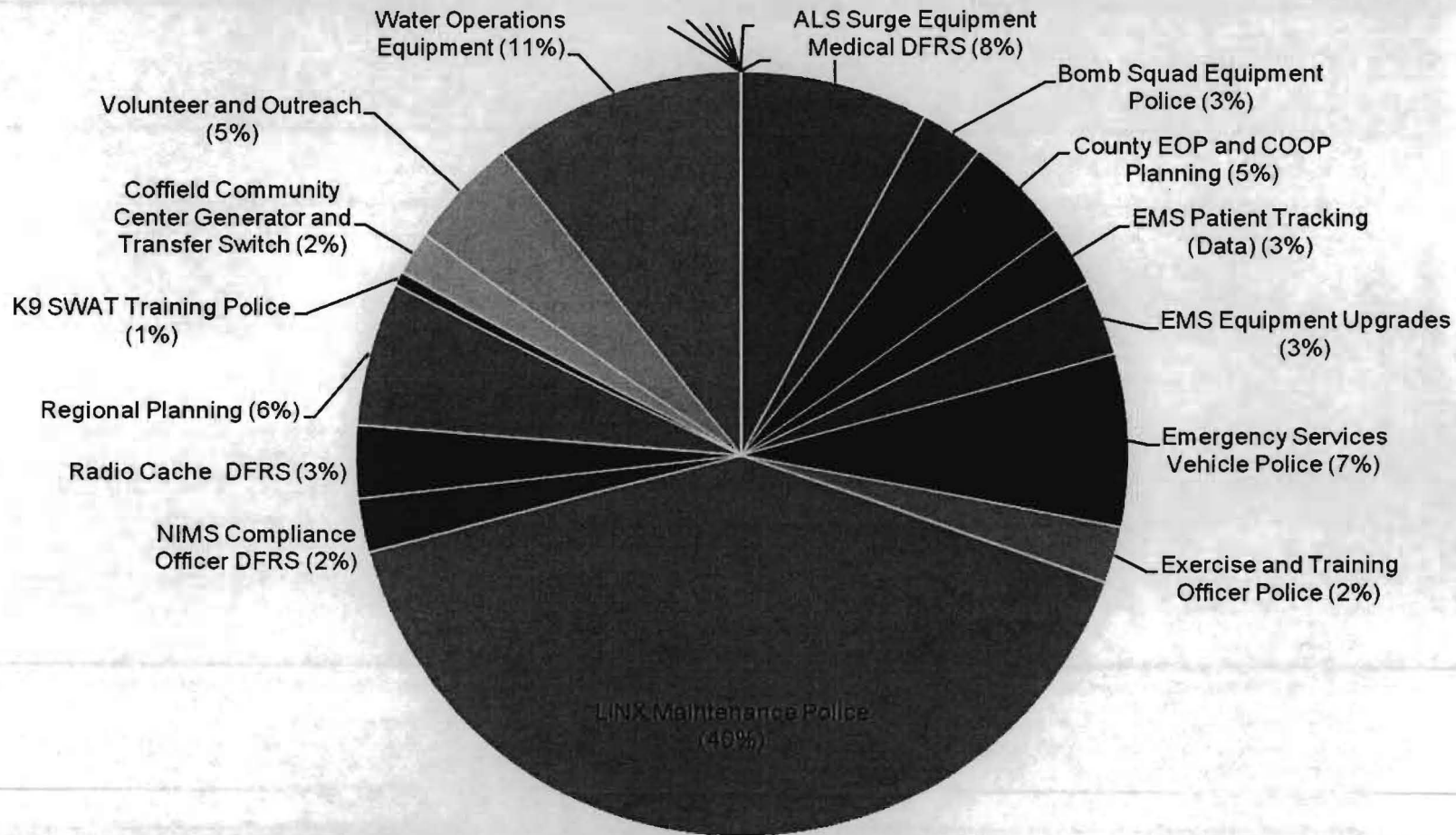
COUNTY EMERGENCY PREPAREDNESS

An Update for the Montgomery County
Council Public Safety Committee
September 11, 2014

National Capital Region Projects

- AFIS Maintenance
- Bomb Squad Equipment
- CAD to CAD Data Sharing
- CBRNE Detection Maintenance
- Interoperable Communications Infrastructure (NCR Net)
- License Plate Reader Program
- Next Generation 9-1-1 Study and Plan for the NCR
- Regional Patient Tracking Systems
- Regional Water System Protection
- RITIS Public Information Ops and Maintenance
- Secure Video Sharing to First Responders
- Radio Cache
- Tactical Team Communication-Negotiations Unit Enhancements
- Tactical Team Gas Mask & Communications Enhancement
- Technical Rescue PPE
- Training and Exercise Officers
- Medical Countermeasures Automated Screening
- Thermal Imaging
- Incident Management Team

- Building Non-Profit Recovery Resource Capacity Training
- Composite Sketch Software for NCR Police Agencies
- Corrections Evacuation Planning
- Disaster Debris Plans and Resource Assessment Report
- Heavy Transportation Rescue Lifting Equipment
- LInX Maintenance
- Mass Care Cache Maintenance
- Metro Station Emergency Response and Evacuation Plans (EREP)
- Night Vision Tactical Operations Training
- On-Target Basic and Advanced Canine Detection Training
- Radio Cache - MD
- Regional Information Collection and Coordination Center (IC3) Program
- Volunteer & Citizen Corps Programs - 9 Jurisdictions
- 2-1-1 System Maintenance
- Emergency Communications Backup - NCR 9-1-1 Centers
- GIS Data Exchange and CAD2GIS Tool project Sustainment

2013 UASI – Montgomery County

Water Operations Equipment (11%)

ALS Surge Equipment Medical DFRS (8%)

Volunteer and Outreach (5%)

Coffield Community Center Generator and Transfer Switch (2%)

K9 SWAT Training Police (1%)

Regional Planning (6%)

Radio Cache DFRS (3%)

NIMS Compliance Officer DFRS (2%)

Bomb Squad Equipment Police (3%)

County EOP and COOP Planning (5%)

EMS Patient Tracking (Data) (3%)

EMS Equipment Upgrades (3%)

Emergency Services Vehicle Police (7%)

Exercise and Training Officer Police (2%)

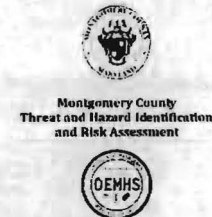LINX Maintenance Police (40%)

$5,455,620

Major Planning Efforts

- Emergency Operations Plan – November 2013
  - Updated Every 4 years
- Mitigation Plan – July 2013
  - Updated every 5 years
- Pre-Disaster Recovery Plan – February 2013
- THIRA (Threat and Hazard Identification and Risk Assessment)

County Wide Exercise Program

- Exercises
  - Senior Leadership Exercises annually
  - Twice-yearly functional exercises to practice EOC coordination and response
  - Departmental tabletop exercises
  - Two Points of Dispensing exercises with HHS in 2014 (Tabletop and Full-Scale)
  - Two COOP Tabletop Exercises (2012, 2013, and one scheduled in Fall 2014)
  - Departmental Exercises based on threats or by request

Cyber Security

- Threats and attacks are increasing (e.g. recent breaches of Home Depot and Dairy Queen).
- Cyber Security laws and requirements are becoming more stringent.
- 3 year Strategic Plan for Enterprise Security and Information Risk Management, published in Feb 2014 and discussed with GO Committee in March 2014, contains the following 5 strategic objectives:
  - Continue to enhance the use of secure and stable cloud technologies
  - Secure County data on legacy and next generation devices
  - Manage users of all County services, systems, and applications
  - Assess requirements and recommend reasonable risk solutions
  - Modify enterprise user behavior to improve overall security/privacy posture
  - Streamline and automate security
- Significant security acceleration efforts are underway.

Unmanned Aircraft Systems

- The County is not Currently Using Unmanned Aircraft Systems (UAS) to support operations
- Prior to Use, the County must obtain a Certificate of Waiver Authorization (COA) from the FAA
  - UAS Program Description
  - Training
  - Medical Exam
  - Airworthiness
- The County does believe UASs may provide improved situational awareness
- We must explore the communications aspect of networked sensing UASs and assess their ability to gather actionable intelligence in a timely and reliable manner.
- The County will identify the primary use cases for these machines, extract mobility models from these use cases, and determine what previous research in this domain applies to such a scenario.

Alert Montgomery

- 224,199 users as of August 2014 (~ 400,000 devices)
- Expected transition to a new vendor in October 2014
  - Greater reliability
  - More flexibility in message content
  - Enhanced voice capabilities
- What's the hold up?
  - Montgomery County has done extensive testing.
    - Speed tests were slower than anticipated and the vendor has and is continuing to make several improvements
    - Montgomery County has the largest system in the region so a slower system has a greater impact on us
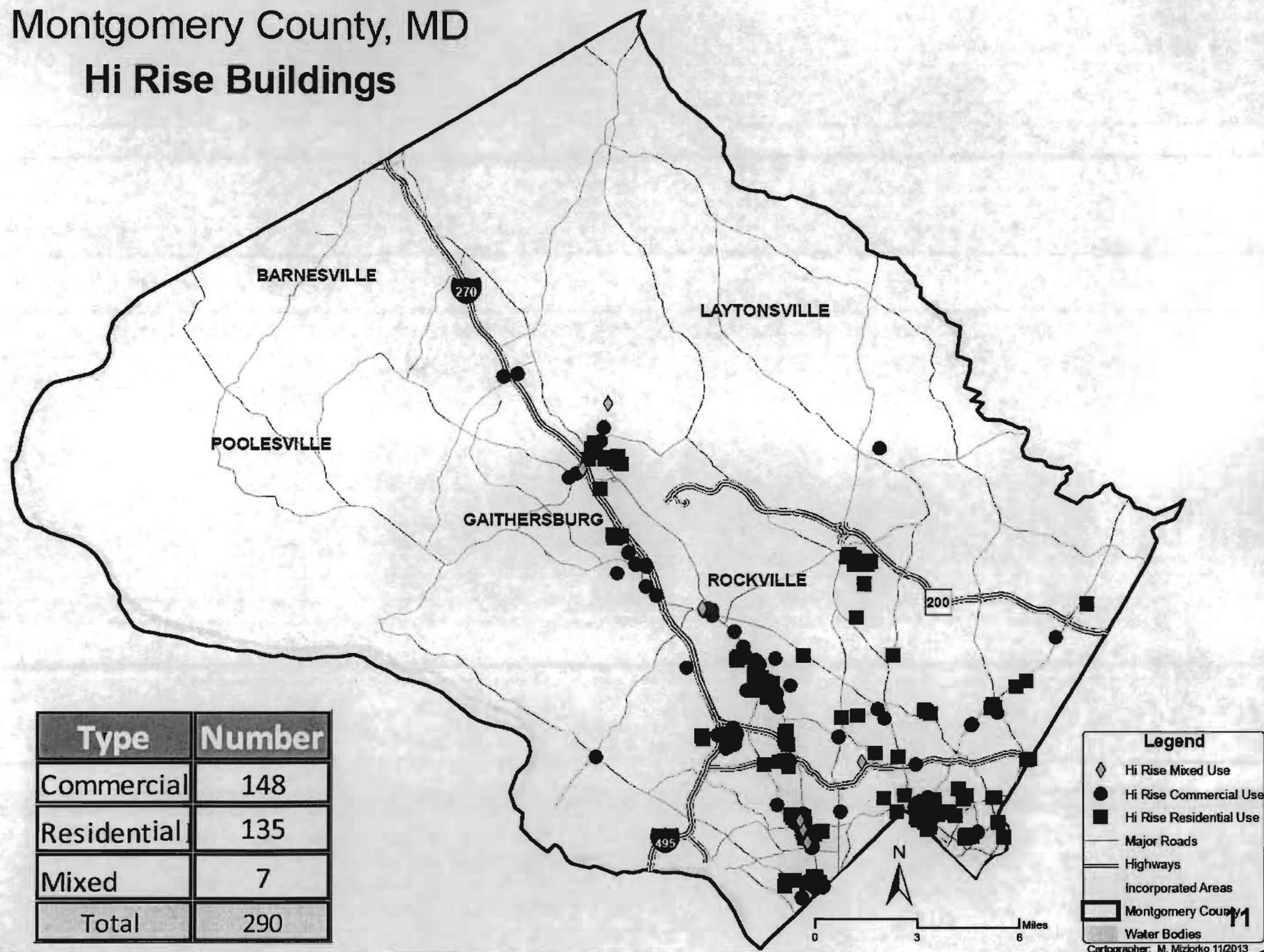
POWER

Backup Power

- County Owned Signals - 296 signals (100%) outfitted with UPS/BBU
- State Owned Signals - 75 signals outfitted/activated with UPS/BBU
- 2014 UASI grant has $200,000 earmarked for the State Highway Administration (SHA) to support the current initiative.
- The County has 80 critical facilities the represent the highest Restoration priorities
  - WSSC - Potomac Water Treatment Plant
  - Workshops for Nursing Home and Assisted Living providers in 2013 and 2014 (Some have full backup power and all have partial redundant power).
  - All other facilities have complete backup power

Montgomery County, MD
Hi Rise Buildings

BARNESVILLE

270

LAYTONSVILLE

POOLESVILLE

GAITHERSBURG

ROCKVILLE

200

Type	Number
Commercial	148
Residential	135
Mixed	7
Total	290

495

Legend

◇ Hi Rise Mixed Use
● Hi Rise Commercial Use
■ Hi Rise Residential Use
— Major Roads
═ Highways
Incorporated Areas
▭ Montgomery County
Water Bodies

N

Miles
0   3   6

11

Cartographer: M. Miziorko 11/2013

Costs ($) Associated with Emergency Generation for Elevators

- Costs associated with upgrading current facilities will vary, but will in many cases be significant.
- Costs associated with installation at new facilities will be significantly lower than the retrofitting older facilities.
- The cost defrayment mechanisms (i.e., increased rent) utilized by the building operators were not considered.

Type of Building	Estimated Cost*
18 story residential	$3.36 million
5 story building with 4 story underground parking	$1.63 million
5 story building	$772,000

* These projections include the generator, switchgear, and basic installation costs. They do not consider sound attenuation, generator storage, fuel, fuel storage, nor any other building modifications.
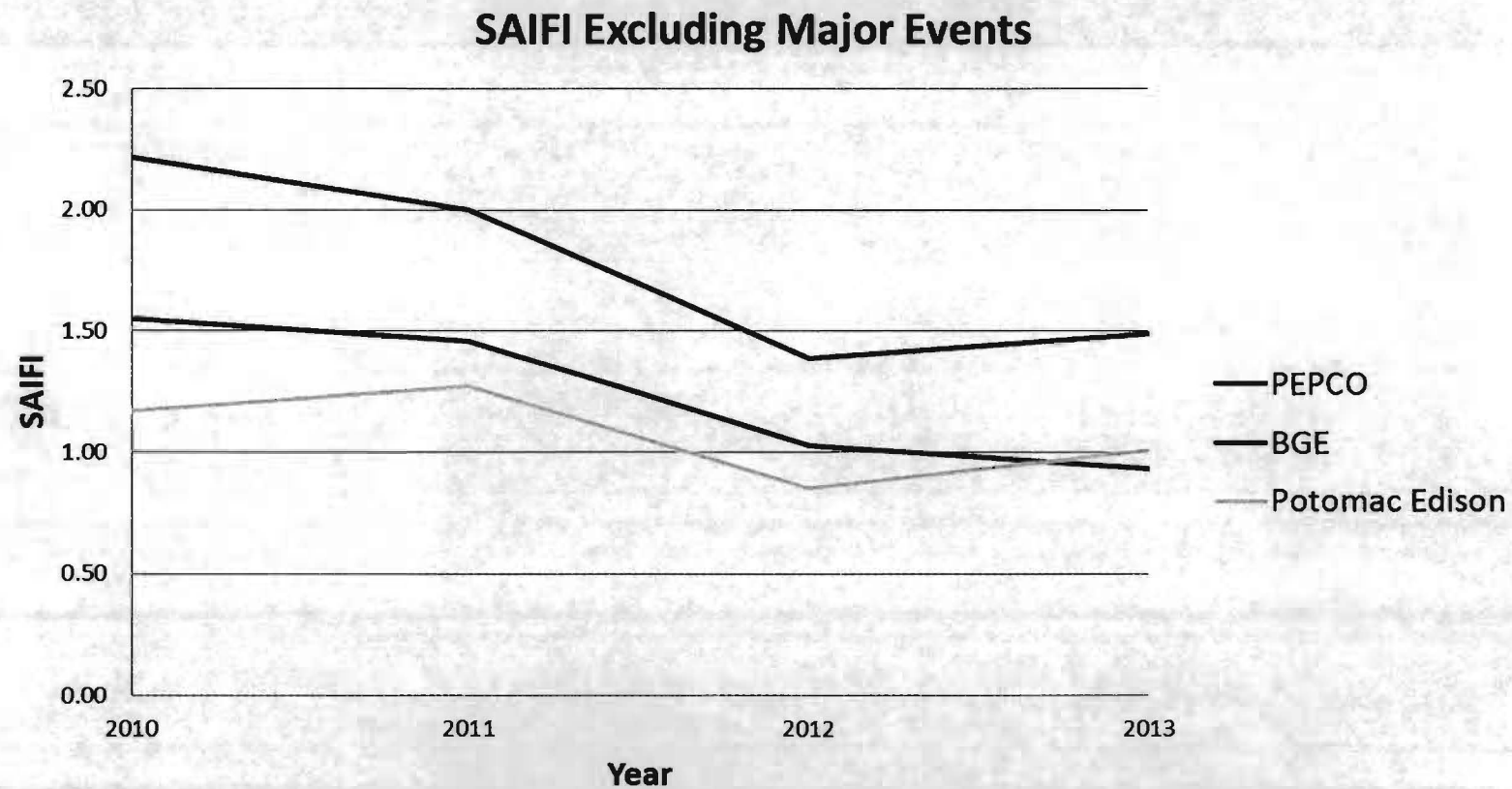
Utility Performance

System Average Interruption Frequency Index (SAIFI)

Company	Year				4 Year AVG	2013 Target
	2010	2011	2012	2013		
PEPCO	2.22	2.00	1.39	1.49	1.78	**1.81**
BGE	1.55	1.46	1.03	0.93	1.24	**1.47**
Potomac Edison	1.17	1.27	0.85	1.01	1.08	**1.1**

Source: Comments of Montgomery County, Maryland regarding Electric Companies Annual Performance Reports on Electric Service Reliability

SAIFI represents how often customers on average experience an interruption in a given year. Mathematically, it is equal to the number of customer interruptions divided by the total number of customers serviced on the electric system.

Utility Performance (SAIFI)

SAIFI Excluding Major Events

Utility Performance

System Average Interruption Duration Index (SAIDI)

Company	Year			3 Year AVG	2013 Target
	2011	2012	2013		
PEPCO	3.60	2.77	2.46	2.94	**2.82**
BGE	3.98	2.58	1.67	2.74	**3.96**
Potomac Edison	3.34	2.43	2.38	2.72	**3.05**

Source: Comments of Montgomery County, Maryland regarding Electric Companies
Annual Performance Reports on Electric Service Reliability

SAIDI measures the total time that customers on average face interrupted service in a given year. It is equal to the number of customer interruption minutes divided by the total number of customers serviced on the electric system.

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Utility Performance - SAIDI

SAIDI Excluding Major Events
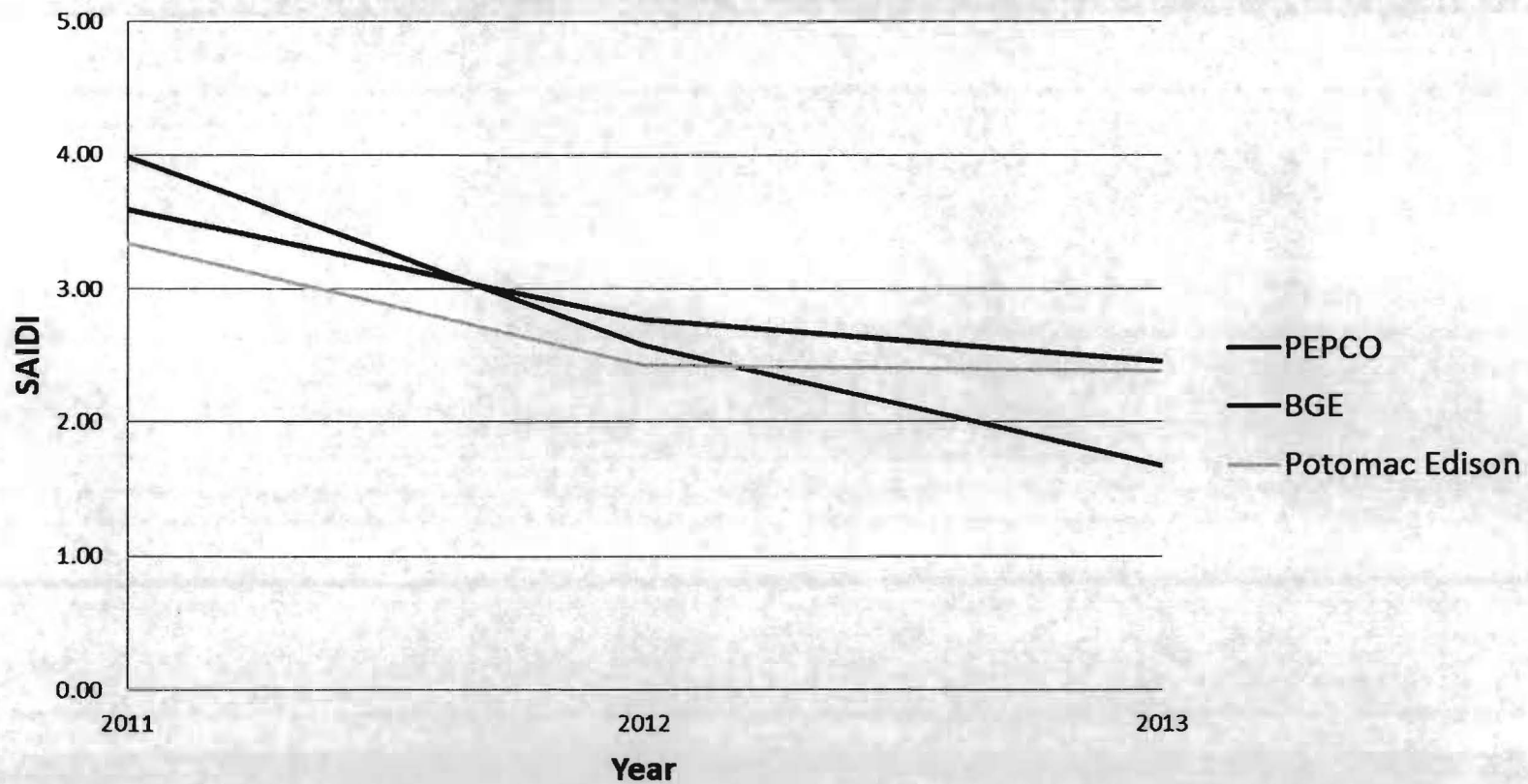
MONTGOMERY COUNTY CONTINUITY OF OPERATIONS PLANNING (COOP)

The county has 102 Continuity of operations plans (COOP). Each of 7 criteria is evaluated on a 3 point scale and a total score is developed. Below are the averages for the 7 criteria for all 102 plans evaluated

- Orders of Succession/Delegation of Authority • 2.5
- Mission Essential objectives • 2.6
- Alternate Facilities • 2.6
- Program Manager • 2.2
- Human Capital Management • 2.3
- Vital records • 2.5
- Vital Equipment • 2.7
- Total Score • 2.5

Average score for 102 COOPs - 2.5 out of 3 (83%)

Montgomery County COOP

- The county has over 100 COOP plans and every department has at least one (some departments have several…. One for each division)
- Each office has a COOP representative (someone responsible for the plan)
- Annual COOP training and exercises are offered by OEMHS to the Departmental COOP representatives
- OEMHS evaluates the COOP plans and provides feedback to the departments (of the 102 plans reviewed at the end of 2013, the average plan was more than 80% complete)
- In developing this program, OEMHS has not requested any local funding. (all training and exercises have been grant funded.)
- There is no federal or state mandate that we have this program, but it is a best practice

Audit Report Recommendations

•Define critical elements that need to be incorporated into each of the County's continuity plans. COOP plan templates to departments should be updated to reflect any additional critical elements identified.

•Conduct additional oversight over the County's continuity planning program. As part of this expanded oversight, OEMHS should develop metrics to track departmental and office documentation of COOP plan critical elements, completion of monthly training, and participation in test exercise programs. Results should be periodically reported to the Office of the County Executive.

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