2021

MDERS

FISCAL YEAR 2021 ANNUAL REPORT

This report offers an overview of the planning, organizing, equipping, training, exercising, and evaluating efforts undertaken by the Maryland-National Capital Region Emergency Response System for stakeholders in law enforcement, fire/rescue/EMS, public health, emergency management, and hospitals within Montgomery and Prince George's Counties from June 1, 2022 to May 31, 2023.

EMERGENCY RESPONSE SYSTEM
MARYLAND
NATIONAL CAPITAL REGION

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Program Overview

Natural and human-made crises remain a persistent threat to communities within the United States. The National Capital Region (NCR), which encompasses 27 local, state, and federal jurisdictions within and surrounding Washington D.C., presents a unique risk profile with its concentration of residents, tourists, critical infrastructure, federal installations, cultural sites, commercial facilities, and federal, state, and local governments. Major emergencies within the NCR have included the 9/11 attack on the Pentagon, the social unrest at the Capitol on January 6th, a small plane crashing into power lines causing approximately 120,0000 customers to lose power, multiple planned and spontaneous demonstrations, large-scale fires, major hurricanes, and numerous other hazardous incidents. It is an arduous process for first responders to prepare for the myriad of evolving and emerging threats.

To help major jurisdictions like the NCR, the Department of Homeland Security (DHS) supported the creation of the Urban Area Security Initiative (UASI) grant program. This program assists high-risk, high-density urban areas in efforts to build and sustain the capabilities necessary to prevent, protect against, mitigate, respond to, and recover from acts of terrorism. Each year, a subset of the NCR's UASI funds are allocated to the Maryland-National Capital Region Emergency Response System (MDERS) to build and enhance response capabilities in Montgomery and Prince George's Counties.

MDERS serves as a conduit to promote inter-jurisdictional and inter-disciplinary coordination between emergency management; fire, rescue, and emergency medical services (EMS); law enforcement; public health; and hospitals within Montgomery and Prince George's Counties. Through this collaboration and the administration of awarded UASI funds, MDERS leads the building and implementation of critical response capabilities that protect over two million residents within the Maryland-National Capital Region (Maryland-NCR).

MDERS is guided by a Strategic Plan created in consultation with a Steering Committee comprised of county agency leadership from the five MDERS-supported stakeholder disciplines. In alignment with the strategic goals and objectives, MDERS and the Steering Committee representatives identify response capabilities within the region that require additional development, expansion, or in some cases, creation. MDERS staff work closely with relevant stakeholder agencies to create Capability Development Plans (CDPs), which identify the approach to planning, organizing, equipping, training, exercising, and evaluating (POETEE) all capabilities. Upon completion of the CDPs, MDERS oversees the long-term implementation of the capability until ownership is transferred to the stakeholder agency.

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Message from the Directors

To the stakeholders, residents, and visitors of the Maryland-National Capital Region:

MDERS was established to optimize emergency response for both routine and large-scale incidents in Montgomery and Prince George's Counties. Through collaboration with multiple public safety agencies and disciplines, MDERS oversees, implements, and administers comprehensive capability development strategies. These efforts contribute to the improvement of preparedness and interoperability within the Maryland-NCR. The core partners to MDERS's mission include local, county, and state stakeholders from emergency management, fire, rescue, and EMS, law enforcement, public health, and hospitals. Beyond local coordination, MDERS works closely with the neighboring Emergency Response Systems (ERSs) of Northern Virginia and the District of Columbia to standardize response throughout the NCR.

Fiscal Year 2021 (FY21) was another highly successful period for MDERS. Supported by a multi-million-dollar federal UASI grant, the program executed major steps to improve interoperable response capabilities in Montgomery and Prince George's Counties. These enhancements address some of the most significant threats to the Maryland-NCR that transcend traditional disciplinary boundaries. This report is intended to provide an overview of the activity and accomplishments of the program during this period.

Since 2014, the staff and stakeholders have applied a capability-based approach to efforts undertaken by the organization. Based on measurable target outcomes, this approach encompasses all aspects necessary to operationalize and achieve the target outcome. This includes the POETEE process, and this approach has emphasized comprehensive planning throughout the project life cycle to achieve target response capabilities and capacities most effectively and efficiently throughout the region. FY21 was the seventh complete budget cycle during which this approach was applied consistently. The results of this approach have offered extensive solutions to complicated and interdependent capabilities and has also supported strategic, multi-year approaches to building and expanding complex capabilities.

The MDERS organization underwent significant changes to its organizational structure this past year. The organization operated with two co-Directors and the organizational structure shifted from the previous years. Prior to FY21, the MDERS Operational Support Directorate was split into two teams: Planning and Organization and Training and Exercise. An opportunity for change in the structure of the Operational Support Directorate occurred in FY21 and combined the two teams together while also adding additional emergency response specialists to assist with new projects. Also, this fiscal year saw the welcoming of several new staff members and a new administrative specialist position created under the Finance and Administration Directorate. MDERS is now led by two co-directors, one of whom is deputy director of the Operational Support Directorate, and the other is deputy director of the Finance and Administration Directorate. These deputy directors oversee two senior emergency response specialists, four emergency response specialists, one senior project manager, one project manager, one financial manager, and one administrative specialist.

The NCR's Homeland Security Executive Committee (HSEC) directed several million dollars to be invested in MDERS staff, programs, and projects during FY21. These investments allowed MDERS to accomplish several initiatives toward building and sustaining capabilities, including:

- Bolstered law enforcement response and safety with the procurement of personal protective equipment (PPE), thermal breaching tools, and other supplies to assist in emergency response operations.
- Enhanced the Prince George's County Fire/EMS Department's (PGFD) Command Competency Lab and their Incident Command Simulation through an extended partnership with the Uniformed Services University (USU).
- Provided emergency management (EM), law enforcement, and fire, rescue, and EMS stakeholders with the tools and training to enhance their small Unmanned Aerial Systems (sUAS) capabilities.
- Outfitted Montgomery County Fire and Rescue Service (MCFRS) with a new technical rescue vehicle.
- Initiated an EMS Mobile Clinical Competency training capability within both MCFRS and PGFD.
- Facilitated the purchase of several innovative technologies for MDERS stakeholders to bolster their emergency response.
- Expanded access to bleeding control supplies at the Universities at Shady Grove and provided a Public Access Trauma Care (PATC) training cache to the Prince George's County Public Schools System (PGCPS).
- Updated the Montgomery County Police Department (MCPD) Mobile Command Vehicle to include enhanced audio/visual (AV) capabilities.
- Enhanced efficiency and effectiveness of barrier deployment through the acquisition of a barrier trailer, supporting the transportation of barriers for soft target protection for law enforcement stakeholders.
- Expanded and enhanced the Maryland-NCR fire, rescue, and EMS agencies response to mass casualty incidents through the procurement of Lund University Cardiac Assist System (LUCAS) devices and additional medical supplies.

These investments also supported several unique training and exercise opportunities for MDERS stakeholders including:

- Hosted the seventh annual MDERS Emergency Response System Symposium with discussions regarding attacks on critical infrastructure, cybersecurity considerations, political extremism and response tactics, and strategies for crowd management and public order.
- Supported law enforcement participation in the Northwestern University School of Police Staff and Command (SPSC), an intensive leadership and management education program designed to prepare experienced law enforcement professionals for success in senior command positions.
- Organized and conducted a Joint Interoperability Exercise Series involving MCPD and Prince George's County Police Department (PGPD) to facilitate enhanced collaboration between the neighboring departments.
- Planned, conducted, and assisted in the delivery of the Homeland Security Exercise and Evaluation Program (HSEEP) with Prince George's County Office of Homeland Security and Emergency Management (PG OHS/EM), providing instruction to local, state, and federal partners on the principles of exercise design and delivery outlined by the Federal Emergency Management Agency (FEMA).

As we look back on the success of this past year, the staff and stakeholders look forward to continuing to build upon these capabilities and undertaking new opportunities in the coming year. Fiscal Year 2022 (FY22) initiatives include:

- MCPD supervisors tabletop exercise (TTX) in a box training series giving new and experienced

supervisors the opportunity to test and enhance their knowledge of the Incident Command System (ICS) during two active assailant scenarios.
- Assisting both MCPD and PGPD with identifying ways to increase their sUAS resources and response capabilities.
- Supporting stakeholders with additional planning and funding for innovative homeland security technologies that are aimed at increasing their response capability, safety, and situational awareness.
- Revamping the PGPD patrol scenario training process, creating more objective and efficicient evaluation process for students in the training academy.
- Supporting stakeholders travel and registrations to conferences and training events to bolster their skills and knowledge in emergency response.

On behalf of the stakeholder agencies and the residents they serve, we extend great gratitude to the NCR HSEC for continuing to acknowledge the value of interjurisdictional and interdisciplinary response. The support and financial investments of this leadership body have provided a means to accomplish enhancements that would otherwise be impossible.

We also thank the Maryland Institute for Emergency Medical Services Systems (MIEMSS) for administering the financial, personnel, and procurement aspects of MDERS since its inception. MIEMSS staff offers countless hours and immeasurable efforts to support the community by assisting in building response capabilities. The continued support of MIEMSS is invaluable to the existence and success of MDERS.

Finally, thank you to the representatives of the stakeholder agencies who serve on the Steering Committee for providing ongoing strategic direction for the program. Likewise, we are grateful to the countless subject matter experts (SMEs) from the agencies that lend their time to building these regional capabilities.

We congratulate the stakeholders and staff for all the accomplishments that are detailed in this report. Your efforts benefit the overall response capacity, enhancing the service to the residents and visitors we collectively serve. We look forward to continuing to work with our response community to further grow our capabilities in the coming years.

Sincerely,
Lauren Collins & Nicole Markuski

About MDERS

Founded in 2014, MDERS was established with a primary mission to bolster and synchronize emergency response capabilities within Montgomery and Prince George's Counties. The core strength of MDERS lies in its diverse representation of key disciplines crucial to effective management of response operations, including emergency management professionals; fire, rescue, and EMS personnel; law enforcement personnel; public health experts; and hospital personnel. The collaborative vision and strategic guidance for MDERS are guided by a dedicated Steering Committee. Comprised of representatives from each of the five disciplines in both Montgomery and Prince George's Counties, as well as the State of Maryland, the Steering Committee ensures a holistic and well-coordinated approach to emergency response efforts. MDERS is supported by a NCR-UASI grant from FEMA's Grant Programs Directorate (GPD), through DHS. This program is administered by MIEMSS.

Mission, Vision, and Shared Values

MISSION

To support the integration of emergency management; fire, rescue, and emergency medical services; law enforcement; public health; and healthcare systems to ensure a coordinated response to emergency incidents through strategic planning, information sharing, training, exercises, equipment, acquisition, and evaluation.

VISION

To serve as the single point of collaboration between all disciplines involved in emergency response in order to achieve integration to optimize all capabilities and provide superior service to the residents and visitors of Montgomery and Prince George's Counties.

VALUES

Superior Service

Providing exceptional service to our stakeholders, and the community, within the Maryland-National Capital Region.

Collaborative Community

Cultivating an environment where our stakeholders can engage with one another across jurisdictions and disciplines while building lasting, meaningful relationships.

Innovative

Fostering strategies and creative thinking among our stakeholders to build, enhance, and execute response capabilities.

Ethical

Providing a clearly defined, defendable process for all decisions and actions to ensure consistent and appropriate use of taxpayer dollars.

Strategic Commitment

Developing and sustaining a focused, efficient approach to capability development to better serve our stakeholders and community.

Our Stakeholders

A full list of MDERS primary stakeholders in Montgomery and Prince George's Counties is detailed below in **Figure 2** and a list of partner state agencies is detailed in **Figure 3**.

Figure 2: MDERS Stakeholders

Law Enforcement

Prince George's County Police Department (PGPD)

Montgomery County Police Department (MCPD)

Fire/Rescue/EMS

Prince George's County Fire/EMS Department (PGFD)

Montgomery County Fire and Rescue Service (MCFRS)

Public Health

Prince George's County Health Department (PGHD)

Montgomery County Department of Health and Human Services (MC DHHS)

Emergency Management

Prince George's County Office of Homeland Security and Emergency Management (PG OHS/EM)

Montgomery County Office of Emergency Management and Homeland Security (MC OEMHS)

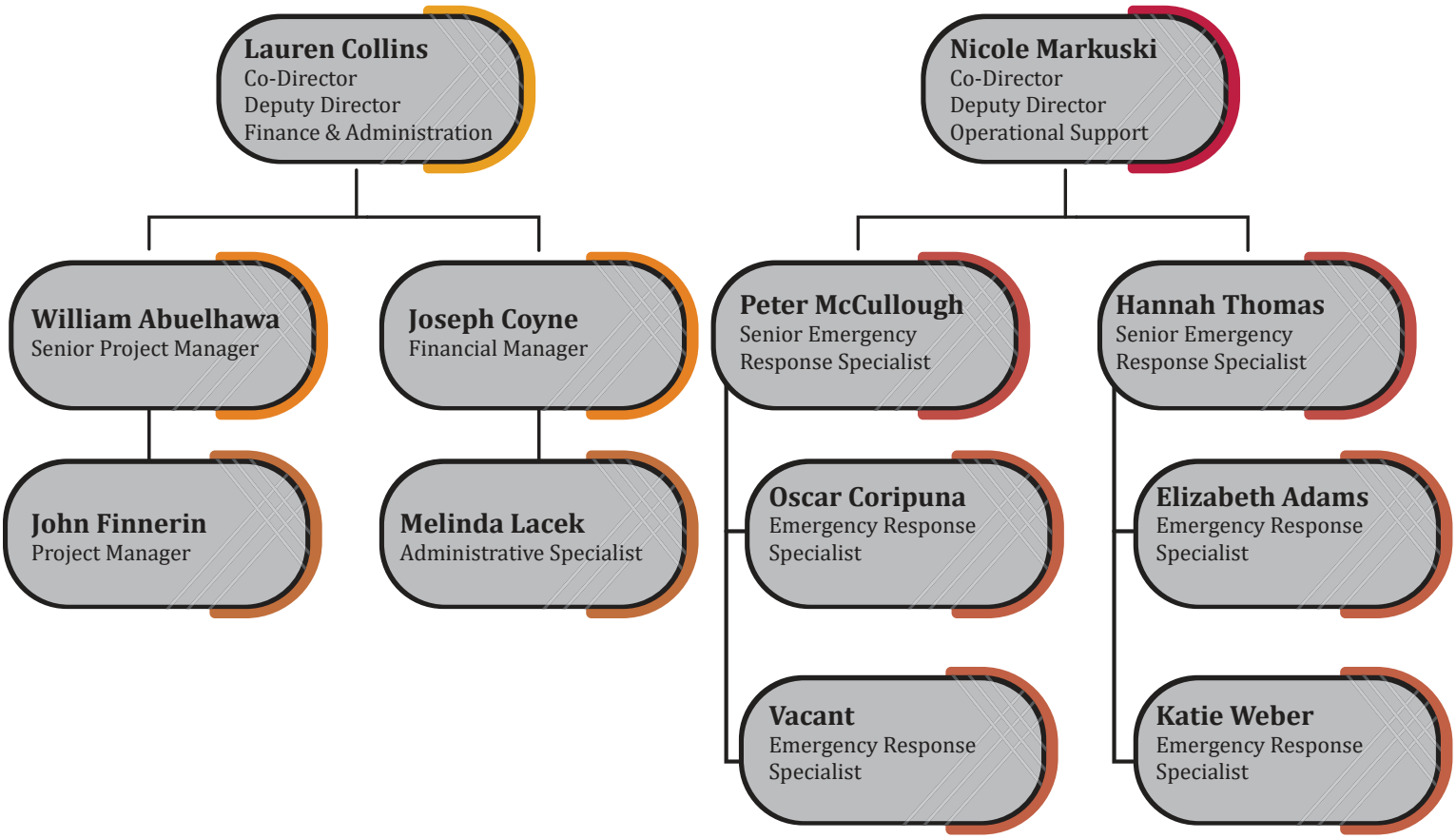
Hospitals

Figure 3: MDERS State Partners

Our Organization

The MDERS Team, shown in **Figure 4** below, consists of the Finance and Administration Directorate (left) and the Operational Support Directorate (right). The Finance and Administration Directorate includes the Co-Director, Deputy Director, the Senior Project Manager, Project Manager, Financial Manager, and the Administrative Specialist. The Operational Support Directorate includes the Co-Director, Deputy Director, two Senior Emergency Response Specialists, and four Emergency Response Specialists. The two directorates oversee the execution of MDERS's mission and ensure close collaboration and alignment between internal MDERS programs and the stakeholder agencies.

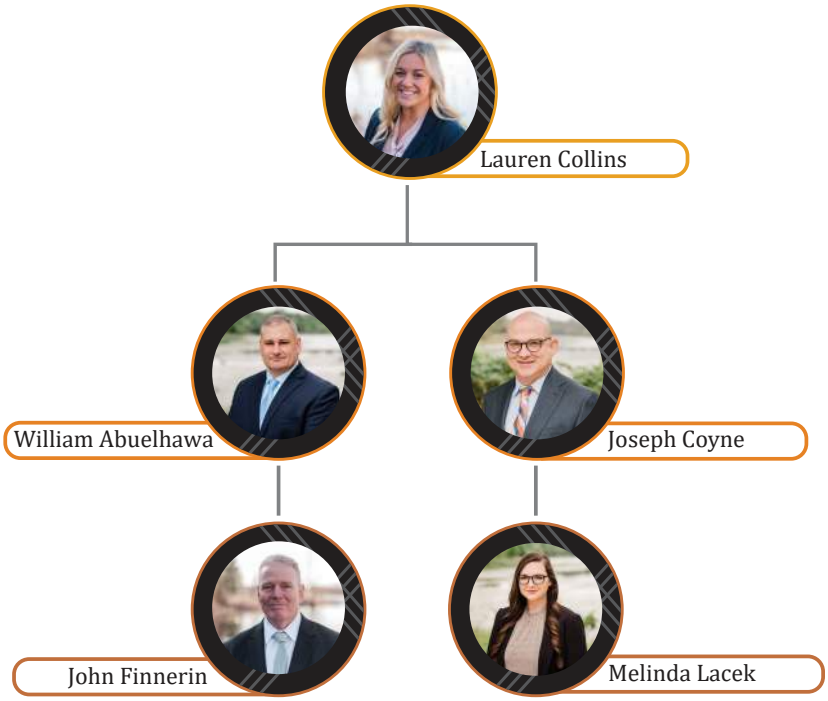
Figure 4: MDERS Organizational Chart



Finance and Administration Directorate

The Finance and Administration Directorate has a fundamental role in the strategic operations of MDERS, dedicated to advancing, maintaining, and enhancing the fiscal, procurement, and resource management functions essential to both MDERS and its supported stakeholder agencies benefitting from grant support. This Directorate, comprised of a skilled team including a Deputy Director, Financial Manager, Senior Project Manager, Project Manager, and Administrative Specialist, is integral throughout the entire capability development cycle.

One of the primary responsibilities of the Finance and Administration Directorate is the meticulous oversight of fiscal matters, from the inception of budget creation to the submission of proposals and the acquisition of necessary equipment. The team ensures a seamless process by tracking all grant-procured equipment, orchestrating the efficient deployment of assets to sub-recipients, and proactively planning for future maintenance and replacement needs. The team is also actively engaged in seeking reimbursements for all expenditures through the UASI grant, demonstrating a commitment to fiscal responsibility.



In close collaboration with the Operational Support Directorate, the Finance and Administration Directorate contributes to the development of comprehensive policies, procedures, and guidance, providing a solid framework for the proper utilization and management of all procured assets. This collaborative effort ensures the alignment of financial and operational strategies, fostering an integrated approach to capability development.

Moreover, the Finance and Administration Directorate is instrumental in supporting the successful execution of UASI sub-grants through effective project management. Hosting regular monthly meetings with stakeholders and their respective work groups, the team ensures that tasks progress according to schedule and remain within budget, as outlined in the meticulously crafted project management plans (PMPs) approved by the State Administrative Agency (SAA). The Directorate plays a crucial role in adjudicating resource needs, guided by the principles of each respective capability.

Operational Support Directorate

The MDERS Operational Support Directorate supports internal and external planning, training, and exercise initiatives related to emergency response capabilities and operational procedures for planned and unplanned events within Montgomery and Prince George's Counties. The team is comprised of a Co-Director, two Senior Emergency Response Specialists, and four Emergency Response Specialists.

The Operational Support Directorate oversees the drafting, development, and implementation of comprehensive CDPs. These plans outline POETEE requirements necessary to accomplish target capability outcomes from the region's emergency response agencies. The CDPs serve as a road map for capability development, declaring each sequential task and deliverable needed to reach the target outcome. To accomplish this, the Operational Support Directorate coordinates multiple work groups of stakeholders that are integral to capability development. These groups provide agency- and region-specific input to assist with gap analyses and needs assessments, which are the foundational information for creating CDPs.

The Operational Support Directorate also supports the planning, delivery, and administration of a variety of multi-disciplinary training and exercise opportunities both within and external to the Maryland-NCR. The Operational Support Directorate coordinates with the Steering Committee, stakeholder agencies, and the MDERS Finance and Administration Directorate to deliver training and exercise opportunities that enhance regional emergency responders' knowledge, skills, and abilities to support targeted capabilities as identified in the MDERS Strategic Plan. The Operational Support Directorate oversees the budget management, development, and delivery, monitoring and reporting, and improvement planning of all associated training and exercise activities throughout MDERS's portfolio.

In tandem with its role in capability development planning, the Operational Support Directorate is entrusted with drafting the MDERS Strategic Plan, the MDERS Annual Report, and supporting other planning activities aligned with the Steering Committee and MDERS stakeholder agencies. The Directorate also administers internal programs, including the MDERS website, file management structure, and related initiatives.

Furthermore, playing a crucial role in both planning and delivering training and exercise opportunities within the Maryland-NCR, the Operational Support Directorate extends support to stakeholders by handling the advertisement, registration, travel coordination, and reimbursement for specialized training opportunities across the United States. These trainings and conferences are strategically designed to enhance the workforce and optimize response capabilities.

Fiscal Year 2020-2022 Strategic Plan

The MDERS Strategic Plan identifies the goals and objectives towards which MDERS, Maryland-NCR stakeholders, and the MDERS Steering Committee guide programmatic efforts for a given fiscal year. The MDERS Strategic Plan identifies eight primary goals which are identified in **Figure 5** below. The objectives are further outlined in **Figure 6**.

Figure 5: Strategic Goals

1. The Maryland-National Capital Region emergency response partners can respond to active violent incidents.
2. The Maryland-National Capital Region emergency response partners can respond to mass casualty incidents of up to 500 patients.
3. The Maryland-National Capital Region emergency response partners will establish and utilize the incident command system to coordinate response operations for all-hazards events.
4. The Maryland-National Capital Region emergency response partners will gather and share information at all times to maintain situational awareness.
5. The Maryland-National Capital Region emergency response partners can address the unique response demands of special events and mass gatherings.
6. The Maryland-National Capital Region emergency response partners can respond to large-scale severe weather events.
7. Each county fire/rescue/EMS agency will have the ability to provide an immediate response to a structural collapse incident, with a minimum of 13 specially trained personnel and a cache of rescue equipment on scene within 40 minutes of notification.
8. The Maryland-National Capital Region Emergency Response System will be a resource for the emergency response community for interjurisdictional, interdisciplinary coordination and capability development.

Figure 6: Strategic Goals and Objectives Outlined

Response to Active Violence Incidents

The Maryland-National Capital Region emergency response system partners can respond to active violent incidents.

- Police Special Operations Teams shall quickly conduct a threat assessment and deploy tactical resources to contain and mitigate threats, with full transition from patrol within 60 minutes of an incident.
- Each county will have a law enforcement emergency medical services integration policy that provides for the initiation of patient care at law enforcement first contact and transition to EMS.
- Each hospital will have a plan to integrate with law enforcement to treat patients while preserving the extension of the crime scene.

1

MCPD Tomahawk Close Quarters Clearance Methodical Clearance Baseline Course

Mass Casualty and Medical Surge

The Maryland-National Capital Region emergency response partners can respond to mass casualty incidents of up to 500 patients.

- Emergency response partners will be able to respond to, treat, and transport to definitive treatment of 500 victims of a mass casualty incident, including patients requiring specialty care and Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE) exposure.
- Emergency response partners will train 5,000 civilians each year to serve as immediate responders during mass casualty incidents and 100 instructors per year to deliver the training.
- Each healthcare facility will have a plan to resource and recall equipment and supplies to manage a subregional surge of 500 patients.

2

Incident Management of All-Hazards Incidents

The Maryland-National Capital Region emergency response partners will establish and utilize the incident command system to coordinate response operations for all-hazards events.

- Incident Command will be established immediately upon arrival by all disciplines to all-hazards events to provide control of the event, resources, and personnel.
- Disciplines will operate jointly through Unified Command at all events where more than one discipline functions.
- Incident commanders will be provided resources and tools to operate at multi-operational period events.

3

PGPD Exothermic Breaching Course

Information Sharing and Situational Awareness

The Maryland-National Capital Region emergency response partners will gather and share information at all times to maintain situational awareness.

- Information exchange will be accessible to all response agencies to allow for the transition of patient care, reunification, and investigations following an emergency.
- Criteria will be developed, and responsibility assigned for analyzing and disseminating information, intelligence, and warning to response agencies and the public consistent with the National Capital Region standards.
- Information technology tools, systems, and data repositories will consider use cases across all jurisdictions and disciplines to allow for prompt and comprehensive data exchange.

4

Special Events Response

The Maryland-National Capital Region emergency response partners can address the unique response demands of special events and mass gatherings.

- Each county will have a policy that defines the authority, type of event, and requirements for safe, efficient management of all hazard resources at all special events that impact the broader community.
- Public safety agencies will be outfitted with tools and equipment to protect attendees of special events, including barriers and mobile assets.
- Special events will be centrally organized by a single lead agency to provide global awareness and comprehensive response planning.

5

Severe Weather Response

The Maryland-National Capital Region emergency response partners can respond to large-scale weather events.

- Each county will conduct an initial damage assessment, collect data at a single centralized repository, analyze the findings, and distribute resources to meet the demand.
- Each county will be able to deploy unmanned aerial assets that provide situational awareness to on-scene responders, and remote decision-makers.
- Response partners can activate, and integrate with state, federal, and other resources deployed in response to the event.

6

Damaged Home After Severe Weather - Prince George's County

Structural Collapse Response

Each county's fire, rescue, and EMS agency will have the ability to provide an immediate response to a structural collapse incident, with a minimum of 13 specially-trained personnel and a cache of rescue equipment on scene within 40 minutes of notification.

- Emergency response partners will establish a standard equipment cache inventory for structural collapse incidents and ensure the ability of each county to provide that equipment at an incident scene within 40 minutes of notification.
- Emergency response partners will establish and provide a standardized training curriculum and course work to provide at least 13 trained personnel to immediately respond to technical rescue incidents involving structural collapse, arriving on scene within 40 minutes of notification.
- Policies and agreements will be established to ensure that the neighboring fire, rescue, and EMS department will provide an additional 13 trained and equipped technical rescue personnel to respond via automatic aid and arrive within 90 minutes in support of large-scale structural collapse incidents.

7

Structural Collapse Specialist Course

Development of the Emergency Response System Community

The Maryland-National Capital Region Emergency Response System will be a resource for the emergency response community for interjurisdictional, interdisciplinary coordination and capability development.

- Staff will be provided with the needed resources to meet the Emergency Response System's mission, strategy, and objectives.
- Emergency response capability building will be supported by a comprehensive training and exercise program that provides educational and training opportunities to advance vocational and leadership skills.
- Leadership will allocate 5% of the annual budget to facilitate innovative solutions to emerging homeland security challenges.

8

Capability Development

Initially defined by FEMA, within the Comprehensive Preparedness Guide (CPG) 201, planning, organizing, equipping, training, and exercising (POETE) are the five areas in which entities develop their emergency preparedness and response capabilities. MDERS uses a modified process to develop response capabilities within the Maryland-NCR, including a sixth category: evaluating. The inclusion of evaluating in the capability development process establishes a cycle in which the process begins again, informed by the strengths developed and gaps identified. A detailed description of each element of the POETEE process is outlined in **Figure 7** below.

Figure 7: POETEE Model

MDERS: A System of Systems

The partnership between MDERS and its stakeholders and adherence to the POETEE model results in a perpetual cycle to create and expand emergency response capabilities within the Maryland-NCR.

Figure 8: A System of Systems

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Fiscal Year 2021 Program Summaries

EMERGENCY RESPONSE SYSTEM
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FY21: CAPABILITY DEVELOPMENT

The capabilities described in this report were developed using the goals and objectives outlined in the FY 2020-2022 MDERS Strategic Plan. MDERS collaborated with regional partners under the direction of the Steering Committee and identified specific priority capabilities that would be developed and enhanced by MDERS in FY21. These capabilities are identified in **Figure 9** below.

Figure 9: FY21 Capabilities

Training and Exercise Program

Overview

The MDERS Operational Support Directorate manages an extensive Training and Exercise Program, providing stakeholders with diverse opportunities to enhance and cultivate capabilities through in-person, virtual, and hybrid engagements. This program oversees the discernment, arrangement, and delivery of meticulously tailored tactical training sessions, courses encompassing policy and leadership theories, participation in conferences held by professional associations, and an array of other opportunities. Moreover, MDERS collaborates closely with partner organizations to plan and conduct exercises aimed at scrutinizing present performance vis-à-vis target proficiency thresholds, consequently revealing areas that require improvement. This invaluable insight subsequently informs the formulation of new policies, encompassing essential policy adjustments, allocation of resources, and strategic training initiatives, all directed toward advancing respective stakeholder capabilities further.

Expenditures

Qty.	Description	Cost
N/A	Supported Trainings	$479,213.74
N/A	Supported Exercises	-
N/A	Ad Hoc Training Requests	$27,586.87
N/A	Training and Exercise Consumables	$23,563.00
Total		**$530,363.60**

Training and Exercise Program

Capability Summary

The training and exercise activities supported in FY21 are summarized in **Table 1** and **Table 2** below.

Table 1: FY21 Supported Trainings

Advanced Explosive Breaching Course	
Agency(ies)	Participant(s)
PGPD	2
Description	
This class instructed tactical law enforcement personnel on advanced explosive breaching techniques associated with hard target breaching.	
Advanced Law Enforcement Rapid Response Training (ALERRT) Conference 2022 & 2023	
Agency(ies)	Participant(s)
Hospitals, MCFRS, MCPD, MDERS, MSP, PG OHS/EM, PGFD, PGPD	20 (2022) 20 (2023)
Description	
This conference focused on integrated response topics for law enforcement, fire/rescue/EMS personnel, medical providers, and emergency management professionals who may be involved in active threat response operations.	
Advanced Level I Public Order Training	
Agency(ies)	Participant(s)
MCPD PGPD	4
Description	
This training taught attendees to modernize and evolve their tactics and ability to respond to public order policing-related issues, ranging from sporting events and peaceful protests to the most extreme incidents of violent disorder.	
Advanced Sniper Course	
Agency(ies)	Participant(s)
PGPD	2
Description	
This training presented officers with real-world challenges ranging from tactical decision scenarios, debriefs of previous callouts, military operations, and worst-case scenarios and provided the advanced skills to enable law enforcement personnel to place precision shots from uncomfortable and unconventional positions.	

Training and Exercise Program

Aerial Platform Training	
Agency(ies)	Participant(s)
PGPD	15
Description	
This course provided law enforcement special operations personnel with advanced training in tactical aerial operations including safely mounting and dismounting from a helicopter's bench, engagement techniques while airborne, and practice in using equipment while in flight.	

Anatomy Gift Registry Lab 2022 & 2023	
Agency(ies)	Participant(s)
MCPD MDERS MIEMSS PGFD PGPD	18 (2022) 20 (2023)
Description	
This training provided emergency medical technicians and paramedics with the necessary knowledge, skills and abilities outlined in the Maryland Medical Protocol and allowed students to apply those skills to real human tissue.	

Assessment and Training Solutions Consulting Corporation (ATSCC) Tactical Emergency Casualty Care (TECC) – Live Tissue Class	
Agency(ies)	Participant(s)
MCPD PGFD PGPD	22
Description	
This class instructed tactical law enforcement and special operations personnel on medical care in high-threat environments through a practical procedures and skills laboratory. The culmination of the course allowed participants to practice self-aid and buddy-aid in a simulated mass casualty incident exercise scenario.	

Association of Healthcare Emergency Preparedness Professionals (AHEPP) Conference	
Agency(ies)	Participant(s)
Hospitals	1
Description	
This conference offered an opportunity for administrators, emergency preparedness coordinators, directors of public health preparedness, emergency managers, registered nurses, and professionals in the healthcare preparedness field to share the latest research and best practices, network, and collaborate on ways to move healthcare preparedness forward.	

Counter Narcotics and Terrorism Operational Medical Support (CONTOMS) EMT – Advanced Tactical Course	
Agency(ies)	Participant(s)
MCPD PGFD PGPD	4

Training and Exercise Program

Description
This advanced course was an immersive experience designed to provide in-depth training in hot zone, warm zone, and cold zone operations through realistic, hands-on exercises and scenarios.

Direct Action Resource Center (DARC) Advanced Kinetic Breaching Course	
Agency(ies)	Participant(s)
PGPD	8
Description	
This course focused on the technical and tactical aspects of live-fire interaction with materials, advanced breaching skills, charge construction, tactical implementation, and heavy-breaching techniques. This training allowed participants to breach real structures and not range facades.	

DARC Level I Kinetic Breaching Course	
Agency(ies)	Participant(s)
PGPD	2
Description	
This assault-breacher course instructed individuals on safe, practical, and effective kinetic breaching for tactical operations. This course was taught in a tactical environment with hands-on instruction and practice during day and nighttime settings.	

Federal Bureau of Investigation (FBI) Executive Leadership Institute (ELI)	
Agency(ies)	Participant(s)
PGPD	2
Description	
This program focused on the emerging challenges facing 21st century police leaders, as well as planning and navigating the political waters of executive leadership. This innovative, 4 1/2-day program is designed for executive-level and aspiring executive-level law enforcement leaders and seeks to look inward to identify the forces of change and emerging trends within law enforcement, such as challenges in recruiting, hiring, and leading different social generational cohorts and different cultural groups within the workforce.	

FBI Supervisor Leadership Institute (SLI)	
Agency(ies)	Participant(s)
PGPD	8
Description	
This course focused on preparing the next generation of police leaders for their critical first steps in police leadership. Several topics were covered in this course including aspects of leadership, credibility building, and identifying the four pillars of discipline, and prompted participants to understand their own leadership style.	

Fire Department Instructors Conference (FDIC) International	
Agency(ies)	Participant(s)
PGFD	2

Training and Exercise Program

Description
This conference provided fire and rescue professionals with the opportunity to learn directly from instructors through hands-on training and informative sessions on novel technology and platforms that are useful in a variety of different applications.

First Amendment Summit 2022 & 2023	
Agency(ies)	Participant(s)
MCPD PGPD	4 (2022) 6 (2023)
Description	
This summit provided law enforcement personnel with an overview of the intricacies of the First Amendment and how it applies to crowd management, social media, free speech, recording police activities, First Amendment auditors, freedom of religion, and First Amendment retaliation claims.	

Governors Hurricane Conference	
Agency(ies)	Participant(s)
PG OHS/EM	1
Description	
This conference provided a deep dive into hurricane planning, mitigation, response, and recovery for a multitude of organizations. Presentations and training were offered on new technology and best practices for hurricane events across the nation.	

Grant Writing Course	
Agency(ies)	Participant(s)
MDERS MC OEMHS PG OHS/EM	7
Description	
This course, created for both beginner and experienced grant writers, taught participants how to research and identify grant opportunities available for county and state agencies as well as healthcare organizations and nonprofits. Attendees were then taught how to write winning grant proposals and increase their chances of acquiring funding for future projects.	

Homeland Security Exercise and Evaluation Program (HSEEP)	
Agency(ies)	Participant(s)
MC OEMHS MCFRS MCPD MDERS PG OHS/EM Miscellaneous	23
Description	
This two-day class, sponsored and taught by MDERS team members in conjunction with PG OHS/EM personnel, explains the FEMA method for exercise development and delivery. The course ended with attendees participating in a capstone project that gave them the ability to apply the knowledge learned to a hypothetical training request from an elected official.	

Training and Exercise Program

International Association of Emergency Managers (IAEM) Annual Conference 2022 & 2023	
Agency(ies)	Participant(s)
MC OEMHS MCFRS MCPD MDERS PG OHS/EM	6 (2022) 3 (2023)
Description	
This conference engaged emergency management professionals across all levels of government and private sector organizations on contemporary topics across the emergency management enterprise.	

International Association of Fire Chiefs (IAFC) Hazardous Materials Response Teams Conference	
Agency(ies)	Participant(s)
MCFRS PGFD	3
Description	
This conference provided attendees with the latest classroom, hands-on, and field trip-based training on new advancements in the hazardous materials (HAZMAT) field, covering all aspects, including transportation, safety, weapons of mass destruction, gear, terrorism, mass decontamination, bioterrorism and more.	

Maryland Emergency Management Association (MDEMA) Annual Symposium	
Agency(ies)	Participant(s)
MC DHHS MC OEMHS MCFRS MDERS PGFD PGPD	20
Description	
This symposium gathered emergency managers, public safety personnel, and other responders from around the state to network and discuss various topics impacting the emergency management field.	

Maryland-National Capital Region Emergency Response System (MDERS) Annual Symposium	
Agency(ies)	Participant(s)
Miscellaneous	152
Description	
This annual virtual symposium, sponsored and organized by MDERS, fostered innovation and open discussion to address numerous complexities faced by emergency response organizations and the homeland security enterprise. This year's symposium included topics on climate change and its impact on critical infrastructure, pandemic response, cyber threats to public safety, rising violent extremism, and response to public order incidents and best practices regarding crowd management and safety.	

National Association of County and City Health Officials (NACCHO) Preparedness Summit	
Agency(ies)	Participant(s)
PGHD	1

Training and Exercise Program

Description
This summit engaged public health officials on a variety of topics including leadership and workforce engagement, fostering and maintaining strategic partnerships, adapting to and sustaining funding streams, data analysis, and preservation of organizational infrastructure.

National Association of Emergency Medical Services Physicians (NAEMSP) Annual Conference	
Agency(ies)	Participant(s)
MCFRS PGFD	3
Description	
This conference allowed EMS medical directors to learn from medical experts in specialized fields and enhance their knowledge of scientific and technological advancements in the EMS field. This year's conference offered participants the opportunity to attend discussions on topics such as prehospital emergency care, equity in EMS care, the role of the medical director in EMS, creating an EMS surgical plan, and a close look at several case studies.	

National Healthcare Coalition Preparedness Conference (NHCPC)	
Agency(ies)	Participant(s)
Hospitals	2
Description	
This conference provided opportunities for professionals in emergency management, healthcare coalitions, volunteer organizations, and all levels of government to advance their individual and collective skill sets by participating in over 40 sessions of content, sharing best practices, building partnerships, and interacting with the latest technology and industry leaders in the exhibit hall.	

National Homeland Security Conference (NHSC) 2022 & 2023			
Agency(ies)			Participant(s)
MC OEMHS MDERS PGHD	MCFRS PG OHS/EM PGPD	MCPD PGFD	7 (2022) 13 (2023)
Description			
This conference provided personnel from various emergency disciplines the opportunity to identify emerging homeland security threats and share new technologies to enhance operational response efforts. In both years, participants were also offered the opportunity to tour the hosting city's infrastructure installations such as their Emergency Operations Center (EOC), Department of Water Management, and communications center.			

National Hurricane Conference	
Agency(ies)	Participant(s)
PG OHS/EM	1

Training and Exercise Program

Description
This conference taught attendees how to improve their jurisdiction's hurricane preparedness, response, recovery, and mitigation efforts to save lives and preserve property in the United States and the tropical islands of the Caribbean and Pacific. In addition, the conference served as a national forum for federal, state, and local officials to exchange ideas and recommend new policies to improve emergency management.

National Preparedness Leadership Initiative (NPLI) Improving Decision-Making Virtual Program	
Agency(ies)	Participant(s)
Miscellaneous	89
Description	
This four-part, virtual interactive program introduced participants to the building blocks of sound decision-making and the tangible ways in which decision quality can be improved over time.	

National Tactical Officers Association (NTOA) Law Enforcement Response to Suicidal Subjects	
Agency(ies)	Participant(s)
MCPD	6
Description	
This one-day course was designed to educate police personnel on the legalities and challenges faced when responding to suicidal subjects. Unique perspectives and case law examples were provided to provoke discussions and facilitate talking points for participants.	

NTOA Special Weapons and Tactics (SWAT) Command Decision-Making and Leadership I	
Agency(ies)	Participant(s)
MCPD	3
Description	
This course provided SWAT team leaders with the necessary skills to effectively confront a multitude of different emergencies and prepare for every phase of the response including planning, negotiations, operational maneuvers, media engagement, and debriefs.	

Northwestern University School of Police Staff and Command (SPSC)	
Agency(ies)	Participant(s)
MCPD PGPD	10
Description	
This program offered an intensive leadership and management education program that sought to help prepare law enforcement professionals for success in senior command positions.	

Pinnacle Conference 2022 & 2023	
Agency(ies)	Participant(s)
MCFRS PGFD	4 (2022) 2 (2023)

Training and Exercise Program

Description	
This conference encouraged EMS leaders to adapt to the changing environment of emergency medical services through thought-provoking lectures and smaller educational sessions.	
Positional Shooting Clinic	
Agency(ies)	Participant(s)
PGPD	3
Description	
This course supported tactical law enforcement precision rifle shooters looking to refine their ability to tame the infamous wobble-zone, (i.e., the unintended natural movement of a weapon while aiming at a target). Participants worked on flat-range shooting from man-made structures, natural terrain features, and tripods.	
Special Operations Medical Association (SOMA) Scientific Assembly Conference	
Agency(ies)	Participant(s)
Hospitals PGFD PGPD	8
Description	
This conference enhanced the medical capabilities of special operation medical providers through lectures and educational opportunities provided by medical professionals and civilian partners.	
TacOps East Training Conference 2022 & 2023	
Agency(ies)	Participant(s)
MCPD PGPD	9 (2022) 6 (2023)
Description	
This conference provided law enforcement personnel the opportunity to obtain recertification as instructors in chemical munitions, impact munitions, and distraction devices. Attendees were also provided the opportunity to choose from additional hostage rescue and tactical leadership lectures throughout the 3-day training.	
Tomahawk Close Quarters Clearance (CQC) Methodical Clearance Baseline Course	
Agency(ies)	Participant(s)
MCPD	30
Description	
This course provided law enforcement personnel with the best practices, techniques, and procedures for close-quarter operations through simulated exercises and classroom education.	
Understanding Unmanned Aircraft Systems (UAS) Maintenance Course	
Agency(ies)	Participant(s)
MC OEMHS MCFRS MCPD MDERS PGPD	9

Training and Exercise Program

Description
This course familiarized students with the basic principles of how UAS works. The 24-hour program was comprised of a combination of maintenance theory, best practices, and hands-on application that guided students through maintenance issues from the organizational perspective to individual levels.

UAS Operator Course	
Agency(ies)	Participant(s)
MC OEMHS MCPD	3
Description	
This course was a combined ground and flight school designed to prepare students to manage and conduct UAS operations safely and effectively. The instructors worked with students to connect statewide and national policies with best practices to apply this knowledge to a variety of mission areas.	

PGPD SOD at DARC Advanced Sniper Course

Table 2: FY21Supported Exercise Activities

Law Enforcement Interoperability TTX	
Agency(ies)	Participant(s)
MCPD MDERS PGFD PGPD	17
Description	
This exercise enhanced the ability of MCPD and PGPD command staff to work together during multijurisdictional incidents. This TTX focused on the organization of the ICS structure and encouraging swift decision-making.	

Command Competency Lab Enhancement

Overview

The Command Competency Lab Enhancement Program modernized PGFD's command competency lab. This cutting-edge, in-house training environment provides an immersive training experience, enabling PGFD to develop, refine, and assess overall response competencies. By combining a robust training environment with simulations that closely mirror real-world operations, incident commanders and responders will continue to build upon the knowledge, skills, and abilities necessary to succeed when faced with challenging situations. In FY21, PGFD augmented its facility with an upgraded information technology (IT) infrastructure and equipment to create a state-of-the-art three-dimensional (3D) training environment for response personnel. This included a rendering workstation used to finalize images and 3D models, a projector, 3D glasses, and upgraded AV and visualization software. These enhancements contributed to a lifelike training setting, empowering personnel to enhance their capabilities and readiness.

Expenditures

Qty.	Description	Cost
1	Mechdyne - Mobile Solution	$19,841.94
Total		**$19,841.94**

Capability Summary

In FY21, PGFD enhanced its command-level officer training program. This focused on the establishment of an immersive in-house training environment aimed at fostering the growth, refinement, and evaluation of comprehensive competency levels. The department's commitment to progress was underscored by the acquisition of new resources during FY21. These resources served to reinforce the training facility by introducing an upgraded IT infrastructure and supplementary equipment, all of which collectively contributed to the creation of an advanced 3D training setting for response personnel.

One of the key additions during this period was a Bespoke portable virtual reality (VR) system, that integrates into PGFD's Mobile Immersive Simulation Environment (MISE) Lab. Developed as a pilot program that could support both PGFD and MCFRS training operations, this cutting-edge VR system includes an ultra-short-throw

Command Competency Lab Enhancement

laser projector, a set of twelve rechargeable digital light processing 3D glasses, a wireless tablet accompanied by peripherals, a high-performance rendering workstation, enhanced AV components, and software tailored for IT visualization. Furthermore, the package encompassed comprehensive design and integration support services, ensuring seamless implementation.

MCFRS Command Competency Lab Chief SUV

The upgraded equipment has substantially fortified the department's capacity to conceive and execute a diverse range of simulations and scenarios. By using VR, PGFD has added a new dimension to their training program, enabling command-level officers and response personnel to engage in lifelike emergency situations within a controlled, virtual environment. This innovative approach has enhanced skill development and created a safe and efficient setting to practice swift decision-making, strategic coordination, and effective communication.

Future fiscal years will see the development of MCFRS and PGFD's Command Competency Labs with further integration of VR for supervisor training.

The FY21 advancements undertaken by PGFD in its command-level officer training program have improved the department's professional development capabilities. The integration of the portable VR system and associated resources is improving the way training is conceptualized and executed. This commitment to growth emphasizes PGFD's dedication to equipping its personnel with the skills and experience necessary to excel in complex and demanding emergency situations, ultimately contributing to the safety and well-being of the community it serves.

MCFRS Command Competency Lab Engine

Stakeholders

Damage Assessment Software

Overview

The Maryland-NCR emergency response agencies are capable and ready to respond to severe weather events and other major incidents. A critical aspect of the post-impact recovery phase is the assessment of damage. Rapid and accurate evaluation of damage is vital to direct resources effectively and prioritize areas in need of immediate attention. The acquisition of damage assessment software serves as a linchpin in this process, ensuring that MC OEMHS can conduct preliminary onsite evaluations to determine the impacts on public property, infrastructure, and community lifelines after an incident. The goal of this software is to expedite response and relief operations while bolstering the quality and accuracy of information gathered. By reducing the time required for assessments, responders can quickly allocate resources where they are most needed, ultimately enhancing community recovery efforts.

Expenditures

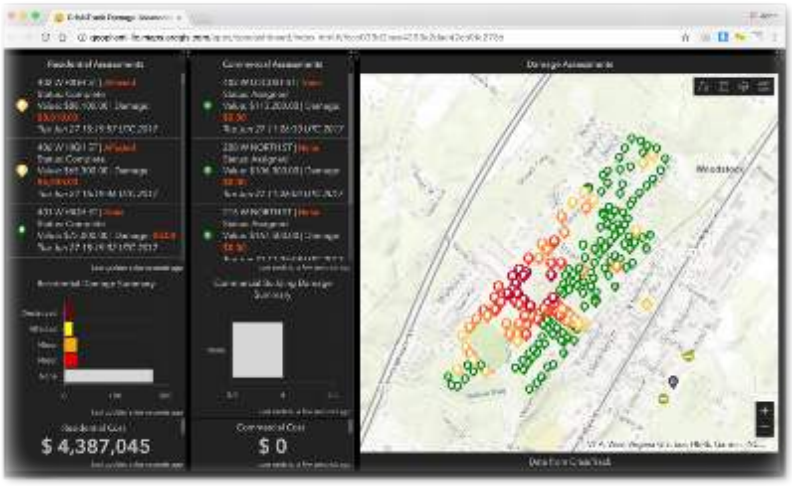
Qty.	Description	Cost
1	Juvare Crisis Track Software	$25,799.00
Total		**$25,799.00**

Capability Summary

Montgomery County advanced its emergency management capabilities during FY21 through the acquisition of Juvare's Crisis Track software. This strategic procurement helped streamline and accelerate MC OEMHS's structural damage assessment procedures and enhanced emergency manages' ability to swiftly evaluate and address the aftermath of incidents. With Crisis Track, emergency managers can comprehensively assess the damage to countywide infrastructure. The software not only facilitates this assessment process but also equips users with standardized operating procedures and exercises specifically tailored for damage assessment training. By inputting data, emergency managers can generate outputs conforming to standard FEMA forms, streamlining reporting and data management.

Crisis Track extends its impact beyond post-incident evaluations and empowers MC OEMHS staff to proactively preplan common

Damage Assessment Software



Juvare Crisis Track Software Demo

emergency management tasks, laying the groundwork for effective response in the pre-incident impact phase. A critical aspect of the software is its ability to monitor declaration thresholds, ensuring that MC OEMHS personnel are promptly alerted when the county meets specific criteria and threshold amounts for disaster declarations.

One of the software's standout features is its robust mobility and offline capabilities. Designed for field use, Crisis Track operates without the need for continuous connectivity. This allows MC OEMHS staff to efficiently gather and record damage assessments, photographs, and precise locations while operating in the field. The gathered data is then integrated seamlessly into Emergency Operations Center (EOC) reporting tools, facilitating a clear and real-time overview of disaster consequences. Beyond its internal functions, Crisis Track also plays a role in public situational awareness offering real-time disaster consequence maps that provide local officials and the general public with a dynamic visual representation of the situation. This transparency empowers officials to make informed decisions and the public to stay informed.

Montgomery County's adoption of Crisis Track marks a significant leap forward in its crisis management capabilities. The software's holistic approach, encompassing rapid damage assessment, training, proactive planning, threshold monitoring, and real-time visualization, promises to enhance the county's ability to respond effectively to emergencies. This new technology underscores the county's commitment to the safety and well-being of its residents by embracing innovative solutions that optimize emergency response efforts.

Damage from an Explosion/Fire in Gaithersburg, MD

Stakeholders

EMERGENCY MANAGEMENT AND HOMELAND SECURITY
MONTGOMERY COUNTY, MARYLAND

Emergency Management Support Montgomery County

Overview

MC OEMHS is the main source of planning for, mitigating from, responding to, and recovering from major incidents including natural and human-made disasters for Montgomery County which spans 507 square miles, and is populated by approximately 1.1 million people. MC OEMHS stands in its mission to plan, coordinate, prevent, prepare for, and protect against major threats that may harm, disrupt, or destroy communities, commerce, and institutions. MDERS supported both MC OEMHS's mission and the strategic goals and objectives for FY21 by providing the annual allocation of funds to support response capabilities. This fiscal year, MC OEMHS separated that allocation into two programs: Volunteers and Donations Management and Planning, Training, and Exercise Support.

Expenditures

Qty.	Description	Cost
N/A	Volunteers and Donations Management	$200,000.00
N/A	Planning, Training, and Exercise Support	$200,000.00
Total		**$400,000.00**

Capability Summary

This fiscal year brought a multitude of opportunities for MC OEMHS to increase support for their Volunteers and Donations Management Program. The primary goal of the Volunteers and Donations Management Program is to increase community outreach and coordination. Two contractors were hired throughout this capability to support MC OEMHS's community preparedness and community volunteer organizations such as the Community Emergency Response Team (CERT) and Community Organizations Active in Disaster (COAD).

In FY21, MC OEMHS conducted educational events on public emergency preparedness including severe weather and active assailant incidents reaching approximately 250,000 community members, including non-English speakers and those with access and functional needs, through social media and the distribution of printed materials created. MDERS

Emergency Management Support Montgomery County

MC OEMHS personnel reached approximately 250,000 community members in FY21 to increase their preparedness.

funds also helped support CERT activities including three CERT Basic Training courses in 2022 and 2023, six cardiopulmonary resuscitation (CPR)/automatic external defibrillator (AED)/first aid and situational awareness trainings for approximately 100 people, ten CERT classes, a two-day CERT conference with the NCR CERT Consortium, and numerous other outreach events.

With the funds allocated towards Planning, Training & Exercise Support, MC OEMHS added administrative support to assist with quality control measures and quarterly status reports (QSRs). These funds were also used to update the Emergency Operations Plan (EOP) which outlines the operational and functional details and needs of Montgomery County response personnel throughout the duration of an emergency. This comprehensive plan includes details on hazards that may affect the county and offers guidance and best practices for response techniques. Future allocations will provide additional support in bolstering these two programs and continuing operations to further the mission of MC OEMHS in providing emergency management services to Montgomery County.

MC OEMHS at Public Safety Day

MC OEMHS EOC during a Functional Exercise

Stakeholders

EMERGENCY MANAGEMENT AND HOMELAND SECURITY
MONTGOMERY COUNTY, MARYLAND

Emergency Management Support Prince George's County

Overview

PG OHS/EM worked closely with MDERS to support their emergency management response capabilities. PG OHS/EM's mission is to save lives, protect property, and assist the public in their time of need. PG OHS/EM is allocated a specified amount yearly from MDERS to support their emergency management agency. These allocations assist them in following their mission to increase emergency preparedness for emergency managers and civillians in the county. This past fiscal year, PG OHS/EM divided that allocation three ways for volunteer and donations management, response and recovery planning, and response and recovery training.

Expenditures

Qty.	Description	Cost
N/A	Volunteers and Donations Management	$181,736.30
N/A	Response and Recovery Planning	$173,326.50
N/A	Response and Recovery Training	$78,500.00
Total		**$432,562.80**

Capability Summary

During FY21 PG OHS/EM allocated resources to build upon their agency's response and recovery planning through the creation of their Severe Weather Plan. This plan outlines the needed and available resources to plan, respond, and recover from severe weather events across Prince George's County and highlights the various weather events that could affect the area. Additionally, PG OHS/EM allocated these funds to support the completion of their Recovery Plan, outlining best practices and instructions for each county agency to consider when recovering from various incidents. This recovery plan works to bolster the PG OHS/EM's current EOP, rounding out their planning initiatives to be both proactive and reactive.

A contracted position was funded to support Volunteers and Donations Management within PG OHS/EM. In FY21, several goals were identified and subsequently reached to increase the outreach

Emergency Management Support Prince George's County

PG OHS/EM at National Night Out

provided to residents of Prince George's County and prepare members of CERT to handle various incidents. This fiscal year, there were four adult CERT classes and one teen CERT class held to train and recruit a minimum of 500 new volunteers and prepare them to support local and regional emergency preparedness and response capabilities. Two of these classes were held in partnership with Prince George's County Public Schools (PGCPS) and had 200 participants. This position also provided support in completing six CPR/AED/first aid classes for volunteers within the county and, in April of 2023, assisted in hosting the annual spring senior preparedness luncheon. Additionally, PG OHS/EM completed three social media campaigns to reach approximately 100,000 residents and/or visitors of Prince George's County with the intention of increasing their emergency preparedness while also disseminating literature to numerous County residents advising them of vaccination sites and other community related events.

PG OHS/EM's response and recovery training initiatives during FY21 included implementing and training on their Community Lifeline Report Geographic Information System (GIS) application. This application is a platform for integrating, storing, analyzing, and sharing geographic information about community lifelines allowing data managers and analysts to address common emergency response and recovery needs through GIS. Community lifelines within Prince George's County are separated into eight categories on the application including safety and security, water systems, energy, communications, health and medical, transportation, hazardous materials, food, hydration, and shelter. This application serves as a tool for EOC analysts to manipulate, store, retrieve, and manage geospatial data to produce maps, reports, and analytic products that can be shared through other ArcGIS entities. During an emergency, this application will be used to submit community lifeline status updates on critical locations within the county. Additionally, PG OHS/EM completed a Community Lifeline Configuration Guide and Community Lifeline Application demonstration intended to provide administration and configuration details for the application.

PG OHS/EM during a FEMA TTX

Stakeholders

Emerging Homeland Security Technology Pilot

Overview

Since Fiscal Year 2020 (FY20), MDERS has allocated 5% of the annual budget towards supporting innovative solutions to meet current capability goals and address emerging threats. This allocation funds the Emerging Homeland Security Technology Pilot, also known as the Innovation Fund, which was created to provide capital to create and evaluate promising, innovative solutions to emerging homeland security challenges. These investments help provide insight and strategic direction for future investments in regional projects and, if proven effective and efficient, have the opportunity to expand into new projects and programs for stakeholders. In FY21, MDERS continued this program and allocated funds for emerging homeland security technologies that will benefit the response capabilities of fire, rescue, EMS, and law enforcement personnel.

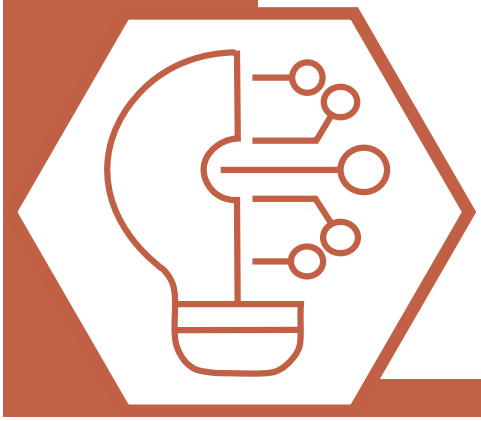
Expenditures

Qty.	Description	Cost
2	Paratech Rescue Guardian Kit (MCFRS & PGFD)	$16,158.90
28	First Arriving Digital Dashboards (MCFRS)	$14,825.90
22	K9 GPS Collars and Accessories (MCPD)	$17,777.26
10	Butterfly Monitors (MCPD & PGPD)	$37,886.42
1	Audio/Video Equipment for Command Competency (PGPD)	$19,194.71
Total		**$105,843.19**

Capability Summary

In FY21, MDERS, along with the Steering Committee and other stakeholder representatives, identified equipment and technology to procure in congruence with the Innovation Fund.

Fire and rescue personnel advocated for the procurement of a Paratech Rescue Guardian Kit to align with the structural collapse rescue strategic objective. These kits, procured for both MCFRS and PGFD, are advanced monitor and alarm systems that are integral to the tactical operations performed by fire and rescue personnel during technical rescue incidents. With this technology, technical rescue specialists can easily monitor the stability, or lack thereof, of a structure or area through any Android or iPhone device. These kits are useful in incidents involving structural collapse, vehicle stabilization, trench rescue, or stand-alone monitoring.



Personnel from MCFRS identified the need for First Arriving Digital Dashboards to be placed in stations throughout Montgomery County. These dashboards, displayed on a large TV or computer screens within the fire station, offers an innovative way for fire, rescue, and EMS

Emerging Homeland Security Technology Pilot

Safeware Butterly Monitor

personnel to acquire and maintain situational awareness for not only their incidents, but other incidents occurring within the county. With hundreds of features and integrations, this technology allows personnel to be aware of the weather, the location of ongoing calls, and background information on addresses. Another feature of the dashboards is social media integration, which pulls information from several online interfaces to provide a larger picture of an incident for incoming responders.

MCPD procured several global position system (GPS) collars for their K9 officers. These collars are connected to a mobile application that can be downloaded onto any Android or Apple device and they track the K9's location for up to 100 yards for as long as 80-hours. Not only will this decrease the risk of losing a K9 partner, but it also assists with situational awareness and safety of officers searching for an individual that the K9 has a current track on, giving real-time location updates easily relayed to the handler.

Representatives from MCPD and PGPD identified the need for field ultrasound monitors to be carried by tactical EMS (TEMS) personnel. These portable monitors easily connect to an Android or Apple device to perform on-scene patient assessment and provide law enforcement personnel with the ability to complete an ultrasound in the field. This new technology can assist personnel in performing focused cardiac assessments, lung evaluation, peripheral and central line placement, and focused assessment with sonography in trauma (FAST) exams for diagnosing internal bleeding. With this new technology, TEMS personnel can quickly assess patients on-scene and create a more effective plan for treatment prior to transportation to the hospital.

Lastly, PGPD personnel acquired AV equipment to assist in the production of training materials. This equipment will be used by staff to make training videos for their agency. These videos can bolster various response capabilities including command competency, active assailant response, and tactical techniques and best practices.

Paratech Rescue Guardian

Stakeholders

EMS Augmented Reality Training

Overview

Quality training is the key to any successful EMS credentialing program and an opportunity was provided to integrate scenario-based simulation training into EMS education programs for MCFRS and PGFD. The commitment to ongoing training in FY21 promoted greater competency and fostered skill improvement in critical areas such as patient assessment, treatment, and scene management. MDERS supported MCFRS with this initiative by funding the purchase of portable simulation software and equipment that allows personnel to train in a highly realistic, interactive, and scalable environment designed to closely simulate an actual patient encounter and replicate complex, large-scale incidents such as those involving mass casualties.

Expenditures

Qty.	Description	Cost
1	PerSim® Pro Software	$42,560.12
1	Base Equipment and Delivery	$57,329.08
Total		**$99,889.20**

Capability Summary

This project's inception was initially funded through the MDERS Emerging Homeland Security Technology Pilot in FY20, which was utilized to purchase tablets and basic training software. Building off the pilot program's success, MDERS provided additional funding in FY21 to MCFRS for the procurement of Microsoft HoloLens devices for augmented reality training and a more advanced version of the training software.

The PerSim® Pro software offers additional medical scenario options in relation to the base software including the simulation of major trauma for up to four patients simultaneously. Additionally, the pro version offers male and female models of different ethnicities and ages including neonate, infant, and school-age children. These models can be integrated into over 10,000 simulations to include high-risk, low-frequency events, such as civil disturbances and active assailant incidents. The skills practiced in the software allow for the development and enhancement of medical care, scene management, and decision-

EMS Augmented Reality Training

making skills in a comprehensive, no-fault, and safe environment.

The HoloLens device is an ergonomic, untethered holographic device created for various applications and intended for easy and accurate use. The PerSim® Pro software, coupled with the HoloLens device provides an interactive and innovative opportunity for training EMS professionals. MCFRS has begun to utilize these tools to create patient scenarios that are customizable, adaptable, and portable. Future funding would support building upon scenario-based simulation, which is a core component for preparing personnel to face complex incidents that require solid scene management skills, and expand on training for tactical medics, law enforcement, and public health personnel. Expanding this capability can be accomplished through the acquisition of additional supplies or by expanding a web-based scenario delivery system that will allow for simulations between stations, battalions, volunteers, career staff, and partner agencies in real-time without the limitations of a specific physical location. With these enhancements, MCFRS and PGFD can continue to expand this program in future fiscal years.

PerSim® HoloLens Device

The PerSim® Software has over 10,000 customizable VR simulations for EMS training.

PerSim® Demonstration

Stakeholders

EMS Mobile Clinical Competency Program

Overview

This project provided funding to acquire and equip two identical electric vehicles, enabling MCFRS and PGFD to conduct mobile emergency medical training at any location within their respective counties. Each vehicle contains medical supplies and a technology package to support the instruction of and practice of various skills such as bleeding control, airway management, and trauma management. Clinicians will be able to use these supplies on two advanced training manikins, one adult and one infant, that are designed to allow trainees to practice techniques that traditional manikins are not designed for, such as needle decompression. Each vehicle is also equipped with maintenance and set-up supplies.

Expenditures

Qty.	Description	Cost
1	Van (MCFRS)	$59,321.00
1	Van (PGFD)	$59,321.00
2	TruMan Trauma X Adult Manikin	$13,276.44
2	TruBaby X Infant Manikin	$13,818.80
N/A	Medical Supplies	$27,189.94
N/A	Office Supplies	$672.30
Total		**$173,599.48**

Capability Summary

There are over 4,000 career and volunteer EMS providers across both MCFRS and PGFD. Each provider is required to participate and take continuing education on an annual or tri-annual basis to maintain their skills. Historically, each provider has had to report to their respective training academies to complete this training.

To assist with continued training, the EMS Mobile Clinical Competency vans provide greater flexibility for training by allowing for continued education at the station or battalion level. This has reduced the burden of "detailing" or assigning in-service units to the academy to participate in required training. In addition to continuing education, the vans were used for annual protocol updates, remedial training, and the introduction of new equipment. Each van is equipped with an information technology package designed to allow instructors to access learning materials and display and present information. This provides EMS with the ability to access and present all pertinent data

EMS Mobile Clinical Competency Program

TruMan Trauma X Manikin

in one location, enabling easier access and faster decision-making. These vans also include a portable speaker system which is intended for communicating with larger audiences in training settings. Also, a laptop was provided with presentation software for displaying information.

The training supplies procured include trauma treatment equipment such as splints, tourniquets, and bandages; respiratory treatment equipment such as airway adjuncts, intubation kits, and suction units; and training manikins. Each jurisdiction was provided one TruBaby X manikin and one TruMan Trauma X manikin. Both manikins are extremely detailed and allow clinicians to practice advanced techniques that normal manikins are not designed for such as needle decompression, surgical airways (cricothyroidotomy), intravenous (IV) insertion, and intubation. This new training equipment provides EMS personnel with an opportunity to practice and perfect their skills in a low-stress, no-fault environment on manikins intended to challenge their knowledge and ability.

The TruBaby X and TruMan Trauma X manikins allow for training on complex EMS techniques.

Additional medical and training supplies were provided to stock these vans, including hemorrhage control bandages, Special Operations Force (SOF) tourniquets and holders, structural aluminum malleable (SAM) splints, various bandages, manikin supplemental equipment, intubation trainers, and rapid response bags.

Mobile Clinical Competency Van

Stakeholders

Incident Command Simulation

Overview

In partnership with the Uniformed Services University (USU) Val G. Hemming Simulation Center (Simcenter), MCFRS and PGFD personnel developed a virtual reality simulation software and hardware tools. These tools will allow MCFRS and PGFD to establish and utilize the incident command system in a controlled training setting and learn to coordinate response operations for all-hazards events. This technology will be deployed in fire, rescue, and EMS stations in Montgomery and Prince George's Counties. The Simcenter, in collaboration with MDERS, PGFD, and MCFRS, is researching and developing a training capability involving the use of immersive training scenarios to be deployed at remote command sites. The training capability will include 3D environmental modeling, software development, training scenario and content development, training delivery, and after-action reviews.

Expenditures

Qty.	Description	Cost
1	Personnel - 3D MedSim Designer	$82,000.00
1	Personnel - 3D Modeler	$62,000.00
1	Personnel - Animator	$52,000.00
1	Travel & Site Visits	$4,000.00
Total		**$200,000.00**

Capability Summary

During FY21, the Simcenter achieved a significant milestone by creating its inaugural immersive virtual reality simulation for integration into the MISE immersive mobile 3D training environment. This innovative step forward signifies a strong development in training methodologies. Designed to be a streamlined and adaptable version of the Wide Area Virtual Environment (WAVE) Lab, MISE aims to extend the reach of valuable training opportunities to a wider array of local responders. At the core of this advancement is a scenario that replicates a residential house fire. This scenario is a testament to the stakeholder's commitment to creating realistic and practical training experiences. Through networked, real-time technology, the scenario effectively engages multiple tiers of the emergency response hierarchy, encompassing fire, rescue, and EMS personnel at various levels of expertise and responsibility.

The immersive nature of the simulation encourages a comprehensive exercise of cross-duty, role, and hierarchical coordination. This means that participants are exposed to the challenges of collaboratively managing and responding to a complex incident. The scenario goes beyond individual skill assessment, fostering the development of

Incident Command Simulation

Incident Command Simulation Proof of Concept

teamwork, communication, and effective decision-making among team members. By replicating a residential house fire scenario, the simulation creates an authentic training environment that allows participants to refine their actions and strategies in a controlled setting.

The integration of this scenario within the MISE immersive mobile 3D training environment amplifies its impact. This setup, designed to be more agile and accessible than larger-scale training labs, ensures that local staff can easily access training that enhances the preparedness and capabilities of a broader spectrum of personnel, contributing to a more resilient and responsive emergency response network.

The immersive virtual reality scenario marks a significant advancement in training methodologies. By leveraging cutting-edge technology, networked simulations, and an authentic scenario, the Simcenter has created a powerful tool for enhancing coordination, teamwork, and decision-making among emergency response teams. This initiative reflects a dedication to innovative training solutions that can drive significant improvements in overall emergency response effectiveness, ultimately benefiting the safety and well-being of the communities served.

Simulation Proof of Concept

Stakeholders

Law Enforcement Specialized Vehicle Enhancements

Overview

With the assistance and support from MDERS, MCPD identified the need for vehicle enhancements that allow for more effective and efficient response to high-priority, low-frequency events such as active violence incidents and barricaded individuals. This equipment, meant to improve their capability for special response operations, ensures that they have the necessary tools for the safety of their command staff, police officers, and civilians on scene during an incident. In FY21, MDERS procured a special operations van and additional equipment to be stored in the van and in their existing command bus to assist MCPD respond to intricate threats.

Expenditures

Qty.	Description	Cost
1	Special Operations Van	$78,631.00
1	Video Switch - Command Post	$110,058.46
N/A	Barriers and Barrier Trailer	$74,790.54
Total		**$263,480.00**

Capability Summary

Procuring additional equipment for the safety of stakeholders is a major goal of MDERS. To achieve this goal, MDERS supported MCPD with the procurement of a new vehicle and new equipment to support deployment of personnel to potentially complex and large-scale events. First, MDERS procured a Special Operations Van for the Special Operations Division's (SOD) use during their tactical operations. This van is beneficial in allowing for additional room for tactical equipment, officer safety equipment, and technology. Additionally, MDERS purchased a video switch for the command post which increases technology capabilities while operating on the command bus. This technology offers MCPD the ability to easily connect with other partners such as MCFRS during an incident where Unified Command may be established. Using this technology will ultimately help the Incident Commander make more informed and effective decisions for the betterment of the mission.

Law Enforcement Specialized Vehicle Enhancements

MDERS also assisted in the procurement of additional barriers and a barrier trailer for tactical operational use during events such as public order. These barriers, used for crowd management, provide MCPD personnel with the ability to easily prohibit or alter access to certain areas during an incident involving large groups of people. The modular and lightweight barriers can be constructed by a single officer and are rated to stop a vehicle weighing up to 7.5 tons. Additionally, these barriers can also be equipped with flashing lights to increase visibility.

Special Operations Van

The modular and lightweight barriers can stop a vehicle weighing up to 7.5 tons.

The trailer procured is intended to store the barriers when not in use and allows for easier access and better response mobility. With the utilization of the barrier trailer, MCPD can ensure their barrier resources respond more quickly to an evolving incident. The equipment works towards keeping officers and members of the public safe during low-frequency, high-priority incidents. With this new equipment, MCPD has added to their capability to respond to tactical operations effectively and efficiently such as barricaded individuals, public order incidents, or active violence incidents.

Barriers and Barrier Trailer

Stakeholders

Mass Casualty Incident Response Support

Overview

The Mass Casualty Incident Response Support capability has been continuously supported by MDERS for law enforcement, fire, rescue, and EMS, hospital, public health, and emergency management stakeholders within Montgomery and Prince George's Counties. In recent fiscal years, equipment and training were funded through this program to support the development of response capabilities to these high-priority incidents, including the purchase of a medical supplies transport truck in FY20. This fiscal year, MDERS bolstered mass casualty incident response support by allocating funds for the resupply of existing equipment caches and procurement of new equipment that increases the medical response and survival rate of victims.

Expenditures

Qty.	Description	Cost
N/A	TECC Supplies/Equipment (MCFRS)	$99,319.97
N/A	TECC Supplies/Equipment (PGFD)	$169,999.82
5	LUCAS Devices (MCFRS)	$140,290.69
Total		**$409,638.83**

Capability Summary

In FY21, MDERS procured Tactical Emergency Casualty Care (TECC) supplies and equipment for both MCFRS and PGFD to replenish their current inventory and expand this capability. TECC is a non-military adaptation of the military's Tactical Casualty Combat Care (TCCC) which establishes a framework to balance the potential risks and benefits of medical response and provides guidance on medical intervention for preventable deaths during warm/hot zone operations. The TECC items procured included supplies for treating severe bleeding, such as hemostatic dressings and tourniquets; supplies for treating and managing airway and respiratory issues, such as chest seals, decompression needles, and airway adjuncts; supplies to treat traumatic musculoskeletal injuries, such as splints; and patient movement devices.

Mass Casualty Incident Response Support

Additionally, funding was provided to procure five LUCAS CPR mechanical devices. A LUCAS device is a deployable machine that provides consistent chest compressions for individuals who have suffered a cardiac emergency. LUCAS devices also allow for defibrillation during chest compressions. Not only do LUCAS devices offer a reprieve for EMS personnel in doing manual CPR, but they also increase the likelihood of survival for the victim by 25% without damaging the body any further than manual CPR would. Studies also show that those who achieve return of spontaneous circulation (ROSC) after using a LUCAS device are more likely to have a better neurological outcome 6 months post-incident.

LUCAS 3 Device

This additional funding enabled MCFRS to upgrade their LUCAS 2 models to LUCAS 3 models. Compared to the LUCAS 2, the LUCAS 3 is programmable and easier to maintain, provides an auditory reminder to providers to ventilate the patient and check for a pulse, and auto-adjusts the suction compressor to the patient. These improvements minimize confusion and delays in CPR. Each LUCAS device is equipped with accessories such as chargers, a durable storage case, and extra batteries. These supplies procured for MCFRS and PGFD increase the capacity for them to respond to mass casualty incidents and also bolster their day-to-day response. As the threat of these incidents continues, support will be provided to construct new and innovative techniques to prepare, mitigate, respond, and recover from mass casualty incidents within the Maryland-NCR.

The LUCAS 3 device increases survivability rate by 25%.

Stakeholders

TECC Kit

Public Access Bleeding Control

Overview

The Public Access Bleeding Control Program, also known as Public Access Trauma Care (PATC), was developed by MDERS in 2018 to provide civilians with the requisite knowledge, skills, abilities, and equipment to treat life-threatening injuries in Montgomery and Prince George's Counties. The PATC program deploys readily accessible trauma care kits in specially marked cabinets to schools, government facilities, and other public areas. These kits are designed to allow civilians to treat life-threatening bleeding, penetrating trauma, hypothermia, and other threatening injuries prior to the arrival of medical professionals. The PATC kits are placed in cabinets at each location that are adorned with stickers to clearly identify the purpose of the materials within them. When opened, an alarm is triggered and emits an audible siren to alert nearby individuals that a medical emergency is occurring. In FY21, the program expanded equipment distribution and training opportunities in both Montgomery and Prince George's counties.

Expenditures

Qty.	Description	Cost
300	5-Pack Kits	$87,126.00
1000	Bleeding Control Signs	$16,650.00
1500	Trauma Sheers	$8,040.00
19	Training Cache (PGPS)	$50,171.21
Total		**$161,987.21**

Capability Summary

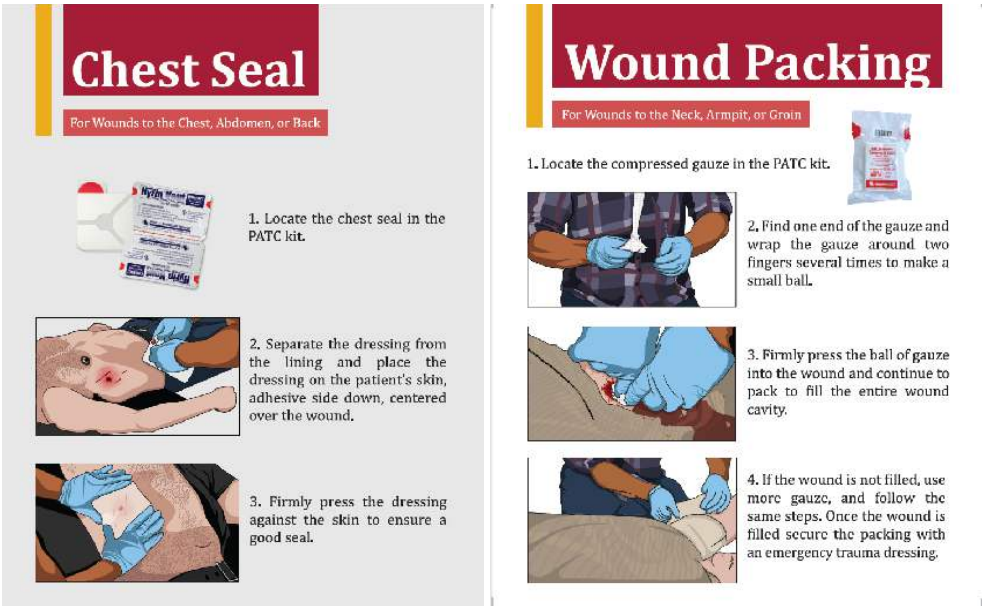
In FY21, PATC five-pack kits were placed at Montgomery College's central office and Rockville, Germantown, Takoma Park/Silver Spring Campuses, all PGCPS high schools, Prince George's County government buildings, the Universities at Shady Grove, and the University of Maryland Global Campus facilities in Montgomery and Prince George's counties. These additions increased the amount of PATC five-pack kits deployed in the Maryland-NCR by 300, enhancing the response capability for stakeholders, residents, and visitors of the Maryland-NCR.

The placement of the PATC kits in PGCPS high schools also involved the procurement of a PATC training cache that will allow instruction of these life-saving techniques to students in classrooms. The training cache consists of 84 durable and easily transportable training bags with the same equipment found in each PATC kit. Each bag consists

Public Access Bleeding Control

PATC Training Cache

of fifteen (15) tourniquets, fifteen (15) elastic bandages, fifteen (15) gauze bandages, fifteen (15) 2-pack chest seal trainers, ten (10) wound cube simulators, three (3) emergency trauma dressings, cloth tape, a quick litter, two (2) emergency blankets, two (2) shears, two (2) 2-packs chest seals, two (2) rolls of compressed gauze, two (2) pairs of medical gloves, two (2) sharpie markers, two (2) mini duct tape rolls, and a sealed PATC kit. In FY21, MDERS also finalized and printed PATC instructions cards and PATC posters. The instruction cards and posters provide visual and written instructions on how to utilize each item within a PATC kit. In future fiscal years, MDERS team members will provide additional in-person PATC training to civilians and stakeholder agencies and continue to install PATC kits in various public buildings in the Maryland-NCR.



PATC Instruction Cards

Stakeholders

Prince George's County OEM Office of Emergency Management — Creating Resilient Communities

Emergency Management and Homeland Security — Montgomery County, Maryland

Public Health Emergency Response Montgomery County

Overview

MC DHHS is responsible for administering and coordinating Montgomery County's Medical Reserve Corp (MRC), also known as Maryland Responds, to respond to public health events. Within Montgomery County, these volunteers work to bolster public health, improve emergency response capabilities, and build resiliency within the community. The Maryland Responds Coordinator is responsible for the oversight, recruitment, training, exercising, and deployment of volunteers as well as the development of emergency plans and protocols to better prepare its members. In FY21, MC DHHS hired a contractor to provide Montgomery County with full-time Maryland Responds Coordinator support. During the fiscal year, the MRC had 1,002 individual volunteer deployments and training covering a wide array of public health emergency response disciplines, encompassing over 3,000 volunteer hours.

Expenditures

Qty.	Description	Cost
1	Medical Reserve Corps (MRC) Coordinator	$90,001.14
Total		**$90,001.14**

Capability Summary

Maryland Responds volunteers provide invaluable logistical support, medical expertise, and other critical functions in support of response efforts to public health crises and other emergency situations. During FY21, the Medical Reserve Officer (MRO), also known as the Maryland Responds Coordinator, and members partnered with health and medical officials to continue vital efforts in COVID-19 testing, vaccination, and administrative duties. Volunteers supplemented the county's COVID-19 vaccination and testing teams, helping with registration, scribe work, and vaccinations at county-run clinics.

Beyond COVID-19 efforts, volunteers participated in multiple public health events and volunteer deployments to inform people about public health initiatives and provide basic healthcare measures. Volunteers were used at several community events throughout the year and provided interjurisdictional support for Prince George's County during public health outreach engagements. MRC volunteers

Public Health Emergency Response Montgomery County

MC DHHS Stop the Bleed Training

were also deployed to assist the county's Public Health Emergency Preparedness and Response (PHEPR) team with their Community Assessment for Public Health Emergency Response (CASPER) study, where they conducted interviews with community members to gauge their emergency preparedness and collect important demographic data.

Maryland Responds participated in a variety of public health response operations to provide critical support to residents in need. MRC volunteers supported shelter operations by providing medical and general staffing support. There were several instances in which the volunteers were able to provide support to displaced families after fires affected their homes. These volunteers administered financial assistance to the families and provided their own time and efforts assisting at disaster assistance centers distributing supplies and providing necessary services. This emergency response work highlights the diverse capabilities of the MRO, and Maryland Responds to strengthen public health efforts.

The Montgomery County Maryland Responds team trained multiple volunteers in various skills throughout FY21. Some of the training involved using the Maryland Responds database to verify and/or remove responders, increasing shelter operations skills, and CPR/AED/first aid, Stop the Bleed, and naloxone training. Not only did the volunteers train throughout the year, but the MRC coordinator attended two conferences: the NACCHO Preparedness Summit and the MDEMA Annual Symposium and at both events they delivered a presentation on best practices for public health volunteer utilization during emergency response efforts.

MC DHHS CPR/First Aid/BLS Training

Stakeholders

DHHS
MONTGOMERY COUNTY
Department of Health and Human Services

Public Health Emergency Response Prince George's County

Overview

Prince George's County Health Department (PGHD) is responsible for the administration and coordination of Prince George's County's MRC, also known as Maryland Responds, to respond effectively to public health events. The MRC is a national framework of volunteers focused on improving the health and safety of the local jurisdiction in which they are organized. Under the guidance of the MRO the Prince George's County Maryland Responds volunteers work to strengthen public health, improve emergency response capabilities, and build resiliency within the community. The Maryland Responds Coordinator is responsible for the oversight, recruitment, training, exercising, and deployment of volunteers, as well as the development of emergency plans and protocols to better prepare Maryland Responds members. During FY21, the Prince George's County MRC engaged in over 150 individual volunteer deployments and organizational training covering a wide array of public health emergency response disciplines, encompassing over 2,300 volunteer hours. Due to the help of MRC volunteers, the county saved over $70,000 relating to public health operations during the fiscal year.

Expenditures

Qty.	Description	Cost
1	Medical Reserve Corps (MRC) Coordinator	$98,729.09
Total		**$98,729.09**

Capability Summary

Volunteers of Maryland Responds provide logistical support, medical expertise, and other critical functions to support response efforts to public health issues and emergency situations. During FY21, the MRO and Maryland Responds members partnered with health and medical officials to continue vital efforts in COVID-19 testing, vaccination, and administrative duties. Throughout the year, medical and non-medical MRC volunteers supported COVID-19 vaccination and testing operations at one of the county health facilities in Hyattsville. Beyond COVID-19 response and recovery efforts, volunteers engaged in numerous public health emergency response deployments in response to the monkeypox (mpox) outbreak. In mid to late 2022, non-medical volunteers assisted with administrative duties in contacting medical facilities that were prepared to accept and treat mpox patients. Throughout the fiscal year, volunteers assisted the health department's

Public Health Emergency Response Prince George's County

PGHD COVID-19 Testing Site

Communicable and Vector-Borne Disease Control (CVBDC) program with tracing efforts in contacting monkeypox and rabies patients as well as data collection and entry. Maryland Responds participated in a variety of community engagement activities and volunteer deployments to inform people about public health initiatives and provide basic healthcare measures. This critical outreach work highlights the diverse capabilities of the MRO and Maryland Responds to strengthen public health efforts.

Planning and executing Maryland Responds deployments required training to ensure effective responses to public health emergencies. In spring 2023, volunteer nursing students from the Catholic University of America received clinical training on administering vaccines in the Prince George's County Health Department immunization clinic. Volunteers also participated in the Maryland State Health Department-sponsored CPR/AED/basic life support (BLS) course. Volunteers were trained and certified in CPR, AED, and basic life-saving techniques. The volunteers received a two-year training certificate, and online training materials. These training efforts prepared volunteers to serve in a variety of different roles to support public health efforts and other critical services.

PGHD COVID-19 Care Food Pickup

Stakeholders

HEALTH DEPARTMENT
Prince George's County

Small Unmanned Aerial Systems Montgomery County

Overview

Drones, also known as sUAS, are new and innovative tools that are being utilized by response agencies to bolster operations. These platforms can be used in a variety of situations including responding to police incidents, damage assessments after severe weather events, assessments of structures that may be unstable for responders and many more. These portable and innovative instruments have the potential to become essential tools for response to emergency incidents. Within Montgomery County, sUAS is used by MCPD, MCFRS, and MC OEMHS to enhance situational awareness and bolster responder safety. The intent is to enhance effective decision-making during any deployment of first responders.

Expenditures

Qty.	Description	Cost
1	Drone Sense Software (MC OEMHS)	$7,500.00
N/A	Accessories (MCFRS)	$9,353.85
Total		**$16,853.85**

Capability Summary

During FY21, situational awareness was increased for stakeholders within Montgomery County as a result of adopting sUAS response techniques. With the purchase of DroneSense software for MC OEMHS, their personnel gained heightened situational awareness before, during, and after a disaster. This software offers first responders the knowledge regarding the location of, extent of, and danger of hazards while engaging in response operations which contributes to a decrease of risk to life and safety. sUAS for emergency managers can be used for safer damage assessment and evaluation of large areas that may have been affected by hazards such as severe weather or wildfires.

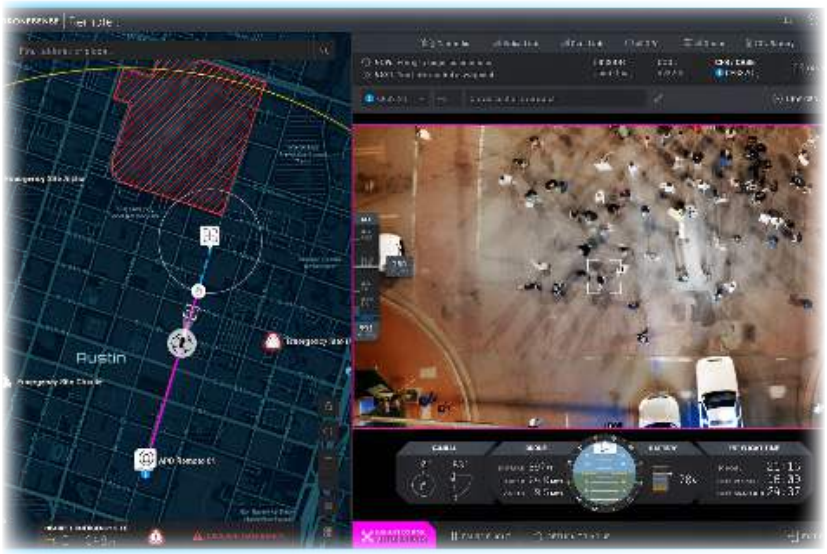
sUAS can be helpful for police departments to search and track potential suspects in a safe and quick manner before the deployment of other aerial assets. Specifically, MCPD does not have a designated helicopter for their jurisdiction, making the use of sUAS invaluable

Small Unmanned Aerial Systems
Montgomery County

Intelligent Flight Battery Portable Charging Station

to law enforcement functions and tactical operations. sUAS can also be deployed during active violence incidents to gain and sustain situational visibility. This allows officers to maintain safe and advantageous tactical positions without compromising their safety and the operation. Additional accessories procured for Montgomery County response stakeholders included intelligent flight batteries and portable charging stations.

MCFRS is currently in the planning phase of their sUAS program, outlining the requirements and utilization of sUAS in fire, rescue, and EMS operations. Although the need for this technology has been identified, they are in the early stages of policy writing to determine the beneficial aspects of sUAS and operational requirements. Some benefits of utilizing sUAS may include search and rescue and technical rescue operations, assessments of large-scale incidents for increased responder safety and enhanced situational awareness. Although no additional equipment was procured for MCFRS, future fiscal years will see growth in their sUAS program and training.



Drone Sense Software Demo

Stakeholders

MONTGOMERY COUNTY, MARYLAND

Small Unmanned Aerial Systems
Prince George's County

Overview

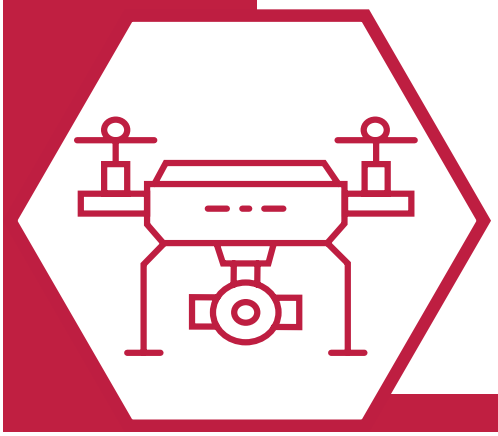
This program, initially started in 2018, was created to increase response capabilities to incidents for MDERS stakeholders within law enforcement, fire, rescue, and EMS, and EM. The acquisition of sUAS platforms will bolster the situational awareness of Prince George's County response agencies to allow for effective response to various incidents including active violence, structural collapse, and severe weather. In FY21, MDERS built upon the sUAS capability of PGPD with additional training and equipment to further enhance their ability to respond to incidents in a new and innovative way. PGPD continues to use these devices as a tool for enhanced situational awareness and officer safety, establishing the technology as a future necessity for law enforcement agencies.

Expenditures

Qty.	Description	Cost
N/A	Training (Terrestrial Imaging)	$35,938.00
1	Blend Video Kit	$20,095.00
1	Van Awning	$1,725.00
1	Van Magnet	$349.00
N/A	Terrestrial Imaging Components	$16,593.00
Total		**$74,700.00**

Capability Summary

PGPD leads this program and receives continuous training on the use of sUAS and if needed can deploy to assist other county agencies. During FY21, MDERS assisted PGPD in increasing their efficiency and effectiveness while using sUAS. MDERS provided training opportunities to law enforcement sUAS personnel through Terrestrial Imaging, allowing them to attend an online course that increases their ability to use their sUAS equipment. Additionally, MDERS provided stakeholders with the ability to attend other seminars and trainings aimed at increasing their sUAS capabilities. These trainings covered the process of flying the sUAS in different settings and times of day, along with testing their ability to review various built-in features meant for increasing safety and situational awareness.



The blend video kit procured by MDERS for Prince George's County stakeholders includes more features for those using the equipment. These features add overlays to the video allowing stakeholders

Small Unmanned Aerial Systems Prince George's County

Van Awning

to assess aspects of the area's geographical composition, such as distance and elevation. This can be extremely helpful in many scenarios involving fire and rescue, police, and emergency management response partners. PGPD maintains a van that is utilized for sUAS operations and with the addition of the van awning and van magnet, which provides a stable and attached location on the top of the van for sUAS operations, MDERS stakeholders now have the capacity to easily deploy drones from a safe and consistent spot during all operations. With the addition of these accessories and trainings, Prince George's County stakeholders can use these tools and the sUAS for a multitude of response operations, including active violence incidents, fire and rescue operations, and damage assessment post-severe weather.

Additionally, MDERS procured other Terrestrial Imaging components including Intelligent Flight batteries for the DJI Matrice 200 series and DJI WB37, DJI Matrice quick release propeller parts, DJI Phantom 4 Series low-noise quick-release propellers, and a Cytop MP130 speaker. One of the more promising technologies within this procurement is the DJI Zenus L1 Lidar for the Matrice 300 RTK, which attaches to the drone, providing real-time 3D data and efficiently captures details of complex structures and delivers highly accurate reconstructed models. These items procured come together to create an enhanced mobile response tool for incidents of all kinds.

Cytop MP130 Speaker and DJI Zenmuse L1 Lidar

Stakeholders

Tactical Equipment for Law Enforcement Montgomery County

Overview

In recent fiscal years, MDERS had the opportunity to work closely with law enforcement stakeholders to increase their officer safety, situational awareness, and response capabilities during high-priority incidents such as public order/crowd management, active assailants, and barricaded individuals. Each year, new challenges and threats to public safety arise, forcing law enforcement personnel to identify solutions which may require additional training, equipment, and technology. During FY21, MDERS continued to support MCPD by providing additional tactical equipment for their personnel to utilize in critical and complex response operations.

Expenditures

Qty.	Description	Cost
97	Public Order PPE Kits	$69,433.57
Total		**$69,433.57**

Capability Summary

Public order incidents are made up of those events in which the actions of a large number of people interrupt the daily lives of those around them. These can include unlawful assembly, riots, and large planned or unplanned events in which crowd management is crucial for the safety of the public. Law enforcement personnel are the first line of defense during public order/crowd management events and are responsible for the safety of civilians and personnel involved. In recent years, national standards for officer safety equipment during these events have mandated thin, flimsy gear that was not bulletproof and covered small areas, exposing many officers to potentially major injuries. As the likelihood of public order incidents increase, our nation's emergency responders must enhance their safety and ensure that they are fully prepared to respond to these events.

Tactical Equipment for Law Enforcement Montgomery County

To ensure officer safety during response efforts for public order, MDERS provided funding for supplemental public order PPE kits. These kits were purchased to replace and enhance the current kits that MCPD possesses. Not only can these kits be beneficial during public order response, but they can also assist in increasing officer safety during other incidents such as barricades and active assailants. These kits include full body equipment, covering the officer from head to toe with additional padding and plates, a helmet, boots, a tactical jacket and pants, OPS-Core Special Operations Tactical Respirators (SOTRs), SOTR filters, protective eyewear, OPS-Core communications headsets, and decontamination rinse kits. Additionally, these kits can be useful in protecting law enforcement personnel during other possibly dangerous events by providing them with the protective equipment necessary to respond to and address incidents in environments which may be hazardous due to chemical and biological contaminates. The equipment supplemented in FY21 for these kits was armor and padding for personnel's arms and legs meant to assist in the protection of MCPD officers and to bolster their ability to protect and serve the community.

Protective Eyewear found in Public Order PPE Kits

Public Order PPE Ensemble

Stakeholders

Tactical Equipment for Law Enforcement Prince George's County

Overview

MDERS supported the procurement of tactical equipment for PGPD to utilize in critical and complex response operations. Every year brings new challenges and threats to public safety, forcing law enforcement personnel to identify new equipment, technologies, and training to bolster their response capabilities. To support this effort, MDERS acquired tactical equipment for PGPD to increase their safety and preparedness for high-priority incidents, including barricaded individuals, active assailants, and public order.

Expenditures

Qty.	Description	Cost
N/A	TEMS Extraction Kits	$3,983.50
3	Thermal Breaching Kits	$24,219.23
1	Raid Van	$96,514.82
N/A	Public Order PPE Misc. Gear	$54,931.47
Total		**$179,649.02**

Capability Summary

In FY21, MDERS procured TEMS extraction kits for PGPD to further train their PGFD partners during Rescue Task Force (RTF) operations. These operations are intended to prepare law enforcement and fire, rescue, and EMS personnel for joint response to major incidents which require triage and patient extraction in "warm" zones. The temperature of zones, identified by law enforcement personnel, signify the safety of the scene for fire, rescue, and EMS personnel. These zones can be either hot (active threat and area is not secure), warm (active threat but the area is secure), or cold (no active threat and the area is secure). RTF training focuses on victim/patient treatment and triage in "warm" zones, aiming to treat and transport patients faster than they would if they waited for the zone to be "cold."

The TEMS extraction kits are packed with tools intended for enhanced extraction techniques. These kits, also known as Rapid Access Casualty Extraction (R.A.C.E.) Subterranean (Sub-T) kits are

Tactical Equipment for Law Enforcement Prince George's County

designed for a variety of vertical operations within different environments and are easily adaptable to carry additional PPE, helmets, gloves, and other hardware. These kits include various tools meant for swift extraction during major incidents where there are multiple victims. The contents of these kits include several carabiners, ropes, pulleys, slings, and other equipment that is useful for victim/patient extraction. They also come in a multi-camouflage nylon bag with an instruction card indicating the proper use of the adaptable vertical response rack (A-VRR) kit provided.

R.A.C.E Kit

Thermal breaching kits were also provided which include an exothermic torch for breaching operations and offer additional assistance during tactical operations for barricades and active violence incidents. Prior to procurement of these kits, PGPD only had one kit which was not readily deployable. The procurement of these kits allows for more officers to carry these systems which will ensure it is available for an incident. The procurement also included an eight-hour training course on the use of tools found inside the kits.

A raid van was also procured for PGPD, allowing all their essential tactical equipment to be in one easily accessible location that can be deployed when necessary. Public order PPE was provided for PGPD to supplement kits that were previously purchased in FY20 to include additional protective eyewear, additional OPS-Core SOTR filters, OPS-Core communications headsets, decontamination rinse kits, tactical pants and jackets, and tactical padding kits.

Raid Van

Stakeholders

POLICE PRINCE GEORGE'S COUNTY

Technical Rescue Vehicle

Overview

A strategic goal of MDERS is to increase the response capability of fire, rescue, and EMS agencies in the Maryland-NCR to respond to structural collapse incidents. Structural collapse response is a subset of special operations that are performed by MCFRS and PGFD. These operations, also known as technical rescue, include water rescue, HAZMAT response, confined space rescue, and high-angle rescue. In FY21, MDERS worked closely with MCFRS and PGFD to identify gaps in their technical rescue response as it relates to structural collapse. To assist in filling these gaps, MDERS supported the procurement of a technical rescue vehicle to be used by MCFRS and additional technical rescue training for both agencies.

Expenditures

Qty.	Description	Cost
1	Technical Rescue Vehicle	$844,000.00
N/A	Technical Rescue Training	$75,990.00
Total		**$919,990.00**

Capability Summary

To increase the response capability to various technical rescue incidents, MDERS assisted MCFRS with identifying their response needs and procured a tractor-drawn technical rescue vehicle. This technical rescue vehicle procurement has two major components, the trailer, and the tractor. This trailer, measuring at 36 ft. was created by Emergency Vehicle Inc. (EVI), specifically for MCFRS's technical rescue needs. Prior to this trailer, MCFRS's technical rescue equipment was dispersed throughout the three technical rescue companies in the county and were stored within trucks similar to rescue squads (a specialized vehicle designed to transport and provide equipment necessary for technical rescue). MDERS and MCFRS identified the difference between using a tractor-drawn trailer versus an average technical rescue vehicle like a rescue squad or rescue engine and noted the increased benefits in mobility and long-term maintenance costs.

Technical Rescue Vehicle

With a tractor-drawn trailer, MCFRS has the ability to utilize the tools inside the trailer even when the tractor is out of service. This new equipment allows fire/rescue personnel to easily maneuver the trailer and attach it to a vehicle and swiftly respond to any technical rescue incident within and outside of the county. This trailer provides 50% more storage than MCFRS had available to them for technical rescue equipment and technology, allowing them to grow their current cache and bolster their ability to provide rescue services. This brand-new tractor-drawn trailer will decrease long-term maintenance costs for associated technical rescue vehicles as it can be easily attached and detached to any working, appropriately sized vehicle and will also decrease the amount of out of service time the technical rescue team sees. As this is a brand-new vehicle, annual maintenance costs will be primarily for upkeep and continuance of the vehicle and major associated costs will come later down the road.

Technical Rescue Trailer

Additionally, MDERS supported technical rescue training for MCFRS and PGFD technicians to increase their ability to respond to structural collapse incidents. This structural collapse specialist course, which is FEMA approved, provides technicians with the knowledge, skills, and abilities to perform rescues at a structural collapse scene due to man-made and natural hazard disasters. During the eight-day course technicians had the opportunity to practice skills such as interior and exterior shoring, breaching, and breaking, lifting, and moving techniques, and trained with local crane operators. In the next fiscal year, MDERS will continue to work closely with MCFRS and PGFD to provide additional training along with conducting a table top and full-scale exercise for structural collapse.

Structural Collapse Specialist Course September 2022

Stakeholders

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APPENDICES

EMERGENCY RESPONSE SYSTEM
MARYLAND
NATIONAL CAPITAL REGION

Appendix A: Abbreviations

Abbreviations	
3D	Three-Dimensional
AED	Automatic External Defibrillator
AHEPP	Association of Healthcare Emergency Preparedness Professionals
ALERRT	Advanced Law Enforcement Rapid Response Training
ATSCC	Assessment and Training Solutions Consulting Corporation
AV	Audio/Visual
A-VRR	Adaptable Vertical Response Rack
BLS	Basic Life Support
CASPER	Community Assessment for Public Health Emergency Response
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosives
CDP	Capability Development Plan
CERT	Community Emergency Response Team
COAD	Community Organizations Active in Disaster
CONTOMS	Counter Narcotics and Terrorism Operational Medical Support
COVID-19	Coronavirus Disease 2019
CPG	Comprehensive Preparedness Guide
CPR	Cardiopulmonary Resuscitation
CQC	Close Quarters Clearance
CVBDC	Communicable and Vector-Borne Disease Control
DARC	Direct Action Resource Center
DHS	Department of Homeland Security
ELI	Executive Leadership Institute
EM	Emergency Management
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ERS	Emergency Response System
EVI	Emergency Vehicle Inc.
FAST	Focused Assessment with Sonography in Trauma
FBI	Federal Bureau of Investigation
FDIC	Fire Department Instructors Conference
FEMA	Federal Emergency Management Agency
FY20	Fiscal Year 2020
FY21	Fiscal Year 2021
FY22	Fiscal Year 2022

GIS	Geographic Information System
GPD	Grant Programs Directorate
GPS	Global Positioning System
HAZMAT	Hazardous Materials
HSEC	Homeland Security Executive Committee
HSEEP	Homeland Security Exercise and Evaluation Program
IAEM	International Association of Emergency Managers
IAFC	International Association of Fire Chiefs
ICS	Incident Command System
IT	Information Technology
LEEDA	Law Enforcement Executive Development Association
LUCAS	Lund University Cardiac Arrest System
Maryland-NCR	Maryland-National Capital Region
MC DHHS	Montgomery County Department of Health and Human Services
MC OEMHS	Montgomery County Office of Emergency Management and Homeland Security
MCFRS	Montgomery County Fire and Rescue Service
MCPD	Montgomery County Police Department
MDEM	Maryland Department of Emergency Management
MDEMA	Maryland Emergency Management Association
MDERS	Maryland-National Capital Region Emergency Response System
MDH	Maryland Department of Health
MDOD	Maryland Department of Disabilities
MIEMSS	Maryland Institute for Emergency Medical Services Systems
MISE	Mobile Immersive Simulation Environment
mpox	Monkeypox
MRC	Medical Reserve Corps
MRO	Medical Reserve Officers
MSP	Maryland State Police
NACCHO	National Association of County and City Health Officials
NAEMSP	National Association of Emergency Medical Services Physicians
NCR	National Capital Region
NHCPC	National Healthcare Coalition Preparedness Conference
NHSC	National Homeland Security Conference
NPLI	National Preparedness Leadership Initiative
NTOA	National Tactical Officers Association
PATC	Public Access Trauma Care
PG OHS/EM	Prince George's County Office of Homeland Security and Emergency Management
PGFD	Prince George's County Fire/EMS Department
PGPD	Prince George's County Police Department

PGCPS	Prince George's County Public Schools
PHEPR	Public Health Emergency Preparedness Response
PMP	Project Management Plan
POETE	Planning, Organizing, Equipping, Training, and Exercising
POETEE	Planning, Organizing, Equipping, Training, Exercising, and Evaluating
PPE	Personal Protective Equipment
QSR	Quarterly Status Report
R.A.C.E	Rapid Access Casualty Extraction
ROSC	Return of Spontaneous Circulation
RTF	Rescue Task Force
SAA	State Administrative Agency
SAM	Structural Aluminum Malleable
Simcenter	Val G. Hemming Simulation Center
SLI	Supervisor Leadership Institute
SME	Subject Matter Expert
SOD	Special Operations Division
SOF	Special Operations Force
SOMA	Special Operations Medical Association
SOTR	Special Operations Tactical Respirators
SPSC	School of Police Staff and Command
sUAS	small Unmanned Aerial Systems
SUB-T	Subterranean
SWAT	Special Weapons and Tactics
TCCC	Tactical Casualty Combat Care
TECC	Tactical Emergency Casualty Care
TEMS	Tactical Emergency Medical Services
TTX	Tabletop Exercise
UAS	Unmanned Aircraft System
UASI	Urban Area Security Initiative
USU	Uniformed Services University
VR	Virtual Reality
WAVE	Wide Area Virtual Environment

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Appendix B: FY21 Expense Summary

Fiscal Year 2021 Expenditures	
Fiscal Year 2021 Total Expenditures	**$5,669,364.19**
Fiscal Year 2021 Administrative Expenditures	
Description	Expense
Communications	$17,983.46
Computer Equipment & Peripherals	$4,745.96
Management & Administrative Costs (MIEMSS)	$21,703.22
MDERS Staff Payroll	$1,194,179.09
Meeting Support	$3,258.11
Office Copier Rental	$2,707.62
Office Furniture Rental	$16,759.92
Office Space Cleaning	$3,420.00
Office Space Rent	$46,739.20
Office Supplies	$8,225.49
Other Supplies & Expenses	$361.09
Printing	$34,247.78
Recruitment / Advertising	$1,635.55
Software	$31,415.55
Staff - Local Travel	$3,872.00
Staff - Professional Development	$2,350.26
Website Maintenance	$3,387.97
Total Administrative	**$1,396,992.27**

Fiscal Year 2021 Project Expenditures	
Description	**Expense**
Command Competency Lab Enhancement	$19,841.94
Damage Assessment Software	$25,799.00
Emergency Management Support Montgomery County	$400,000.00
Emergency Management Support Prince George's County	$432,562.80
Emerging Homeland Security Technology Pilot	$105,843.19
EMS Augmented Reality	$99,889.20
EMS Mobile Clinical Competency Program	$173,599.48
Incident Command Simulation	$200,000.00
Law Enforcement Specialized Vehicle Enhancements	$263,480.00
Mass Casualty Incident Response Support	$409,638.83
Public Access Bleeding Control	$161,987.21
Public Health Emergency Response Montgomery County	$90,001.14
Public Health Emergency Response Prince George's County	$98,729.09
Small Unmanned Aerial Systems Montgomery County	$16,853.85
Small Unmanned Aerial Systems Prince George's County	$74,700.00
Tactical Equipment for Law Enforcement Montgomery County	$69,433.57
Tactical Equipment for Law Enforcement Prince George's County	$179,649.02
Technical Rescue Vehicle	$920,000.00
Training and Exercise Program	$530,363.60
Total Administrative	**$4,272,371.92**

The Maryland-National Capital Region Emergency Response System is supported by a National Capital Region Urban Area Security Initiative (UASI) grant from the Federal Emergency Management Agency's Grant Programs Directorate, U.S. Department of Homeland Security (DHS). The program is administered by the Maryland Institute for Emergency Medical Services Systems (MIEMSS).