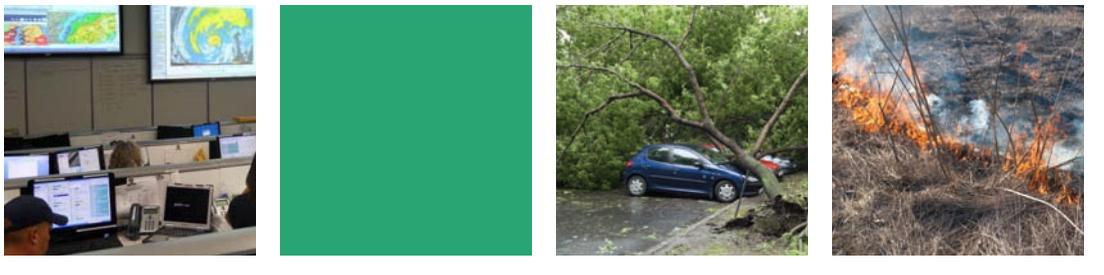


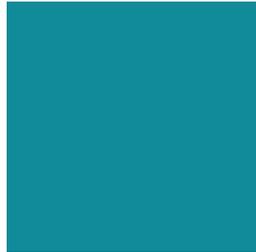
H O W A R D C O U N T Y , M A R Y L A N D

# EMERGENCY OPERATIONS PLAN



# Basic Plan

Howard County, Maryland



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*Howard County Emergency  
Operations Plan*

*Basic Plan*

---

*April 2015*

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# Acknowledgments

The Office of Emergency Management would like to thank the following departments and organizations for their assistance with the development of this Plan as well as their dedication and continued commitment to making Howard County a more resilient County:

- Columbia Association
- Department of Citizen Services
- Department of Corrections
- Department of County Administration
- Department of Finance
- Department of Fire and Rescue Services
- Department of Inspections, Licenses and Permits
- Department of Planning and Zoning
- Department of Public Works
- Department of Recreation and Parks
- Department of Technology and Communication Services
- Federal Emergency Management Agency
- Howard County Economic Development Authority
- Howard County General Hospital
- Howard County Health Department
- Howard County Police Department
- Howard County Public School System
- Howard County Sheriff's Office
- Maryland Emergency Management Agency
- Office of Law
- Office of Public Information
- Office of Purchasing
- Office of Risk Management
- Office of Transportation

The Director of Emergency Management would like to extend a special thank you to Lisa Crow and Kasia Fertala from the Center of Health and Homeland Security who worked tirelessly to develop this document, a planning process, and a sustainable program. Their extraordinary contributions of time and energy directly influenced the success of the project and the resultant increase in county-wide preparedness.

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# Acronyms

Acronym	Term
AAR	After Action Review
ADA	American with Disabilities Act
ALS	Advanced Life Support
APSAP	Alternate Public Safety Answering Point
ARC	American Red Cross
BARC	Bay Area Recovery Canines
BGE	Baltimore Gas and Electric
BLS	Basic Life Support
BREAC	Baltimore Regional Emergency Assistance Compact
CAD	Computer Aided Dispatch
CAO	Chief Administrative Officer
CBRNE	chemical, biological, radiological, or nuclear
CFR	Code of Federal Regulations
COG	Continuity of Government
COMAR	Maryland Code of Regulations
COOP	Continuity of Operations
CPG	Comprehensive Preparedness Guide
DAC	Disaster Assistance Center
DCS	Department of Citizen Services
DFRS	Department of Fire and Rescue Services
DHMH	Department of Health and Mental Hygiene
DILP	Department of Inspections, Licenses and Permits
DME	Durable Medical Equipment
DNR	Department of Natural Resources
DOC	Departmental Operations Center
DOD	Department of Defense
DPW	Department of Public Works
DPZ	Department of Planning and Zoning
DRP	Department of Recreation and Parks
DTCS	Department of Technology and Communication Services
EAS	Emergency Alert System
EDA	Economic Development Authority

<b>Acronym</b>	<b>Term</b>
EMAC	Emergency Management Assistance Compact
EMAP	Emergency Management Accreditation Program
EMOG	Emergency Management Operational Group
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
ESF	Emergency Support Function
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FLSA	Fair Labor Standards Act
GIS	Geographic Information Systems
GOSV	Governor's Office of Service and Volunteerism
HCC	Howard Community College
HCGH	Howard County General Hospital
HCHD	Howard County Health Department
HCPD	Howard County Police Department
HCPSS	Howard County Public School System
H-DOC	Health Department Operations Center
HIRA	Hazard Identification and Risk Assessment
HSPD	Homeland Security Presidential Directive
IAP	Incident Action Plan
ICS	Incident Command System
IMT	Incident Management Team
JIC	Joint Information Center
JIS	Joint Information System
JTTF	Joint Terrorism Task Force
LEPC	Local Emergency Preparedness Committee
MACS	Multi-Agency Coordination System
MARBIDCO	Maryland Agricultural and Resources Based Industry Development Corporation
MCAC	Maryland Coordination and Analysis Center
MD OCME	Maryland Office of the Chief Medical Examiner
MDE	Maryland Department of Environment

<b>Acronym</b>	<b>Term</b>
MEMA	Maryland Emergency Management Agency
MEMAC	Maryland Emergency Management Assistance Compact
MHA	Mental Health Authority
MIEMSS	Maryland Institute for Emergency Medical Services Systems
MJOC	Maryland Joint Operations Center
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSCA	Military Support to Civil Authorities
MSP	Maryland State Police
MTA	Maryland Transit Authority
NAWAS	National Alerts and Warning System
NDMS	National Disaster Medical System
NGO	non-governmental organization
NIFOG	National Interoperability Field Operations Guide
NIMS	National Incident Management System
NOAA	National Oceanic & Atmospheric Administration
NWS	National Weather Service
OEM	Office of Emergency Management
OOL	Office of Law
PAFN	People with Access and Functional Needs
PCA	Procurement Card Administrator
PDD	Presidential Policy Directive
PIO	Public Information Officer
PNP	Private Non-Profit
POD	Points of Distribution
PSAP	Public Safety Answering Point
PSC	Maryland Public Service Commission
RACES	Radio Amateur Civil Emergency Services
Redbook	Manual of Regulations and Procedures for Federal Radio Management
RIMS	Records Information Management System
RLO	Regional Liaison Officer
RRCC	Regional Response Coordination Center
RTA	Regional Transit Authority
SAR	Search and Rescue
SARA	Superfund Amendments and Reauthorization

Acronym	Term
SCD	Howard Soil Conservation District
SEOC	State Emergency Operations Center
SHA	Maryland State Highway Administration
SitReps	Situation Reports
SME	Subject Matter Expert
SOP	Standard Operating Procedure
UASI	Urban Area Security Initiative
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
VMC	volunteer mobilization center
WMD-CST	Weapons of Mass Destruction Civil Support Team
WSSC	Washington Suburban Sanitary Commission

# Instructions and Forms

## Executive Order

County Executive

of

Howard County, Maryland

Executive Order: 2015-07

Dated: June 9, 2015

Subject: Howard County Emergency  
Operations Plan

**WHEREAS**, the primary role of government is to provide for the welfare of its citizens, and the welfare and safety of citizens is never more threatened than during disasters; and

**WHEREAS**, the goal of emergency management is to ensure that mitigation, preparedness, response, and recovery actions exist so that public welfare and safety is preserved; and

**WHEREAS**, pursuant to Section 17.109(c)(1) Howard County Code, the Office of Emergency Management must prepare an emergency operations plan in accordance with applicable state and federal laws and regulations; and

**WHEREAS**, an emergency operations plan will provide a comprehensive framework for Howard County-wide emergency management; and

**WHEREAS**, an emergency operations plan will address the roles and responsibilities of government organizations and will provide a link to local, state, federal, and private organizations and resources that may be activated to address disasters and emergencies in Howard County; and

**WHEREAS**, an emergency operations plan will ensure consistency with current policy guidance, will describe the interrelationship with other levels of government, and will continue to evolve to lessons learned from actual disaster and emergency experiences, ongoing planning efforts, training and exercise activities, and state and federal guidance.

**NOW, THEREFORE, BE IT ORDERED** that Howard County promulgates the Howard County Emergency Operations Plan as the official plan for Howard County's intergovernmental emergency operations.

**IN WITNESS WHEREOF**, I, Allan H. Kittleman, as County Executive of Howard County, Maryland and pursuant to my authority under Section 17.109(c)(2) of the Howard County Code have hereunto set my hand and caused the seal of Howard County to be affixed this 9<sup>th</sup> day of June, 2015.



Allan H. Kittleman  
County Executive

# Letter of Agreement

## HOWARD COUNTY LETTER OF AGREEMENT

The Howard County Emergency Operations Plan (EOP) (April 2015) is hereby authorized to be the Official Plan for Howard County's intergovernmental emergency operations pursuant to Section 17.109 Howard County Code. This plan supersedes all previous plans and is in accordance with existing federal, state, and local statutes.

In accordance with Homeland Security Presidential Directive (HSPD) 5, the agencies, departments, and organizations having responsibilities delineated in this EOP will use the National Incident Management System (NIMS) to allow proper coordination between local, state, and federal organizations.

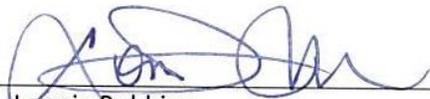
The Incident Command System (ICS) and Multi-Agency Coordination System (MACS) model, as components of NIMS, will enable effective and efficient emergency management by integrating a combination of facilities, equipment, personnel, procedures, and communications within a common organizational structure. On-scene management of emergencies will be conducted using the ICS.

By signing this letter of agreement, Howard County agencies and organizations commit to:

- 1) Supporting the EOP concepts of operations and performing assigned functional responsibilities to ensure the orderly and timely delivery of assistance;
- 2) Cooperating with senior leadership to provide oversight of emergency operations;
- 3) Making maximum use of existing authorities, organizations, resources, systems, and programs to reduce emergency relief costs;
- 4) Continuing to develop and refine County and regional planning and exercise and training activities to maintain operational capabilities.

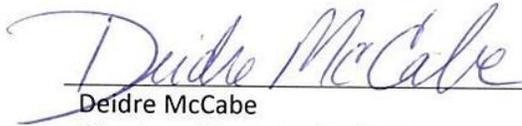
The EOP will be revised and updated on an annual basis and as required. Recipients are requested to advise the Howard County Director of the Office of Emergency Management of changes that might result in improvement or increased usefulness.

# Signatories



Lonnie Robbins  
Chief Administrative Officer  
Department of County Administration

4/15/15  
Date



Deidre McCabe  
Director of Communications  
Department of County Administration, Public Information Office

4/15/15  
Date



Jack Kavanagh  
Director, Department of Corrections

4/15/15  
Date



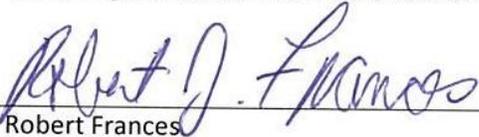
Lois Mikkila  
Director, Department of Citizen Services

4/8/15  
Date



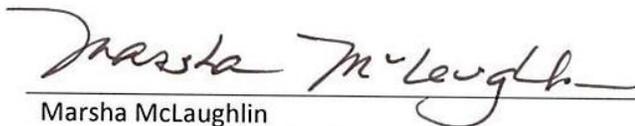
Chief John Butler  
Chief, Department of Fire and Rescue Services

4/8/15  
Date



Robert Frances  
Director, Department of Inspections, Licenses, and Permits

4-8-15  
Date



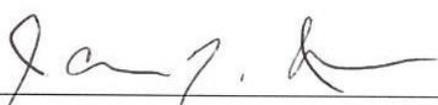
Marsha McLaughlin  
Director, Department of Planning and Zoning

4/15/15  
Date



Chief Gary L. Gardner  
Chief, Department of Police

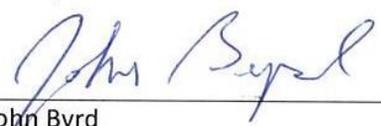
4-8-15  
Date



Jim Irvin  
Director, Department of Public Works

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Date



John Byrd  
Director, Department of Recreation and Parks

4/8/15

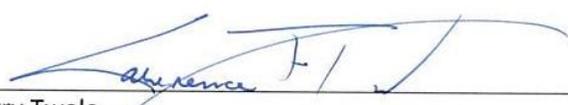
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Chris Merdon  
Director, Department of Technology and Communication Services

4/8/15

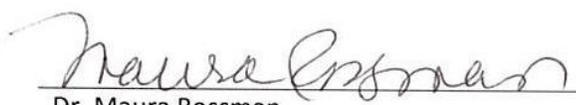
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Larry Twele  
Chief Executive Officer  
Howard County Economic Development Authority

29 APR 2015

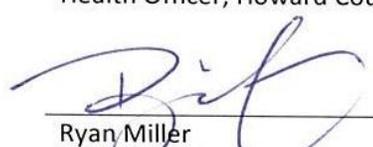
Date



Dr. Maura Rossman  
Health Officer, Howard County Health Department

4/8/15

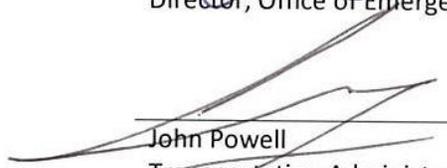
Date



Ryan Miller  
Director, Office of Emergency Management

4/8/15

Date



John Powell  
Transportation Administrator, Office of Transportation

4/8/15

Date

# Executive Summary

The Howard County Emergency Operations Plan (EOP) establishes the framework to ensure Howard County will be adequately prepared to respond to, recover from, and mitigate any of the hazards threatening the lives and property of residents and visitors in Howard County. The EOP outlines the responsibilities and coordination mechanisms of County departments and external partner organizations in response to an emergency or disaster. This EOP defines the responsible organizations (“Who”) and their responsibilities (“What”) and points to supporting documentation to detail how these responsibilities will be implemented (“How”). The EOP incorporates the National Incident Management System (NIMS) as the standard for incident management. The plan has also been developed in compliance with NIMS and the Emergency Management Accreditation Program (EMAP) standards.

The Plan is organized into three (3) parts. Part One is the Basic Plan, which is adopted by the County Executive by Executive Order and includes the federal, state, and County law and authorities and other references that provide the basis for this plan. This part establishes the general planning assumptions and defines the emergency management roles and responsibilities for the County’s leadership. The Basic Plan also contains background information on Howard County including demographic data, a description of the County, and a summary of the County’s Hazard Identification and Risk Assessment (HIRA). The concept of operations section describes how the County will respond to various levels of an emergency or disaster under one of or a hybrid of the two systems, depending on the size, nature, and scope of the incident or event:

- Multi-Agency Coordination System (MACS) with corresponding emergency support functions (ESFs); and / or
- On-Scene Incident Command Systems (ICS).

Part Two includes fifteen (15) emergency support function (ESF) annexes that define the purpose and scope of each ESF and state the policies, planning assumptions, and a brief concept of operations. These annexes also identify specific County departments and external partner roles and responsibilities related to the ESF. Relevant laws and authorities, supporting data, and references to other plans and operating procedures are included where appropriate.

Finally, Part Three includes support annexes that provide the specific details for how essential tasks are to be conducted during response operations. As with the ESFs, these annexes will consistently undergo review and maintenance in order to remain timely and accurate.

The ESFs and the primary agencies that oversee each ESF are outlined below:

**Figure 1: Howard County Emergency Support Functions**

<b>ESF #</b>	<b>Emergency Support Function</b>	<b>Primary Agency</b>
1	Transportation	Office of Transportation
2	Technology and Communications	Dept. of Technology and Communication Services
3	Public Works and Engineering	Dept. of Public Works
4	Fire and Rescue Services	Dept. of Fire and Rescue Services
5	Information and Planning	Office of Emergency Management Public Information Office
6	Mass Care and Sheltering	Dept. of Citizen Services Dept. of Corrections
7	Resource Support and Logistics	Dept. of County Administration
8	Public Health and Medical Services	Health Dept.
9	Search and Rescue	Dept. of Fire and Rescue Services
10	Oil and Hazardous Materials Response	Dept. of Fire and Rescue Services
11	Agricultural, Historical, & Natural Resources	Dept. of Planning and Zoning Office of Emergency Management Howard County Economic Development Authority
12	Energy and Utilities	Dept. of Public Works
13	Law Enforcement and Security	Dept. of Police
14	Volunteers and Donations Management	Dept. of Recreation and Parks Dept. of Citizen Services
15	Damage Assessment	Dept. of Inspections, Licenses and Permits

## Plan Maintenance

The Howard County Office of Emergency Management (OEM) is responsible for developing, maintaining, and distributing the EOP. The EOP will undergo an annual review to incorporate new state, federal, and regional guidelines or directives and/or to address significant operational issues. No proposed change will contradict or override authorities or other plans contained in statute or regulation. All requests for changes will be submitted to the Office of Emergency Management for coordination, approval, and distribution.

Primary agencies are responsible for maintaining and updating their assigned ESF annex. Annexes should be reviewed annually. Proposed changes or updates to annexes will be coordinated with all other support agencies and external partners prior to submission to the Office of Emergency Management. Any department or agency may propose and develop a change to the EOP. Prior to submitting proposals to the Office of Emergency Management, the proposing agency will obtain approval from the appropriate primary agency.

The Office of Emergency Management will submit any changes to the EOP's Basic Plan to the County Executive for review and approval, pursuant to Section 17.109(c) Howard County Code.





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# Introduction

Howard County Code Section 17.109 requires the preparation of “an emergency operations plan in accordance with applicable state and federal laws and regulations.” This Emergency Operations Plan (EOP) provides a framework through which Howard County may prepare for, respond to, and mitigate the impact of various emergencies. The EOP reflects federal, state, and local legislation and regulations.

Activities taken under the EOP will be coordinated using the Incident Command System (ICS) and the National Incident Management System (NIMS).

## Purpose

It is the purpose of this Plan to define the actions and roles necessary to provide a coordinated response within Howard County in the event of an emergency or disaster event. This Plan provides guidance to agencies within Howard County, with a general concept of potential emergency assignments before, during, and following emergency situations. It also provides for the systematic integration of emergency resources when activated, but does not replace subsequent County or local emergency operations plans or procedures.

The EOP establishes standardized policies and procedures for effective coordination of response to emergencies. It is designed to accomplish the following:

1. Prepare for and prompt efficient emergency response operations to protect lives, property, and the environment.
2. Provide an emergency management system that encompasses the key areas involved in addressing prevention, protection, response, recovery, and mitigation for any threat or hazard.
3. Document Howard County emergency management plans, policies, protocols, and procedures.

## Scope and Applicability

The scope of emergency and disaster response in this EOP applies to all participating departments, agencies, non-governmental organizations, the private sector, and residents and visitors contained within the geographical boundary of Howard County.

## Mission and Vision

### Mission

The Howard County emergency management program’s mission is to provide centralization, coordination, and facilitation of multi-agency emergency planning, and to minimize and reduce the impacts of natural and human-caused disasters through proactive prevention, mitigation, preparedness, response, and recovery.

## Vision

The vision is of a resilient county that is safe, secure, and prepared for emergencies and disasters with the support of a robust emergency management program committed to protecting all residents, businesses, and visitors, to preserving the quality of life and the environment, and to quickly recovering and returning to normalcy whenever and however impacted.

## Laws and Authorities

### Federal:

- a. Robert T. Stafford Emergency Relief and Emergency Act, Pub. L. 93-288, as amended. The Act is codified at 42 U.S.C. 5121, et. seq.
- b. The Disaster Mitigation Act of 2000, Pub. L. 106-390
- c. Superfund Amendments and Reauthorization Act (SARA), Title III, Pub. L. 99-499, as amended
- d. Federal Civil Defense Act of 1950, Pub. L. 81- 920, as amended
- e. Emergency Relief Act of 1974, Pub. L. 93-288, as amended
- f. USA PATRIOT Act of 2001, Pub. L. 107-56, as amended
- g. Flood Disaster Protection Act, Pub. L. 93-234, as amended
- h. Hazardous Materials Transportation Uniform Safety Act, Pub. L. 101-615, as amended
- i. “Emergency Management and Assistance, “ Code of Federal Regulations, Title 44
- j. Presidential Policy Directive (PPD) 8 (National Preparedness)
- k. Presidential Decision Directive (PDD) 39 (U.S. National Policy on Terrorism)
- l. Presidential Decision Directive (PDD) 63 (Critical Infrastructure Protection)
- m. Homeland Security Presidential Directives (HSPD)
  - 1) HSPD-1: Organization and Operation of the Homeland Security Council (October 2001)
  - 2) HSPD-2: Combating Terrorism Through Immigration Policies (October 2001)
  - 3) HSPD-3: Homeland Security Advisory System (March 2002)
  - 4) HSPD-4: National Strategy to Combat Weapons of Mass Destruction (December 2002)
  - 5) HSPD-5: Management of Domestic Incidents (February 2003)
  - 6) HSPD-6: Integration and Use of Screening Information (September 2003)
  - 7) HSPD-7: Critical Infrastructure Identification, Prioritization, and Protection (December 2003)
  - 8) HSPD-9: Defense of U.S. Agriculture and Food (January 2004)
  - 9) HSPD-10: Biodefense for the 21st Century (April 2004)
  - 10) HSPD-11: Comprehensive Terrorist-Related Screenings Procedures (August 2004)
  - 11) HSPD-12: Policy for a Common Identification Standard for Federal Employees and Contractors (August 2004)
  - 12) HSPD-13: Maritime Security Policy (December 2004)
- n. Department of Defense (DoD) Directive 3025.1: Military Support to Civil Authorities (MSCA)
- o. Emergency Management Assistance Compact (EMAC)

## State of Maryland:

- a. Annotated Code of Maryland, Public Safety Article, § 14-101, et. seq.
- b. Maryland Emergency Management Assistance Compact (MEMAC)
- c. Executive Order 01.012005.09, The State of Maryland Adoption of the National Incident Management System

## Regional:

- a. Baltimore Regional Emergency Assistance Compact (BREAC)
- b. Memorandum of Regional Cooperation
- c. Baltimore City Healthcare Facilities Mutual Aid System Memorandum of Understanding

## Local:

- a. Howard County Code, Title 6: County Executive and the Executive Branch
- b. Howard County Code, Title 17 Subtitle 1: Fire and Rescue Services
- c. Howard County Executive Order 2005-02: NIMS
- d. Howard County Executive Order 2006-03: COOP/COG

## References

1. National Incident Management System (NIMS) (December 2008)
2. National Prevention Framework (May 2013)
3. National Response Framework (May 2013)
4. National Mitigation Framework (May 2013)
5. National Protection Framework (July 2014)
6. FEMA Guide for State and Local All-Hazard Emergency Operations Planning (SLG 101) (September 1996)
7. Comprehensive Preparedness Guide (CPG) 101, Developing and Maintaining Emergency Operations Plans (November 2010)
8. Comprehensive Preparedness Guide (CPG) 201, Threat and Hazard Identification and Risk Assessment Guide (September 2013)
9. Maryland State Response Operations Plan (July 2014)
10. PlanHoward 2030 (February 2013)
11. Howard County Commodity Flow Study
12. Howard County QuickFacts, U.S. Bureau of Census  
<<http://quickfacts.census.gov/qfd/states/24/24027.html>>

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# Plan Overview

The Emergency Operations Plan (EOP) was developed through a compilation of best practice guidance, local stakeholder expertise, and community engagement to create an all-encompassing plan while remaining applicable to Howard County. This section explains the contents of the EOP, how it was developed, who was involved, and how it fits into Howard County’s overall emergency management program.

## Plan Organization

The Howard County EOP describes the roles and responsibilities of County-level entities to effectively deliver response capabilities within the County. The EOP is divided into three parts: (1) the Basic Plan, (2) Emergency Support Function (ESFs) Annexes, and (3) Support Annexes.

### Basic Plan

The Basic Plan provides the overview of Howard County’s unique characteristics, sets forth lines of authority of the County’s leadership, and outlines the overall strategy for how the County will organize and operate in the event of an emergency or disaster. Additionally, the Basic Plan describes the processes and procedures for maintaining, distributing, and implementing the EOP.

#### *Promulgation*

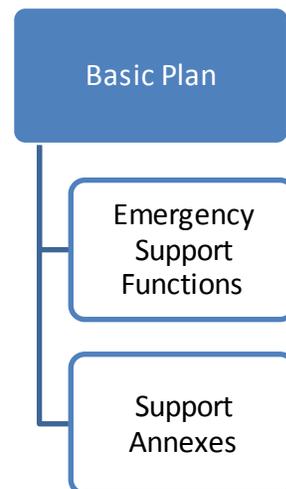
In order to remain timely and accurate, and because other components of the EOP will likely change frequently, the Basic Plan is the only part of the EOP that is adopted by the County Executive by Executive Order.

### Emergency Support Functions (ESFs)

The ESF Annexes provide the structure for coordinating County response operations.

### Support Annexes

The Support Annexes supplement the EOP by detailing specific processes and operating procedures.



# Planning Process

The EOP was completed in five phases through a comprehensive and coordinated approach. The table below displays the steps that were taken to develop the EOP.

**Figure 2: Key Steps in the Planning Process**

Planning Phase	Key Steps
Phase I	<p><b>Development of ESFs #1-8, 15:</b></p> <ul style="list-style-type: none"> <li>• Conducted meetings with all primary agencies to review their respective ESF(s).</li> <li>• Conducted meetings with all support agencies.</li> <li>• Disseminated letters to all cooperating partners regarding their roles and responsibilities and updated contact information accordingly.</li> <li>• Briefed Howard County leadership on the planning process monthly.</li> <li>• Provided a review and comment period for all primary and support agencies.</li> <li>• Reviewed by the Office of Law for any legal implications.</li> <li>• Held adjudication and modification period during which comments were either incorporated or the planning team provided an explanation as to why changes were not incorporated.</li> </ul>
Phase II	<p><b>Development of ESFs #9-14:</b></p> <ul style="list-style-type: none"> <li>• Conducted meetings with all primary agencies to review their respective ESF(s).</li> <li>• Conducted meetings with all support agencies.</li> <li>• Disseminated letters to all cooperating partners regarding their roles and responsibilities and updated contact information accordingly.</li> <li>• Briefed Howard County leadership on the planning process monthly.</li> <li>• Provided a review and comment period for all primary and support agencies.</li> <li>• Reviewed by the Office of Law for any legal implications.</li> <li>• Held adjudication and modification period during which comments were either incorporated or the planning team provided an explanation as to why changes were not incorporated.</li> </ul>
Phase III	<p><b>Development of Support Annexes:</b></p> <ul style="list-style-type: none"> <li>• Drafted the Financial Management Annex.</li> <li>• Conducted meetings with Department of Finance and the Department of County Administration.</li> <li>• Drafted the Damage Assessment Reporting Annex.</li> <li>• Conducted meetings with the Department of Inspections, Licenses and Permits (DILP).</li> <li>• Conducted meetings with the Individual Assistance and Public Assistance officers from the Maryland Emergency Management Agency and the Federal Emergency Management Agency.</li> <li>• Conducted meetings with the Department of Finance and DILP to review the</li> </ul>

Planning Phase	Key Steps
	Financial Management Annex and the Damage Assessment Reporting Annex. <ul style="list-style-type: none"> <li>• Drafted the People with Access and Functional Needs Annex.</li> <li>• Conducted meetings with the County’s Americans with Disabilities Act (ADA) coordinator.</li> <li>• Provided a review and comment period for all primary and support agencies.</li> <li>• Reviewed by the Office of Law for any legal implications.</li> <li>• Had the Director of Emergency Management brief the public on the EOP process at the quarterly Local Emergency Planning Committee (LEPC) meeting in September 2014.</li> <li>• Held adjudication and modification period during which comments were either incorporated or the planning team provided an explanation as to why changes were not incorporated.</li> </ul>
Phase IV	<b>Development of the Basic Plan:</b> <ul style="list-style-type: none"> <li>• Drafted the Basic Plan.</li> <li>• Provided a review and comment period for all primary and support agencies.</li> <li>• Reviewed by the Office of Law for any legal implications.</li> <li>• Held adjudication and modification period during which comments were either incorporated or the planning team provided an explanation as to why changes were not incorporated.</li> </ul>
Phase V	<b>Refinement Period:</b> <ul style="list-style-type: none"> <li>• Edited all draft documents for formatting and grammatical issues and made modifications where appropriate.</li> </ul>

**Note:** The phases and corresponding key steps were not necessarily completed in sequential order.

## Planning Partners

The following planning partners were involved in the development of the EOP:

**Core Planning Team:** Facilitated the plan development process through extensive research, meetings, and plan drafting.

**Cabinet Members:** Provided senior leadership guidance to the plan development process and support in making policy decisions.

**Emergency Management Operations Group (EMOG):** Provided operational-level guidance to the plan development process.

**Primary Agencies:** Guided the development of their respective ESF Annexes.

**Support Agencies:** Assisted in the documentation of their roles and responsibilities pertaining to the ESF(s) for which they are identified as a Support Agency.

**Cooperating Partners:** Assisted in the documentation of their roles and responsibilities pertaining to the ESF(s) for which they are identified as an external partner to Howard County.

**Other Supporting Partners:** Support was received from subject matter experts, industry professionals, and other community stakeholders.

## Plan Integration

A County-wide emergency management planning gap analysis was conducted using a cross-walk of federal guidance, best practices, and the Emergency Management Accreditation Program (EMAP) standards. The findings of the gap analysis were then used to develop an all-encompassing platform for a County-wide emergency management program.

This section sets forth the programmatic foundation for how these plans will align and the interdependencies associated with each mission area and corresponding plans. Since these plans are considered “living documents” and are under constant review and modification, it is important to note that at any moment, some of these plans might be in the development phase.

**Figure 3: Howard County Emergency Management Plan Integration**



**Figure 4: Details of Howard County Emergency Management Plan Integration**

Concepts, Plans, & Programs	Description	Implementation
<b>Whole Community</b>	Planning must be community-based, representing the whole population and its needs.	<ul style="list-style-type: none"> <li>• Planning for everyone to include individuals with access and functional needs.</li> <li>• Conducting community outreach for public education and to build relationships with community stakeholders.</li> <li>• Engaging households and businesses in the planning process.</li> </ul>
<b>Regional, State, and Federal Plans</b>	It is important to establish relationships with regional, state, and federal partners to ensure effective collaboration before, during, and after emergency operations. Plans resulting from these relationships clarify the roles and responsibilities at all levels and result in more effective operations.	<ul style="list-style-type: none"> <li>• Vertical Integration (regional, state and federal integration):               <ul style="list-style-type: none"> <li>○ Planning up and down the various levels of government; and</li> <li>○ Aligning planning efforts with the Baltimore Urban Area Security Initiative (UASI) region, neighboring jurisdictions, the Maryland Emergency Management Agency (MEMA), and the Federal Emergency Management Agency (FEMA).</li> </ul> </li> <li>• Horizontal Integration (integration across Howard County):               <ul style="list-style-type: none"> <li>○ Integrating operations throughout the County by ensuring that departmental plans align;</li> <li>○ Producing plans that meet internal needs or regulatory requirements that integrate into the EOP; and</li> <li>○ Aligning plans with the County’s General Plan, <i>PlanHoward 2030</i>.</li> </ul> </li> </ul>
<b>Hazard Identification and Risk Assessment (HIRA) and the</b>	It is essential that planning consider the landscape of the jurisdiction-specific hazard environment. The Hazard Identification and Risk	<ul style="list-style-type: none"> <li>• The HIRA depicts the threat environment and dictates all planning initiatives.</li> <li>• The EOP is informed by the</li> </ul>

Concepts, Plans, & Programs	Description	Implementation
<b>Strategic Plan</b>	<p>Assessment (HIRA) provides a detailed examination of the manmade and natural hazards that may affect Howard County. The HIRA combines best practice guidance with local stakeholder expertise to create a hazard identification and risk assessment that meets or exceeds industry standards while remaining relevant and specific to the Howard County context.</p> <p>All planning efforts should also align with the <i>Emergency Management Strategic Plan – Howard County, MD</i>.</p>	<p>hazards identified in the HIRA.</p> <ul style="list-style-type: none"> <li>• The <i>Strategic Plan</i> provides the programmatic framework for resource allocation and the focus for the next five years.</li> </ul>
<b>Prevention / Protection</b>	<p>Prevention/Protection consists of actions that reduce risk from all hazard incidents and reduce or eliminate threats to people, property, and the environment.</p>	<ul style="list-style-type: none"> <li>• Howard County Resiliency Program.</li> </ul>
<b>Response</b>	<p>Response embodies the actions taken in the immediate aftermath of an incident to save and sustain lives, meet basic human needs, reduce the loss of property, and reduce the effect on critical infrastructure and the environment.</p>	<ul style="list-style-type: none"> <li>• Emergency Operations Plan (EOP).</li> <li>• Departmental Standard Operating Procedures (SOPs).</li> <li>• Departmental Continuity of Operations Plans (COOP).</li> <li>• After Action Reports and Improvement Plans.</li> </ul>
<b>Recovery</b>	<p>Recovery encompasses both short-term and long-term efforts for the rebuilding and revitalization of affected communities.</p>	<ul style="list-style-type: none"> <li>• Recovery Plan.</li> <li>• Continuity of Government (COG) Plan.</li> <li>• Departmental Continuity of Operations Plans (COOP).</li> </ul>
<b>Mitigation</b>	<p>With its focus on the impact of a hazard, Mitigation encompasses the structural and non-structural approaches taken to eliminate or limit a hazard’s presence, people’s exposure, or interactions with people, property, and the environment.</p>	<ul style="list-style-type: none"> <li>• Howard County Comprehensive Mitigation Plan.</li> <li>• Howard County Resiliency Program.</li> </ul>

Concepts, Plans, & Programs	Description	Implementation
<b>Exercise and Training</b>	<p>The Exercise and Training Program plays a vital role in emergency management by enabling stakeholders and the whole community to receive training on plans, test and validate planning capabilities, and refine plans through the identification of capability gaps and areas for improvement. The Exercise and Training Program expands across all mission areas – Prevention/Protection, Response, Recovery, and Mitigation.</p>	<ul style="list-style-type: none"> <li>• Multi-Year Training and Exercise Plan.</li> <li>• After Action Reports/Improvement Plans for exercises.</li> <li>• Corrective Action Program.</li> </ul>

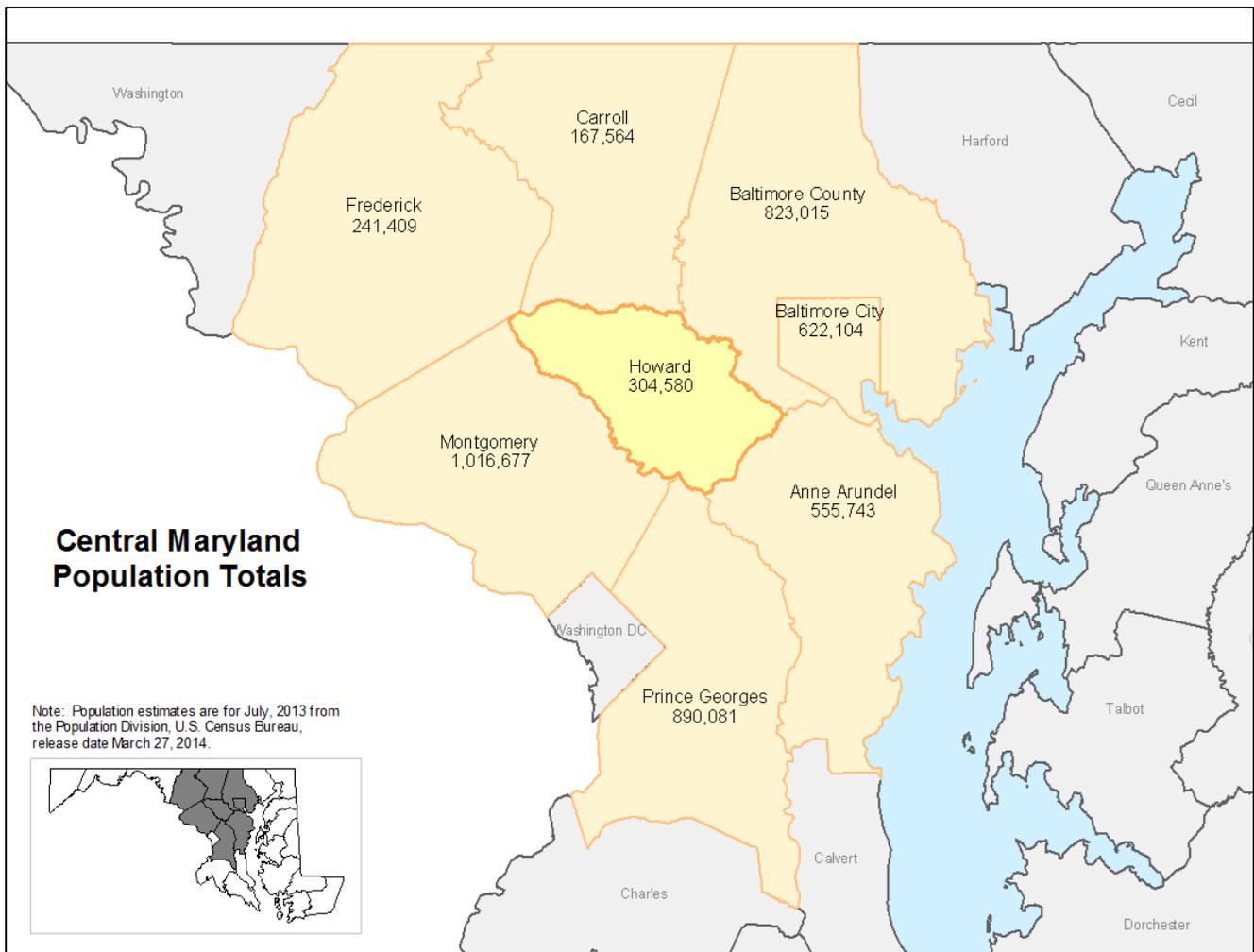
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# Situation

## Howard County in Context

Howard County is located between Baltimore and Washington in central Maryland (18 miles from Baltimore City and 27 miles from Washington D.C.). At about 254 square miles it is the smallest of Maryland's 23 counties. Only Baltimore City, which is the 24<sup>th</sup> jurisdiction in Maryland, is smaller at 92 square miles. In terms of total population, however, Howard County ranks 6<sup>th</sup> in the state with an estimated population of close to 305,000. The five other jurisdictions with greater populations are also all located in central Maryland adjacent to Howard County. Including Carroll and Frederick Counties (ranked 8<sup>th</sup> and 9<sup>th</sup> in the state, respectively), a total of just over to 4.6 million residents live in central Maryland, 78 percent of the state's total 5.9 million residents. Howard County's 305,000 residents make up 5.1 percent of the state total.

**Figure 5: Population Totals for Central Maryland**



**Figure 6: Population on Ranking of Maryland Counties and Baltimore City – July 2013**

<b>1</b> Montgomery County	1,016,677	<b>13</b> Cecil County	101,913
<b>2</b> Prince George's County	890,081	<b>14</b> Wicomico County	100,896
<b>3</b> Baltimore County	823,015	<b>15</b> Calvert County	90,484
<b>4</b> Baltimore City	622,104	<b>16</b> Allegany County	73,521
<b>5</b> Anne Arundel County	555,743	<b>17</b> Worcester County	51,620
<b>6</b> <b>Howard County</b>	<b>304,580</b>	<b>18</b> Queen Anne's County	48,517
<b>7</b> Harford County	249,215	<b>19</b> Talbot County	37,931
<b>8</b> Frederick County	241,409	<b>20</b> Caroline County	32,693
<b>9</b> Carroll County	167,564	<b>21</b> Dorchester County	32,660
<b>10</b> Charles County	152,864	<b>22</b> Garrett County	29,889
<b>11</b> Washington County	149,588	<b>23</b> Somerset County	26,273
<b>12</b> St. Mary's County	109,633	<b>24</b> Kent County	19,944
<b>Maryland Total</b>		<b>5,928,814</b>	

Source: Population Division, U.S. Census Bureau, release date March 27, 2014

## Physical Geography and Climate

Howard County is located in the Piedmont Plateau region of Maryland, with rolling hills making up most of the landscape. It is bounded on the north and northeast by the Patapsco River, on the southwest by the Patuxent River, and on the southeast by the Deep Run River and the CSX rail road line. Both the Patapsco and Patuxent run largely through publically accessible parkland along the county borders. The Patuxent border includes the Triadelphia and Rocky Gorge reservoirs, which provide drinking water for residents in Montgomery County and Prince George’s County as well as a small portion of southern Howard County. Howard County is the only “Maryland-locked” county in the state — that is, the only county not bordering the Chesapeake Bay, the Atlantic Ocean, another state, the Potomac River, or Washington D.C.

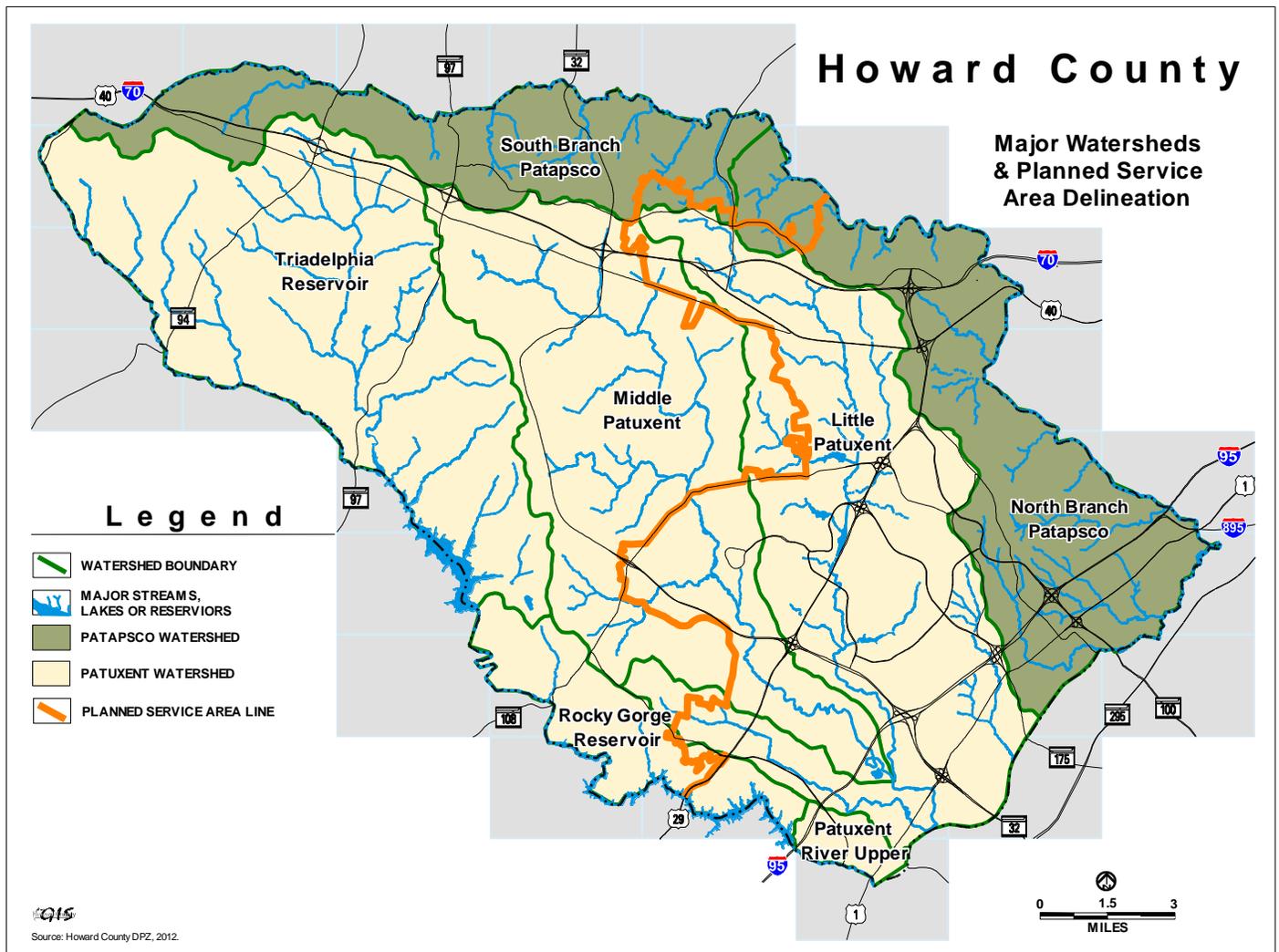
There are two major watersheds in Howard County — the Patapsco and the Patuxent. Most wastewater is treated by the Little Patuxent treatment plant owned and operated by Howard County. Waste from the Patapsco area is treated by the Patapsco treatment plant located in Baltimore City. There are close to 1,000 miles of rivers and streams in Howard County and several moderately sized manmade lakes including Centennial Lake just north of MD108 and east of US29 and Lake Kittamaquindi in Downtown Columbia. These lakes are part of Howard County’s stormwater management system.

The western portion of Howard County largely consists of large lot residential development on well and septic systems, and farmland and forest, much of which has been permanently preserved through County and state agricultural and environmental preservation programs. This area, known as the Rural West, is approximately 60 percent of the total County land area and is delineated by the Planned Service Area line. The roughly 40 percent of County land east of this line is served by the public water and sewer system owned and operated by Howard County. The eastern portion of the County includes higher

density suburban development with a population density about 8 times that of the west—3.9 persons per acre compared to 0.5 persons per acre.

Howard County lies in the humid subtropical climate zone. Annual rainfall is about 43 inches throughout the County. Annual snowfall averages about 23 inches. Over a 50-year period from 1950 to 2010, there were 394 National Climatic Data Center reportable events causing 617 injuries and 99 fatalities. There were 9 reported tornadoes reaching a maximum of F2, with no recorded fatalities.

**Figure 7: Howard County Major Watersheds and Planned Service Area Delineation**



## Jobs and Economy

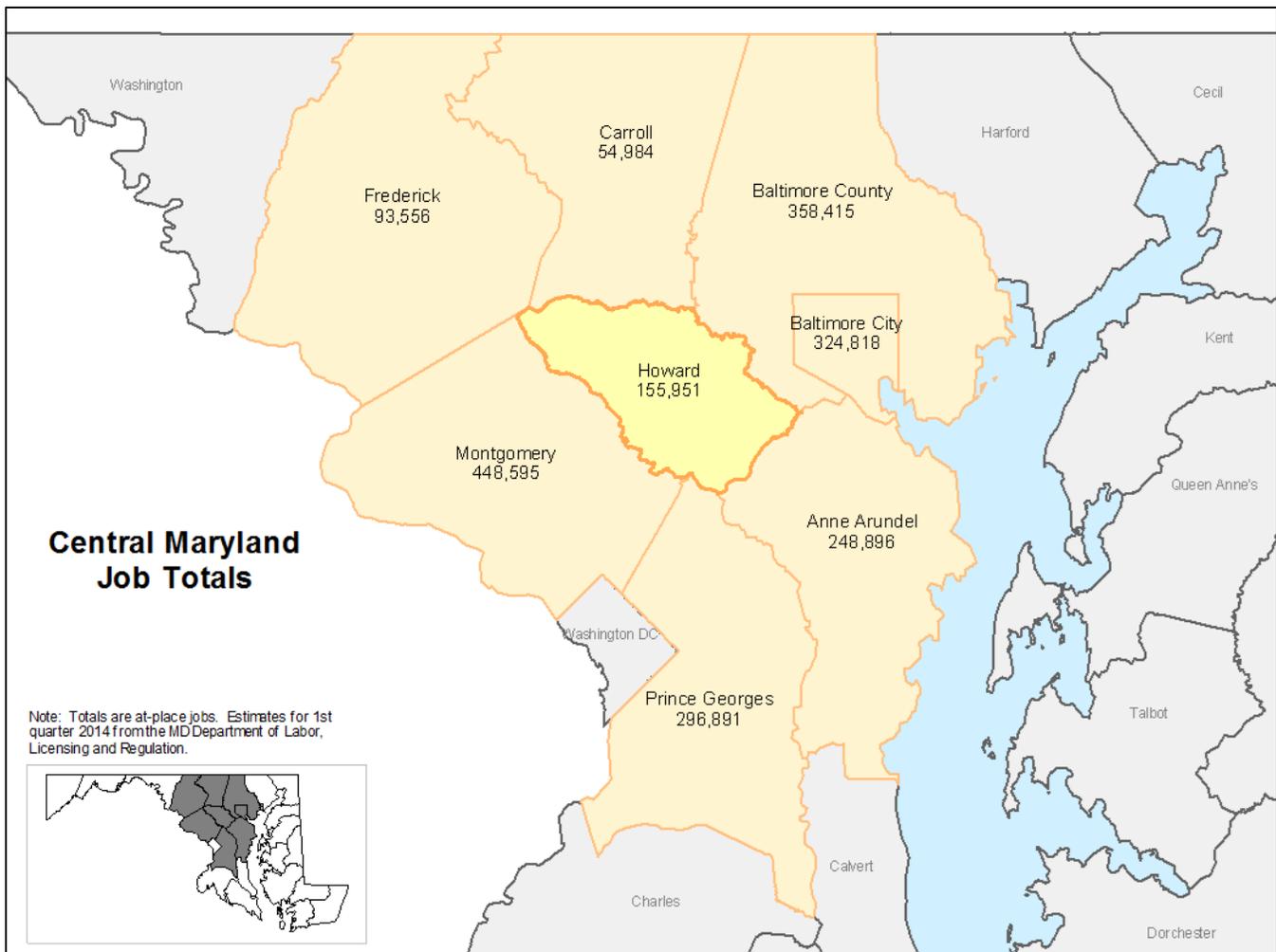
Howard County has a significant job base ranking 6<sup>th</sup> highest in the state with 156,000 jobs located in the County, most of which are in the east. This represents about 6.4 percent of the total 2.4 million jobs statewide. The eight jurisdictions in central Maryland have almost 2 million of the 2.4 million total, representing more than four out of every five jobs in the state.

**Figure 8: Job Ranking of Maryland Counties (and Baltimore City) – 1<sup>st</sup> Quarter 2014**

1	Montgomery County	448,595	13	Charles County	40,514
2	Baltimore County	358,415	14	Cecil County	29,766
3	Baltimore City	324,818	15	Allegany County	28,537
4	Prince George's County	296,891	16	Calvert County	21,070
5	Anne Arundel County	248,896	17	Worcester County	19,270
6	<b>Howard County</b>	<b>155,951</b>	18	Talbot County	18,051
7	Frederick County	93,556	19	Queen Anne's County	13,038
8	Harford County	85,829	20	Garrett County	11,335
9	Washington County	65,879	21	Dorchester County	10,755
10	Carroll County	54,984	22	Caroline County	9,164
11	Wicomico County	43,803	23	Kent County	7,226
12	St. Mary's County	41,959	24	Somerset County	6,488
<b>Maryland Total</b>			<b>2,434,790</b>		

Source: Maryland Department of Labor, Licensing and Regulation (at-place jobs)

**Figure 9: Job Totals for Central Maryland**



About 78 percent of the close to 156,000 jobs in Howard County are service providing jobs. About 11 percent are goods producing jobs and the remaining 11 percent are government jobs. More than 25 percent of all jobs located in Howard County are for professional and business services. This is followed by trade, transportation and utility jobs (21 percent) and then education and health services (11 percent). Close to 5 percent of all jobs are for manufacturing and 6 percent for construction. The table below summarizes all jobs by job type in Howard County. (Note that these jobs reported by the Department of Labor, Licensing, and Regulation do not include proprietors that are not on an employer payroll. According to the latest available 2012 U.S. Bureau of Economic Analysis data, there were an additional 33,511 proprietor jobs in Howard County.)

**Figure 10: Jobs in Howard County by Job Types – 1<sup>st</sup> Quarter 2014**

<b>Job Type</b>	<b>Jobs</b>	<b>Percent</b>
<b>Government Sector</b>		
Federal Government	595	0.4%
State Government	1,484	1.0%
Local Government	14,741	9.5%
<b>Subtotal/Average</b>	<b>16,819</b>	<b>10.8%</b>
<b>Goods Producing</b>		
Natural Resources and Mining	255	0.2%
Construction	9,893	6.3%
Manufacturing	7,497	4.8%
<b>Subtotal/Average</b>	<b>17,645</b>	<b>11.3%</b>
<b>Service Providing</b>		
Trade, Transportation, and Utilities	32,660	20.9%
Information	3,818	2.4%
Financial Activities	8,903	5.7%
Professional and Business Services	40,912	26.2%
Education and Health Services	16,744	10.7%
Leisure and Hospitality	13,925	8.9%
Other Services	4,525	2.9%
<b>Subtotal/Average</b>	<b>121,487</b>	<b>77.9%</b>
<b>TOTAL</b>	<b>155,951</b>	<b>100.0%</b>

*Source: State Department of Labor, Licensing and Regulation*

The latest labor force statistics from the Maryland Department of Labor, Licensing and Regulation (September, 2014) indicate that of the 176,647 Howard County residents in the labor force 168,985 are employed resulting in a 4.4 percent unemployment rate, the lowest unemployment rate in the state. Montgomery County has the next lowest at 4.5 percent. The seasonally adjusted statewide average is 6.3 percent.

According to the latest American Community Survey, conducted in 2013 by the U.S. Census Bureau, 71,526 Howard County residents work in Howard County and 89,991 residents commute to work

outside the County. The 2013 ACS also estimates that 97,622 residents commute into Howard County to work. Subtracting the 89,991 Howard County residents who leave the County each day for work from the 304,580 estimated 2013 resident population and then adding back in the 97,622 out of County in-commuters results in a “daytime population” estimate of 312,211. Given in-commuters exceed out-commuters by a modest 7,631 workers, the daytime population is only slightly higher than the resident population total. *Thus Howard County does not “empty out” during the work day, nor does the population swell by a very large amount either—the County’s population remains relatively consistent over the course of the day in the midst of a significant regional commuting pattern.*

The table below summarizes the major public and private sector employers in Howard County. The largest employer in the County is the Howard County Public School System, followed by the Johns Hopkins Applied Physics lab and then the Howard County local government. These three employers combined employ 16,015 people and account for about 10 percent of all jobs in the County.

**Figure 11: Major Employers in Howard County**

<b>1</b> Howard County Public School System	7,693	<b>13</b> Neilson	767
<b>2</b> Johns Hopkins Applied Physics Lab	5,000	<b>14</b> Dryer's Grand Ice Cream	735
<b>3</b> Howard County Government	3,322	<b>15</b> Wegmans Food Markets	700
<b>4</b> Verizon Wireless	2,028	<b>16</b> Maxim Healthcare Services	675
<b>5</b> Lorien Health Systems	2,000	<b>17</b> Sysco Food Services	650
<b>6</b> Howard County General Hospital	1,777	<b>18</b> Howard Community College	595
<b>7</b> Science Application International Corp.	1,060	<b>19</b> Northrup Grumman	525
<b>8</b> Giant Food	1,050	<b>20</b> Ascend One	511
<b>9</b> The Columbia Association	900	<b>21</b> Enterprise Community Partners	505
<b>10</b> Wells Fargo	842	<b>22</b> Target	500
<b>11</b> MICROS Sytems	815	<b>23</b> W.R. Grace & Company	500
<b>12</b> Coastal Sunbelt	800	<b>24</b> Walmart	500

*Sources: Howard County Economic Development Authority (2013), Howard County FY15 Budget*

## Race and Languages

Howard County has a racially diverse population. According to the latest American Community Survey (2013), about 57 percent of Howard County residents are White, 18 percent African American, 16 percent Asian, and 6 percent Hispanic. The minority populations in Howard County have steadily increased over time and the County is expected to be a “majority-minority” county by the next Census in 2020 (or earlier) when the White population is expected to be less than 50 percent of the total. The adjacent counties of Montgomery, Prince George’s, and Baltimore City are already “majority-minority.” Of all races, Howard County’s Asian population has increased the most significantly since 2000, growing by 155 percent over the last 13 years. During this same time period the White population in Howard County has *decreased* by 5 percent. Koreans make up the greatest number of Asians in Howard County, followed by Asian Indians, other Asians, and then Chinese, Vietnamese, Filipino, and Japanese.

**Figure 12: Howard County Population by Race and Hispanic Origin – 2013**

Race	Estimate	Margin of	%	% Margin
		Error		of Error
White	171,944	+/-438	56.5%	+/-0.1
African American	55,789	+/-1,428	18.3%	+/-0.5
Asian	49,074	+/-1,395	16.1%	+/-0.5
Hispanic or Latino	19,153	****	6.3%	****
Two or More Races	7,499	+/-1,908	2.5%	+/-0.6
American Indian & Alaskan Native	623	+/-302	0.2%	+/-0.1
Some Other Race	424	+/-452	0.1%	+/-0.1
Native Hawaiian & Pacific Islander	74	+/-128	0.0%	+/-0.1
<b>TOTAL</b>	<b>304,580</b>	<b>****</b>	<b>100.0%</b>	<b>****</b>

Source: 2013 American Community Survey, US Census Bureau

Note that, other than the Hispanic or Latino category, all are non-Hispanic only

\*\*\*\* No sample observation, controlled to annual Population Division estimate

**Figure 13: Howard County Population by Select Minority Race Detailed Breakdown – 2013**

Race	Estimate	Margin of	%	% Margin
		Error		of Error
<b>Asian</b>	<b>87,668</b>	<b>+/-1,409</b>	<b>16.2%</b>	<b>+/-0.5</b>
Korean	13,749	+/-3,063	4.5%	+/-1.0
Asian Indian	11,518	+/-2,286	3.8%	+/-0.8
Other Asian	10,058	+/-3,967	3.3%	+/-1.3
Chinese	6,999	+/-1,857	2.3%	+/-0.6
Vietnamese	3,644	+/-1,806	1.2%	+/-0.6
Filipino	2,696	+/-1,088	0.9%	+/-0.4
Japanese	698	+/-531	0.2%	+/-0.2
<b>Hispanic or Latino</b>	<b>19,153</b>	<b>****</b>	<b>6.3%</b>	<b>****</b>
Other Hispanic or Latino	11,367	+/-2,234	3.7%	+/-0.7
Puerto Rican	4,316	+/-1,852	1.4%	+/-0.6
Mexican	2,698	+/-1,399	0.9%	+/-0.5
Cuban	772	+/-594	0.3%	+/-0.2

Source: 2013 American Community Survey, US Census Bureau

Note that percents are percent of total Howard County population

\*\*\*\* No sample observation, controlled to annual Population Division estimate

As expected in a place with a significant minority population, almost a quarter of Howard County residents 5 years and over speak a language other than English. However, most are also proficient in English—only 7.6 percent of the population 5 years and over speak English less than “very well”

according to the latest American Community Survey. The largest portion of these less than very well English speakers are Asians (4.5 percent). Despite these relatively low percentages, the County should nonetheless be prepared to communicate to all residents in Howard County as non-English speakers account for a population of almost 22,000 residents. And if you include this group's children under five not included in this statistic, the number is even greater.

**Figure 14: Language Spoken at Home and English Proficiency in Howard County – 2013**  
(Population 5 years and over)

Language & English Proficiency	Margin of		% Margin	
	Estimate	Error	%	of Error
English Only	217,529	+/-4,387	76.0%	+/-1.5
<b>Language other than English</b>	<b>68,790</b>	<b>+/-4,368</b>	<b>24.0%</b>	<b>+/-1.5</b>
<b>Speak English less than "very well"</b>	<b>21,798</b>	<b>+/-2,743</b>	<b>7.6%</b>	<b>+/-1.0</b>
Spanish	14,636	+/-2,160	5.1%	+/-0.8
Speak English less than "very well"	3,821	+/-2,107	1.3%	+/-0.7
Other Indo-European languages	20,897	+/-3,270	7.3%	+/-1.1
Speak English less than "very well"	4,010	+/-1,168	1.4%	+/-0.4
Asian and Pacific Islander languages	29,017	+/-2,990	10.1%	+/-1.0
Speak English less than "very well"	12,885	+/-2,064	4.5%	+/-0.7
Other languages	4,240	+/-1,279	1.5%	+/-0.4
Speak English less than "very well"	1,082	+/-512	0.4%	+/-0.2
<b>TOTAL</b>	<b>286,319</b>	<b>+/-170</b>		

Source: 2013 American Community Survey, US Census Bureau

## Children and the Elderly

According to the latest American Community Survey conducted in 2013, the median age in Howard County is 38.6 years old. About 6 percent of the population is under 5 years old (18,261 residents) and 1.6 percent is 85 and over (4,978 residents). About 25 percent of the population is under 18 and 11.6 percent is 65 and over. School-aged residents in Howard County—those between 5 and 18 years old—amount to about 20 percent of the population, about 1 out of every 5 residents.

The baby-boomers—those born between 1946 and 1964—are currently aged 50 to 68 years old. The leading edge of this large demographic group began turning 65 three years ago in 2011. As this group continues to age, the 65 and older population is expected to more than double by 2030 when the youngest boomers turn 66. At that time about 1 out of every 5 Howard County residents will be 65 and older (20 percent of the population). Also by 2030 it is expected that there will be more than 8,000 residents in Howard County 85 and older, about double the number that are in that age group today. It is important that this rapid growth of the older and more vulnerable population in Howard County be anticipated and planned for.

**Figure 15: Age of Howard County Residents – 2013**

Age	Estimate	Margin of Error	% Margin of Error	
			%	
Under 5 years	18,261	+/-170	6.0%	+/-0.1
5 to 9 years	21,559	+/-1,715	7.1%	+/-0.6
10 to 14 years	21,675	+/-1,719	7.1%	+/-0.6
15 to 19 years	21,369	+/-1,033	7.0%	+/-0.3
20 to 24 years	16,610	+/-1,209	5.5%	+/-0.4
25 to 34 years	39,503	+/-812	13.0%	+/-0.3
35 to 44 years	42,095	+/-842	13.8%	+/-0.3
45 to 54 years	50,139	+/-868	16.5%	+/-0.3
55 to 59 years	21,546	+/-1,617	7.1%	+/-0.5
60 to 64 years	16,435	+/-1,570	5.4%	+/-0.5
65 to 74 years	21,876	+/-422	7.2%	+/-0.1
75 to 84 years	8,534	+/-1,083	2.8%	+/-0.4
85 years and over	4,978	+/-1,077	1.6%	+/-0.4
<b>TOTAL</b>	<b>304,580</b>	<b>****</b>	<b>100.0%</b>	
18 years and over	228,795	+/-162	75.1%	+/-0.1
21 years and over	219,433	+/-1,200	72.0%	+/-0.4
62 years and over	45,333	+/-1,567	14.9%	+/-0.5
65 years and over	35,388	+/-365	11.6%	+/-0.1

Source: 2013 American Community Survey, US Census Bureau

\*\*\*\* No sample observation, controlled to annual Population Division est.

## Income and Poverty

Howard County is the wealthiest jurisdiction in Maryland and one of the wealthiest in the United States. In 2013 the mean household income in Howard County was \$109,476. The median was \$131,886. By comparison, the statewide median household income in 2013 was \$72,483 and the mean was \$96,032. For the U.S. as a whole the median and mean household incomes were and even lower \$52,250 and \$73,767, respectively.

The poverty rate in Howard County is estimated to be 4.5 percent. For residents under 18, the poverty rate is a higher 5.8 percent. These statistics also come from the most recent 2013 American Community Survey. Given the small sample size, there are large margins of error associated with this data and the actual numbers or residents are thus not reported. A separate dataset from Census Bureau’s Small Area Income and Poverty Estimates program reports that the overall poverty rate in Howard County was 5.3 percent (+/-1.0 percent) in 2012. Overall, poverty in Howard County is relatively low compared to Maryland as a whole, which had a reported SAIPE poverty rate of 10.4 percent (+/-0.3 percent) in 2012.

**Figure 16: Howard County Household Income – 2013**

Household Income	Estimate	Margin of	% Margin	
		Error	%	of Error
Less than \$10,000	2,115	+/- 746	2.0%	+/-0.7
\$10,000 to \$14,999	1,647	+/-654	1.5%	+/-0.6
\$15,000 to \$24,999	3,883	+/-1,066	3.6%	+/-1.0
\$25,000 to \$34,999	4,999	+/-1,323	4.6%	+/-1.2
\$35,000 to \$49,999	6,645	+/-1,360	6.1%	+/-1.2
\$50,000 to \$74,999	16,344	+/-2,345	15.1%	+/-2.1
\$75,000 to \$99,999	13,375	+/-1,969	12.4%	+/-1.8
\$100,000 to \$149,999	24,672	+/-2,053	22.8%	+/-1.9
\$150,000 to \$199,999	15,134	+/-1,918	14.0%	+/-1.8
\$200,000 or more	19,374	+/-1,598	17.9%	+/-1.5
<b>TOTAL HOUSEHOLDS</b>	<b>108,188</b>	<b>+/-1,729</b>	<b>100.0%</b>	
Median household income	\$109,476	+/- \$4,667		
Mean household income	\$131,886	+/- \$5,106		

Source: 2013 American Community Survey, US Census Bureau

## Individuals with Disabilities

An estimated 7.3 percent of all noninstitutionalized residents in Howard County are disabled and 28.5 percent of all noninstitutionalized residents 65 years are disabled. For Maryland, these rates are higher— 10.7 percent of all residents and 32.9 percent of residents 65 years and older. And for the US, the rates are even higher— 12.6 percent of all residents and 36.4 percent of residents 65 years and older.

**Figure 17: Disability Status of Civilian Noninstitutionalized Population in Howard County – 2013**

Disability Status	Estimate	Margin of	% Margin	
		Error	%	of Error
Total Population	302,179	+/-976		
With a disability	22,023	+/-2,271	7.3%	+/-0.8
Unde 18 years	75,766	+/-165		
With a disability	2,461	+/-954	3.2%	+/-1.3
18 to 64 years	191,493	+/-975		
With a disability	9,593	+/-1,443	5.0%	+/-0.7
65 years and over	34,920	+/-578		
With a disability	9,969	+/-1,507	28.5%	+/-4.4

Source: 2013 American Community Survey, US Census Bureau

Given the Howard County population is rapidly aging, these disability rates will increase in the future. It is important that the County plan for a corresponding increase in the number of residents who may require enhanced assistance during an emergency in the years ahead.

## Household Composition

Of the more than 108,000 households in Howard County about three-fourths are family households and one-fourth is non-family households. Family households are defined as two or more people living together related by birth, marriage or adoption. About half of the 80,000 family households include families with children under 18 years old, representing 37.4 percent of all households in the County. Statewide, only 29.3 percent of households are family households with children under 18 and nationally 28.6 percent are. Howard County is clearly more of a bedroom community with relatively high percentage of family households with children.

About 20.7 percent, or about 1 out of every 5 households in the County, are single occupancy households where the residents live alone. This compares to 27.2 percent statewide and 27.7 percent nationally. About 6.1 percent of households in Howard County include residents 65 years and older living alone. This compares to a higher 9.4 percent statewide and 10.1 percent nationally.

**Figure 18: Households by Type in Howard County – 2013**

Disability Status	Esstimate	Margin of Error	% Margin of Error	
			%	
Family Households	80,023	+/-1,729	74.0%	+/-2.3
With own children under 18 years	40,415	+/-2,488	37.4%	+/-2.2
Nonfamily households	28,165	+/-2,517	26.0%	+/-2.3
Householder living alone	22,442	+/-2,240	20.7%	+/-2.0
65 years and over	6,572	+/-1,191	6.1%	+/-1.1
<b>TOTAL HOUSEHOLDS</b>	<b>108,188</b>	<b>+/-1,729</b>	<b>100.0%</b>	

*Source: 2013 American Community Survey, US Census Bureau*

## Commuting to Work and Access to Transportation

Slightly more than 80 percent, or 4 out of every 5 commuters in Howard County, drive alone to work. Close to 7 percent carpool to work and only 3.3 percent use public transportation. The remaining 1.2 percent walk, 1.4 percent commute by other means, and 6 percent work at home. Statewide, 74 percent of workers drive alone, 9 percent carpool and 9.1 percent use public transportation. Nationally, 76.4 percent drive alone, 9.4 percent carpool and 5.2 percent use public transportation.

**Figure 19: Commuting to Work in Howard County- 2013**

**(Civilian employed population 16 years and over)**

Commuting to Work	Estimate	Margin of	%	% Margin
		Error		of Error
Car, truck, or van—drove alone	131,241	+/-4,161	81.3%	+/-1.6
Car, truck, or van—carpooled	11,106	+/-1,734	6.9%	+/-1.1
public transportation (excluding taxi)	5,271	+/-1,038	3.3%	+/-0.6
Walked	1,966	+/-751	1.2%	+/-0.5
Other means	2,258	+/-1,022	1.4%	+/-0.6
Worked at home	9,675	+/-1,639	6.0%	+/-1.0
<b>TOTAL COMMUTERS</b>	<b>161,517</b>	<b>+/-3,627</b>	<b>100.0%</b>	

*Source: 2013 American Community Survey, US Census Bureau*

The Maryland Transit Administration (MTA) provides limited commuter bus service from within Howard County to Baltimore City and Washington DC. Buses stop at park and ride lots, village centers and in Downtown Columbia. MTA also operates the MARC commuter trains along Route 1 that provide rail access to Baltimore and Washington D.C. The Regional Transportation Agency (RTA) also provides more localized bus service in Howard County, Anne Arundel County, the City of Laurel and Northern Prince George’s County. Like most suburbs, however, transit ridership in Howard County is limited.

A 2011 Rider Survey (the latest conducted) concluded that the local bus system in Howard County mostly attracts riders who are transit dependent—that is they don’t have access to vehicles. The system does not attract riders who choose to take transit as an alternate means, but primarily only riders who have no other means of transportation. The survey also determined that two-thirds of riders live within 3 blocks of a bus stop as transit dependent riders typically choose to live near bus stops. The table below summarizes the availability of vehicles to Howard County workers. A relatively small number of Howard County residents don’t have access to a vehicle.

**Figure 20: Vehicles Available for Howard County Workers – 2013**

**(16 years and over)**

Vehicles Available	Estimate	Margin of
		Error
No vehicle available	2,430	+/-1,879
1 vehicle available	24,811	+/-2,376
2 vehicles available	75,427	+/-4,009
3 vehicles available	37,938	+/-3,752
4 vehicles available	15,359	+/-3,421
5 or more vehicles available	5,242	+/-2,192
<b>TOTAL WORKERS</b>	<b>161,207</b>	<b>+/-3,623</b>

*Source: 2013 American Community Survey, US Census Bureau*

## Summary

Howard County has a diverse and growing population. It is a wealthy county located in the middle of a vibrant metropolitan area surrounded by other wealthy counties that are also diverse and growing. Located between Washington D.C. and Baltimore, Howard County is in the heart of one of the largest regional economies in the United States. There is much activity and movement with commuters and commercial freight coming into and leaving the County every day. The diverse economy attracts jobs and industries of all types, from basic services and retail, to manufacturing and warehousing, to the high tech jobs of the future. Despite being the center of all this activity and regional growth, a large portion of Howard County remains rural with its western half made up of low density housing and acres of farmland and natural resources, much of which is permanently preserved. Its eastern half consists of higher density housing, including many apartment and townhome communities, and a significant number of jobs. The diversity of housing draws a diverse population made up of many races who speak a variety of languages. Given the high quality of its school system Howard County attracts many families with children. As a result, it has a higher proportion of families with children than the state as a whole. However, like most places around the United States, Howard County's population is rapidly aging. More and more residents are living alone, and the number of residents with disabilities will increase. This diversity in people and workers and household types, all of which are constantly changing over time, requires a flexible emergency response system. The leaders of the Howard County Office of Emergency Management are keenly aware of this, and it is the goal of this Plan to put in place an emergency response system that will meet the needs of all Howard County residents, job holders and visitors alike.

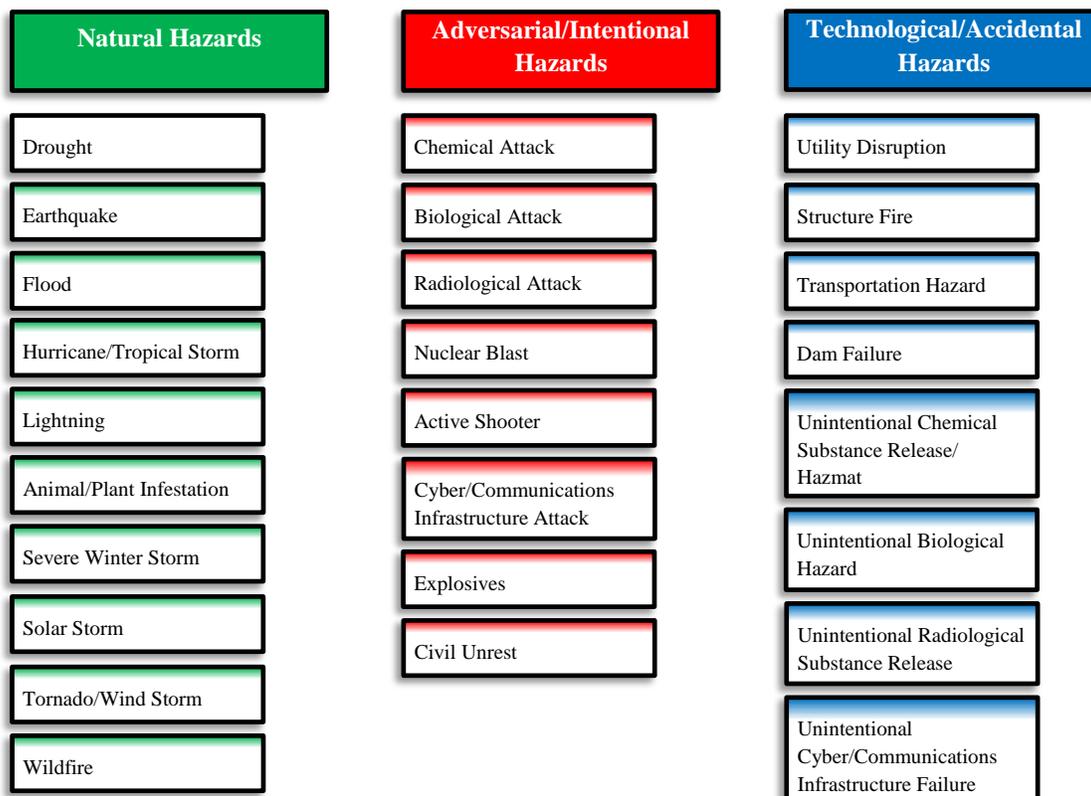
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# Hazard Identification, Risk Assessment, and Vulnerability Analysis

This section provides a summary of the hazard risk assessment, likelihood estimates, consequence analyses, and local vulnerabilities that are detailed extensively in the Howard County Hazard Identification and Risk Assessment (HIRA). The HIRA reflects a whole-community approach to risk assessment in Howard County. All risk assessment efforts are led by the Howard County Office of Emergency Management in collaboration with a multi-disciplinary team of government leaders, private sector representatives, and citizen stakeholders.

Twenty six hazard categories have been identified as potential sources of harm or difficulty in Howard County. Hazard categories fall into three hazard types: Natural Hazards, Adversarial/Intentional Hazards, and Technological/Accidental Hazards. The latter two hazard types can be grouped together under the umbrella term Manmade Hazards, where Adversarial/Intentional Hazards are the result of deliberate actions, and Technological/Accidental Hazards are created by negligence, error, unintended failure, or human actions without harmful intent. The following hazard categories have been included in Howard County risk assessment efforts:

**Figure 21: Hazard Categories for Howard County**



**NATURAL HAZARDS**

<p><b><u>Drought:</u></b> A drought is a condition of moisture deficit sufficient to have an adverse effect over a sizeable area on vegetation, animals, and humans. It usually refers to a period of below-normal rainfall, but drought can also be caused by drying bores or lakes, or by anything that reduces the amount of liquid water available. On average there are one to two extreme heat events per year, with 21 events occurring between 1995 and 2011. Based on National Climactic Data Center (NCDC) historical data, extreme heat events will continue to occur in Howard County at least once annually, but with relatively minor impact to life and property.</p>	<p><b><u>Earthquake:</u></b> An earthquake is a sudden release of energy in the earth’s crust that creates seismic waves. Energy builds when tectonic plates become stuck and put strain on the ground. When the strain becomes so great that rocks give way, faults occur, releasing energy as an earthquake. At the earth's surface, earthquakes may manifest themselves by a shaking or displacement of the ground. Historically, there has been no record of earthquakes with an epicenter in Howard County. However, Howard County has experienced minor shaking from earthquakes located outside of the region. On August 23, 2011, Maryland experienced the effects of a nearby earthquake when a 5.8 magnitude quake centered in Virginia impacted much of the East Coast.</p>
<p><b><u>Flood:</u></b> Flooding is defined as the accumulation of water that exceeds a physical barrier or collects in a low lying area that leads to the inundation of an area. Flooding typically results from large-scale weather systems that generate prolonged or highly impactful rainfall. Other conditions such as winter snow thaws, over-saturated soil, ice jams breaking apart, and urbanization can cause flooding as well. The watershed of the Patapsco and the Patuxent Rivers are the origin of most flooding within Howard County. All rivers in the County are susceptible to both riverine and flash flooding.</p>	<p><b><u>Hurricane/Tropical Storm:</u></b> Hurricanes, tropical storms, and typhoons are collectively known as tropical cyclones. The National Oceanic and Atmospheric Administration (NOAA) defines a tropical cyclone as a “warm-core non-frontal synoptic-scale cyclone, originating over tropical or subtropical waters, with organized deep convection and a closed surface wind circulation about a well-defined center. Once formed, a tropical cyclone is maintained by the extraction of heat energy from the ocean at high temperature and heat export at the low temperatures of the upper troposphere.” According to NOAA’s GIS database, there have been 13 named tropical cyclones that have passed within 65 miles of Howard County between 1950 and 2008, with only one storm reaching hurricane strength. All of these storms were downgraded to either tropical storms or tropical depressions by the time they reached the Mid-Atlantic region, which is typical for this region.</p>
<p><b><u>Lightning:</u></b> Lightning events are generated by atmospheric imbalance and turbulence due to a combination of conditions. Lightning, which occurs during all thunderstorms, can strike anywhere. Generated by the buildup of charged ions in a thundercloud, the discharge of a lightning bolt interacts with the best conducting object or surface on the ground. Howard County</p>	<p><b><u>Animal/Plant Infestation:</u></b> Pest infestation is the occurrence of one or more pest species in an area or location where their numbers and impact are currently or potentially at intolerable levels. Howard County has had several incidents with bed bugs (<i>Cimex lecturlarius</i>) in recent years. These infestations have been limited and resolved fairly quickly. Other potential hazards in this category</p>

<p>experiences a significant lightning event approximately once every two years. Averaging seven events over a period of 17 years equates to a 43 percent annual probability of future lightning occurrences.</p>	<p>include blue-green algae in water reservoirs and other infectious insects; however, there is no historical occurrence of these hazards in Howard County.</p>
<p><b><u>Severe Winter Storm:</u></b> A winter storm is a weather event that produces forms of precipitation caused by cold temperatures, such as snow, sleet, ice, and freezing rain, while ground temperatures are cold enough to cause precipitation to freeze. Windy conditions may also be present during a winter storm. Severe winter weather, including snow storms, ice storms, and extreme cold, may affect any part of Howard County during winter. The annual snowfall for the County is 20.7 inches, which is relatively moderate.</p>	<p><b><u>Solar Storm:</u></b> Solar storms are a variety of eruptions of mass and energy from the solar surface. Flares, prominences, sunspots, and coronal mass ejections are the common harbingers of solar activity, as are plagues and other related phenomena seen at other wavelengths. They all involve sudden releases of stored magnetic energy, which accelerate the hot gases near the surface or in the corona of the Sun. Sometimes these particles make it all the way to Earth and beyond by flowing along the Sun's magnetic field into interplanetary space. When the material collides with the earth's magnetic field and trapped radiation belts, particles can be dumped into our upper atmosphere to cause the Aurora. The same 'charged' particles can produce their own magnetic fields which can modify the earth's magnetic field and affect compass readings. The changing magnetic fields can also 'induce' electricity in long pipelines or produce electrical surges in our power grids leading to brown outs and black outs.</p>
<p><b><u>Tornado/Wind Storm:</u></b> A tornado is "a violently rotating column of air, pendant from a cumuliform cloud or underneath a cumuliform cloud, and often (but not always) visible as a funnel cloud." Tornadoes are related to larger vortex formations, and therefore often form in convective cells such as thunderstorms or in the right forward quadrant of a hurricane, far from the hurricane eye. The NCDC database reports that nine tornadoes occurred in Howard County between 1975 and 2011. The database indicates there were four F0, three F1, and two F2 tornadoes.</p>	<p><b><u>Wildfire:</u></b> Wildfires are uncontrolled forest fires, grassland fires, rangeland, or urban-interface fires which consume natural fuels and spread in response to the environment. Wildfires can be either natural phenomena or human-caused. The frequency and severity of wildfires depends on both weather and human activity. In Howard County the severity of wildfires has historically been very low, and the duration of wildfires has ranged from a matter of hours to several days.</p>

**ADVERSARIAL/INTENTIONAL HAZARDS**

<p><b>Chemical Attack:</b> A Chemical Attack hazard results from the intentional release of potentially harmful chemicals into the environment. Agents used in Chemical Attacks include poisonous vapors, aerosols, liquids, and solids with toxic effects. All Howard County Chemical Attacks in recent history have been minor incidents. Local Chemical Attack hazards include a caustic powder thrown at an individual and the use of a chemical agent to destroy a yard and property.</p>	<p><b>Active Shooter:</b> An Active Shooter hazard refers to an individual actively engaging in killing or attempting to kill people in a confined or populated area. Active Shooter hazards are typically characterized by the assailant’s intent to kill with no pattern or method to the selection of victims. Active Shooters typically use firearms and work alone. However, an Active Shooter hazard can involve multiple shooters and/or weapons other than firearms. There has been one Active Shooter hazard event in Howard County during the reviewed time period (1964-2014). The 2014 shooting at the Mall in Columbia resulted in three fatalities including that of the assailant.</p>
<p><b>Biological Attack:</b> A Biological Attack is an intentional release of viruses, bacteria, or other germs (agents) used to cause illness or death in people, animals, or plants. Biological agents can be introduced and spread through a population by air, through water, through food, or through direct contact. There have been 0 confirmed Biological Attack hazard events in Howard County during the reviewed time period (1996-2014). However, suspicious powders and substances are frequently reported as biological hazards. Emergency responders in Howard County were called out to 17 biological hazard incidents between 2008 and 2013. None of these incidents were confirmed as legitimate Biological Attack hazards.</p>	<p><b>Cyber/Communications Infrastructure Attack:</b> A Cyber/Communications Infrastructure Attack is an intentional disruption or manipulation of the information and communication systems used to collect, filter, process, create, and distribute data. An attack of this type may seek to impact data or manipulate data to impact physical infrastructure. There has never been a successful emergency-level Cyber/Communications Infrastructure Attack in Howard County. However, every day Howard County experiences attacks that result in user impact, loss of access to information systems, and the need to repair or replace hardware or software. There are over 3,000 minor damaging Cyber/Communications Infrastructure Attacks in Howard County each year.</p>
<p><b>Radiological Attack:</b> A Radiological Attack hazard occurs when a population is intentionally exposed to radiation through a non-nuclear mechanism. A Radiological Attack may take the form of a radiological exposure device (RED) or a radiological dispersal device (also known as a dirty bomb or RDD). There have been 0 Radiological Attack hazard events in Howard County during the reviewed time period (1996-2014).</p>	<p><b>Explosives:</b> An Explosives hazard occurs when an explosive device is intentionally used to cause harm to people, property, operational capacity, or the environment. There have been 0 successful Explosive attack hazard events in Howard County during the reviewed time period (2000-2014). However, there were 8 responses to confirmed Explosives threats in Howard County between 2010 and 2014, although all were disarmed prior to detonation.</p>

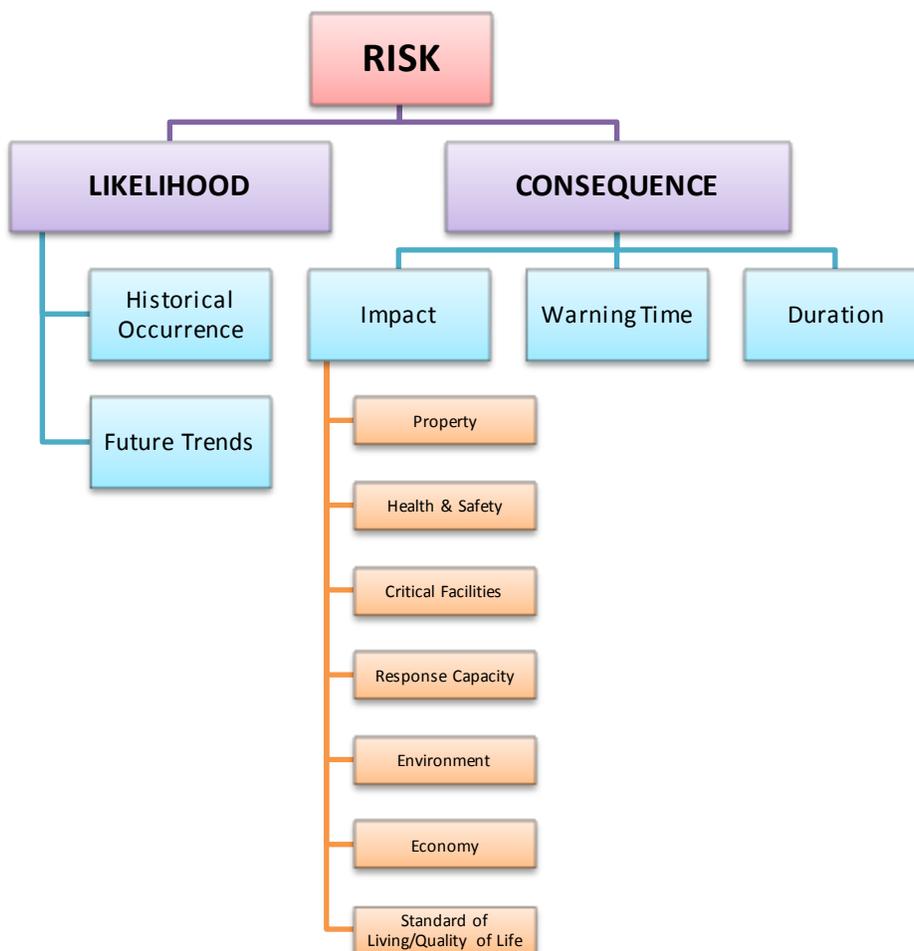
<p><b>Nuclear Blast:</b> A Nuclear Blast is the result of a device that uses a nuclear reaction to create an explosion far more powerful than that of conventional explosives. When nuclear weapons or improvised nuclear devices (INDs) explode, the energy is violently released in the form of a blast wave, intense light, heat, and radiation. There has never been a Nuclear Blast hazard in Howard County (1945-2014).</p>	<p><b>Civil Unrest:</b> Civil Unrest is often the result of ideological conflict and may include protests, riots, demonstrations, civil disobedience, and other forms of obstruction. Although many expressions of Civil Unrest are safe and legal, a Civil Unrest hazard occurs when the level of public disorder becomes a threat to health, safety, and property. There have been 0 Civil Unrest hazard events in Howard County during the reviewed time period (1996-2014).</p>
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TECHNOLOGICAL/ACCIDENTAL HAZARDS	
<p><b>Utility Disruption:</b> A Utility Disruption hazard occurs when the disruption of the gas, water, or electrical infrastructure has the potential to cause harm. Utility Disruption hazards can be intentional, unintentional, or occur as a cascading effect of another hazard. There have been 15 emergency-level Utility Disruption hazard events in Howard County during the reviewed time period (2008-2014). The great majority of Utility Disruption hazards in Howard County have been the result of extreme weather.</p>	<p><b>Unintentional Chemical Substance Release/Hazmat:</b> An Unintentional Chemical Substance Release/Hazmat hazard occurs when a chemical with the potential to cause harm is accidentally released into the environment. Chemical hazardous materials come in the form of poisons, explosives, and flammable and combustible substances. There have been 421 Unintentional Chemical Substance Release/Hazmat hazard responses involving chemical release, chemical reaction, or toxic conditions in Howard County during the reviewed time period (2008-2013). A large percentage involves hydrocarbon spills such as oil, gasoline, or diesel fuel. Unintentional Chemical Substance Release/Hazmat hazards are also common in residential settings and typically involve the accidental release of household chemicals.</p>
<p><b>Structure Fire:</b> A Structure Fire hazard is an uncontrolled fire involving any building or structure. Structure Fires can occur in residential, commercial, or industrial settings. Fires can easily spread from one structure to another, and the size of a Structure Fire hazard is constantly evolving. There have been 2,222 Structure Fire responses in Howard County during the reviewed time period (2008-2013). The large majority of Structure Fire hazards in Howard County are residential cooking-related fires.</p>	<p><b>Unintentional Biological Hazard:</b> An Unintentional Biological Hazard is the natural or inadvertent spread of potentially harmful viruses, bacteria, parasites, or other biological disease-causing agents. Unintentional Biological Hazards typically result from the natural spread of infectious disease (epidemics/pandemics), but they may also result from the accidental release of biological agents from health care facilities, research institutions, or industrial operations. There has been 1 emergency-level Unintentional Biological Hazard event in Howard County during the reviewed time period (1994-2014). The 2009 H1N1 influenza virus epidemic infected an estimated 61 million Americans and resulted in an estimated 274,000 hospitalizations and 12,470 deaths.</p>

<p><b><u>Transportation Hazard:</u></b> A Transportation Hazard occurs whenever a vehicle accident or collision has the potential to cause harm. Any vehicle is capable of being involved in a Transportation Hazard. There have been 786 Transportation Hazard responses requiring extrication or rescue and an additional 960 vehicle fire responses in Howard County during the reviewed time period (2008-2013). Most Transportation Hazards in Howard County involve a small number of passenger vehicles, and only a very small percentage of accidents involve fatalities. Although rare, fatal Transportation Hazards involving train derailments and airplane crashes have occurred in Howard County.</p>	<p><b><u>Unintentional Radiological Substance Release:</u></b> An Unintentional Radiological Substance Release hazard occurs when radiation is accidentally discharged into the environment. Unintentional Radiological Substance Release can occur as the result of a nuclear power plant accident, a transportation accident, or a workplace incident involving radioactive materials. There have been 0 Unintentional Radiological Substance Release hazard events in Howard County during the reviewed time period (1996-2013).</p>
<p><b><u>Dam Failure:</u></b> A Dam Failure hazard occurs when all or part of a dam’s water-retaining barrier becomes damaged causing the uncontrolled release of water downstream. A Dam Failure hazard can be the result of insufficient maintenance, human error, internal erosion, and/or a design or construction error. Dam Failures can also occur as the result of an intentional attack or as a cascading effect of natural hazards such as flooding, earthquakes, or geological instability. Howard County is home to two high-hazard dams, five significant-hazard dams, and over 2,000 small earthen dams. There have been 3 confirmed Dam Failure hazard events in Howard County during the reviewed time period (1999-2014). All have been relatively minor incidents.</p>	<p><b><u>Unintentional Cyber/Communications Infrastructure Failure:</u></b> An Unintentional Cyber/Communications Infrastructure Failure hazard occurs when an accidental disruption affects computerized data, information systems, or other communication systems. Unintentional failure may result from human error, infrastructure limitations, or the cascading effects of another hazard.</p>

Hazard Risk is assessed for each hazard category based on the likelihood that a hazard will occur in the jurisdiction and the severity of the consequences that would be expected if the hazard were to occur. For the purposes of this assessment, Hazard Risk is a numerical score that incorporates both Likelihood and Consequence. Likelihood represents the estimated probability of hazard occurrence based on historical occurrence and future trends. Consequence represents the expected impact to property, health & safety, critical facilities, response capacity, the environment, the economy, and standard of living/quality of life. Analysis of Consequence also incorporates the anticipated Warning Time and Duration of the hazard. The chart below demonstrates this relationship visually:

**Figure 22: Visualizing Risk Graphic**



Howard County assesses the risk of emergency-level hazard scenarios that require a response from at least two Howard County agencies or partners. When possible, information regarding the likelihood of occurrence and the expected consequence of each hazard is obtained from local historical and demographic information within the jurisdiction. In the case of infrequent hazards or evolving hazard trends, the historical occurrence and impact may not be an accurate indicator of future likelihood or consequence. In these cases, a multi-disciplinary team of subject-matter experts estimates Likelihood

and Consequence based on scenario modeling, familiarity with the local context, and knowledge of future trends.

An explanation of the risk assessment process, risk management tools, and a comprehensive risk profile for each hazard category can be found in the Howard County HIRA. HIRA risk profiles include detailed descriptions of hazard characteristics, risk factors, and local vulnerabilities for both likely and worst-case hazard scenarios. The complete HIRA Likelihood Analysis elaborates on the historical occurrence of each hazard, likelihood estimates, and future trends. The complete HIRA Consequence Analysis elaborates on the expected impacts of each hazard to property, health & safety, critical facilities, response capacity, the environment, the economy, and standard of living/quality of life. The HIRA also documents the risk assessment process, offers guidance for the maintenance and update of existing risk assessment documents, and provides tools to support the use of risk assessment data in all risk management and planning efforts.

# Planning Assumptions

1. In the event of an emergency or disaster, the immediate response priorities will be life safety, incident stabilization, and the preservation of property and the environment.
2. Some emergencies will occur with enough warning that adequate notification to the public will be issued to ensure preparedness actions are taken. Other emergencies or disasters will occur with little or no warning.
3. The occurrence of one or more hazards could result in a catastrophic situation that will overwhelm local and state resources and disrupt government functions.
4. The Governor will declare a State of Emergency with or without Howard County's request.
5. Acts of terrorism will trigger an immediate federal response. The identification of a credible threat or an act of terrorism will trigger the coordination of enhanced Prevention and Protection activities.
6. The County's Hazard Identification and Risk Assessment (HIRA) will be reviewed annually and updated as necessary. The HIRA includes the likelihood of occurrence and consequences of identified hazards that pose a threat to Howard County.
7. People with access and functional needs will require additional assistance from the County. Often, access and functional needs are a direct result of the disaster. *The Planning for People with Access and Functional Needs Annex* provides guidance and considerations for emergency planning purposes.
8. The effects of an emergency or disaster will extend beyond county boundaries, and as a result, many other areas of the state will experience casualties, property loss, and disruption of normal life support systems.
9. County personnel responsible for planning and response operations are familiar with their roles and responsibilities as identified in the *Howard County Emergency Operations Plan*.
10. County personnel responsible for response operations will become victims of the emergency or disaster.
11. There will be competition among residents and communities for scarce resources.
12. Widespread power and communication issues will require the use of alternate methods of providing public information and delivering essential services.
13. Upon request, the state and/or federal government will provide outside assistance if local capabilities are overwhelmed or local resources are exhausted. Mutual aid agreements will also be used.
14. Emergency operations will be managed in accordance with the National Incident Management System (NIMS).
15. Depending on the scope and magnitude of the incident, concurrent implementation of departmental Continuity of Operations Plans (COOP) and the *Howard County Emergency Operations Plan* will be necessary.
16. As the population of the Baltimore-Washington metropolitan area increases, so will the consequence of the impact from emergencies or disasters.

17. Howard County can also suffer from emergencies occurring elsewhere that, due to their effect on the supply of goods and services, induce critical shortages of essential resources such as electricity, petroleum products, natural gas, water, and food.
18. A major emergency or disaster impacting Howard County will bring a significant amount of media presence and attention.
19. Emergencies or disasters differ in character by magnitude, severity, duration, onset, distribution, area affected, frequency, and likelihood, therefore increasing the difficulty of plan development. As such, there will be planning gaps and shortfalls in the *Howard County Emergency Operations Plan*.

# Activation and Notifications

## Implementation of the EOP and Activation of the Emergency Operations Center (EOC)

The implementation of the Emergency Operations Plan (EOP) and activation of the Emergency Operations Center (EOC) will occur simultaneously. The level of EOC activation and EOP implementation will be based upon the severity and scope of the incident and at the discretion of the Director of Emergency Management.

The EOC may be activated at one of four levels of operations, which describe the emergency or event circumstances and staffing requirements. These levels may increase or decrease in accordance with the necessities of the emergency or event or at the discretion of the Director of Emergency Management.

### General EOC Activation Process

1. During normal operations, the Howard County 911 Communications Center is the primary source of emergency information.
2. If an emergency occurs that may require significant coordination due to its complex nature or severity, the on-duty 911 Communications Center Supervisor will notify the On-Call Emergency Manager.
3. When contacted by the 911 Communications Center Supervisor, the On-Call Emergency Manager will gather facts relevant to the emergency and will contact the Director of Emergency Management.
4. The Director of Emergency Management (or designee) will notify the County Executive, County Administrative Officer (CAO), and Chief of Staff of the situation and will assign a level of EOC activation as necessary.
5. Levels of activation (see table below) and the staff that will be directed to report to the EOC will be determined by individual incident characteristics. The Director of Emergency Management (or designee) will notify the department heads responsible for staffing the EOC. Agencies that are not notified to report will be kept aware of the situation.

### EOC Activation Policies

The EOC is activated when field response agencies require support or coordination. The activation level will depend on the support required by the County. Some instances when the EOC will be activated include, but are not limited to:

- Any incident requiring coordination with multiple departments or agencies;
- The County Executive has declared a local state of emergency;
- The County Executive has requested a Governor's declaration of a state of emergency, as defined in the Maryland State Code 14-303;

- The Governor declares a state of emergency for Howard County;
- The County requests outside resources beyond those used in normal operations that are obtained through existing agreements such as fire or police mutual aid; and/or
- The County has received resource requests from outside its boundaries beyond those used in normal operations that are obtained through existing agreements such as fire or police mutual aid.

### *EOC Activation Authority*

- The County Executive, CAO, or their designee has the authority to order a full activation of the EOC for a declared state of emergency, or whenever deemed appropriate.
- The Howard County EOC can be partially activated by the County Executive, CAO, the Director of Emergency Management, or their designee, to provide interagency coordination in response to a major emergency or significant event. Staffing for a partial activation will be identified based on the needs of the incident.
- Any department head or cooperating organization leadership may request through the Office of Emergency Management that the EOC be activated to support emergencies being managed by their department or organization. This may include monitoring activations to support non-emergency or special events.
- Organization and agency representatives must have the authority to make decisions, coordinate resources, provide information, and advise the County Executive, their respective department heads, and EOC management and support staff.
- The Office of Emergency Management will decide if the main or alternate EOC is used during an activation.

### *Emergency Support Function (ESF) Activation*

- The County Emergency Support Functions (ESFs) may be selectively activated by the Director of Emergency Management (or designee) to support response activities. Not all incidents requiring EOC support will result in the activation of ESFs.
- Departments with a primary or supporting role in an activated ESF may assign staff on-scene, to the EOC, or to a Departmental Operations Center (DOC).

### **EOC Activation Levels**

The determination of the EOC activation levels is specific to the incident or emergency circumstances and required response. Activation levels are also based upon the staffing presence and/or staffing requirements for the EOC.

**Figure 23: Emergency Operations Center Activation Levels**

Activation Level	Criteria	Staffing
<b>Level 4-Normal Operations</b>	Normal day-to-day operations for the Office of Emergency Management.	<ul style="list-style-type: none"> <li>On-Call Emergency Manager available.</li> </ul>
<b>Level 3-Monitoring</b>	An emergency or event that has the potential for interagency coordination.	<ul style="list-style-type: none"> <li>Office of Emergency Management personnel.</li> </ul>
<b>Level 2-Partial Activation</b>	An emergency that will require some or limited interagency coordination.	<ul style="list-style-type: none"> <li>Office of Emergency Management personnel.</li> <li>EOC positions filled as required.</li> <li>ESFs activated and staffed as required.</li> </ul>
<b>Level 1-Full Activation</b>	An emergency that will require interagency coordination as well as possible state and federal assistance.	<ul style="list-style-type: none"> <li>All EOC positions filled.</li> <li>ESFs activated and staffed accordingly.</li> <li>State and federal representatives may be present.</li> </ul>

### Deactivation of the EOC

The Director of Emergency Management (or designee) will determine when EOC activation levels should be reduced. When a return to normal operations is established, EOC representatives will be released and the Office of Emergency Management will make arrangements to close the EOC.

## Internal Emergency Notifications

- All emergency management stakeholders will be notified of the EOC activation through the Office of Emergency Management. All activation announcements will be released through Howard County’s notification system. The primary list of representatives is maintained and updated in the notification system. In turn, EOC representatives from specific departments will be notified through the department’s internal notification systems.
- Upon notification, internal department/agency policies and procedures will be implemented as necessary, and the appropriate department/agency EOC representative(s) will report to the EOC or the appropriate DOC at the appointed time and be prepared to carry out their emergency response roles and responsibilities.

- Depending on the situation, other County personnel with responsibilities under the EOP will either be directed to report to the EOC or appropriate DOC, be alerted and placed on a stand-by status, or be directed to perform their required responsibilities from their home, office, or alternate locations.
- If a further expansion of EOC staff is required by a re-evaluation or a change in the extent of a specific emergency or disaster, appropriate stand-by personnel will be notified and directed to report to the EOC or the appropriate DOC to assist in either the emergency response or recovery phases.
- The County’s notification system serves as a 24-hour warning system and will provide initial notifications to County officials in accordance with established protocols and procedures and as directed by the Office of Emergency Management.
- The Office of Emergency Management monitors potential and actual incidents and directs additional notifications to County stakeholders using other communications capabilities as applicable.
- The Public Information Office (PIO) will provide assistance to all departments and agencies in communicating with their employees during an emergency using the County’s website, social media, and other communication channels to ensure that information is conveyed to employees.
- All departments and agencies will develop, test, and maintain internal notification procedures and contact rosters as part of their Continuity of Operations Plan (COOP).

## Public Information and Warning

Howard County maintains the capability to provide warnings and emergency information to the public through multiple communication modes. When an emergency event is imminent or anticipated, Howard County will make every attempt to notify residents and visitors of the nature of the emergency and what protective actions should be taken prior to and in the aftermath of the emergency event.

1. Emergency warnings may originate at the federal, state, or local level of government. Timely warning requires dissemination to the public by all available means.
2. Howard County recognizes the availability and effectiveness of social media as an enhancement to traditional methods –not a primary or sole means of issuing warnings and information. However, it is understood that social media may be the only method by which the public receives a timely alert or notification.
3. The County PIO, along with the Office of Emergency Management, coordinates the use of social media in times of emergency and disaster, as well as day-to-day preparedness, in accordance with the County’s Social Media Policy.
4. The internet and social media are not intended for one-on-one emergency response during an incident. Members of the public requiring immediate emergency response should continue to use 911 or other appropriate emergency communication methods.
5. Howard County uses the following systems for receipt of warnings and information:
  - a. National Alerts and Warning System (NAWAS);

- b. National Weather Service (NWS) National Oceanic & Atmospheric Administration (NOAA); Weather Radio Service NWS Sterling;
  - c. Emergency Alert System (EAS);
  - d. Local government radios;
  - e. Telephones;
  - f. Email;
  - g. Internet systems; and
  - h. Social media (Twitter, Facebook, etc.).
6. Dissemination of warnings to the general public for major emergencies and disasters occurs through the following mechanisms with shared responsibility from the Office Emergency Management, the 911 Communications Center, and the PIO.
- a. Howard County's notification system (text messaging, email, phone, pager, and desktop);
  - b. Emergency Alert System (EAS);
  - c. Weather alert radios (NWS);
  - d. Howard County website;
  - e. Social media (Twitter, Facebook, etc.);
  - f. Amateur radio;
  - g. Media advisories and news releases;
  - h. House-to-house alert by emergency personnel; and
  - i. Message signs along major roadways.
7. Dissemination of warnings to individuals with access and functional needs that are currently available include:
- a. TDD/TTY (for communicating with deaf or hard of hearing);
  - b. Sign language interpretation; and
  - c. Foreign language interpretation and translation services.
8. The Howard County Executive's Public Information Office is the lead agency for providing approved information messages to County residents once the CAO or designated County official has directed notification to the public. Depending upon the nature and scope of the incident, other County departments and agencies will support the PIO in developing the messages.

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# External Integration of Emergency Response Operations

## Regional Integration

### **The Baltimore UASI Region**

Howard County is part of the Baltimore Urban Area Security Initiative (UASI) which is comprised of the cities of Baltimore and Annapolis and the counties of Anne Arundel, Baltimore, Carroll, and Harford. The Baltimore UASI was established in 2003 to promote coordinated response and recovery operations across jurisdictional boundaries.

Direct coordination and communication is essential within the Baltimore region. Although there is no physical facility dedicated to regional operations coordination, the Baltimore regional jurisdictions will coordinate through the State Emergency Operations Center (SEOC) and telecommunications systems. Direct coordination and communication will be established by the Emergency Operations Center (EOC) Director in the respective county EOCs.

When an emergency crosses multiple jurisdictions, coordination will need to be established with the affected jurisdictions. In a Unified Command, the jurisdictional representatives would coordinate with their jurisdictions through either a Departmental Operations Center (DOC) or the EOC.

## State Integration

### **Maryland Emergency Management Agency (MEMA) and the State Emergency Operations Center (SEOC)**

The SEOC at Maryland Emergency Management Agency (MEMA) is a central coordination center for resource requests outside the County efforts.

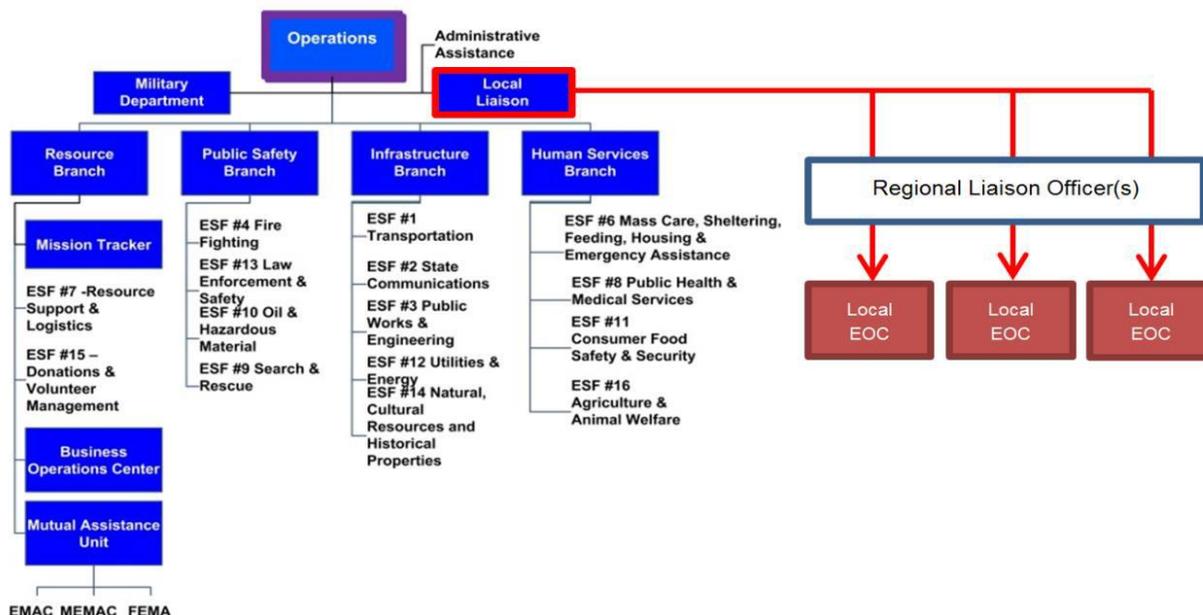
The Regional Liaison Officers (RLOs) are critical links between local EOCs and the SEOC. They manage requests for resources and help maintain situational awareness of local response activities. The RLOs function as members of the local jurisdictions' command staff as Liaison Officers, and are responsible for ensuring local jurisdictions receive the support they request. Responsibilities of deployed RLOs are to:

- Establish coordination between local activities at the local EOC or local incident command post and the SEOC ;
- Monitor EOC operations to identify coordination challenges;
- Monitor EOC operations to identify local resource and mission support needs;
- Participate in planning meetings, providing current resource status information, including limitations and capabilities of local resources; and
- Provide local demobilization and recovery transition information to the SEOC.

Howard County is a part of Maryland’s Central Region where the RLO is shared with Anne Arundel, Carroll, Baltimore, and Harford Counties, Baltimore City, and the City of Annapolis.

The following diagram illustrates the coordination between local EOC’s and the SEOC.

**Figure 24: Local EOC and SEOC Coordination**



## Maryland Emergency Management Assistance Compact (MEMAC)

As authorized by the Annotated Code of Maryland, Public Safety Article, Title 14, Subtitle 8, the Maryland Emergency Management Assistance Compact (MEMAC) is an intra-state mutual aid agreement between twenty-four (24) local jurisdictions within Maryland. It facilitates resource sharing between local jurisdictions through formal procedures. When the local jurisdiction signed onto the MEMAC Articles, they agreed to abide by the procedures of the Compact.

## Federal Integration

### Emergency Management Assistance Compact (EMAC)

The Emergency Management Assistance Compact (EMAC) is a state-to-state mutual aid agreement between each of the 50 states, Puerto Rico, the Virgin Islands, Guam, and the District of Columbia. EMAC was developed to facilitate state-to-state assistance. This assistance can be provided before federal programs are in place. It can also be implemented to fill the gaps during a federal response. EMAC can be initiated between states without any federal Disaster Declarations. However, a State of Emergency Declaration by the Governor is required of the state requesting resources.

There are two roles a state can play within the framework of EMAC. When it is necessary for a state to request resources from other states, that state is a Requesting State. If a state is assisting another state

by supplying resources, it is an Assisting State. Maryland made requests during Hurricane Isabel in 2003 during Tropical Storms Irene and Lee in 2011, and Hurricane Sandy in 2012. The State of Maryland has provided resources as an Assisting State during the 2004, 2005, 2009, and 2012 hurricane seasons.

### **Federal Emergency Management Agency (FEMA)**

The Federal Emergency Management Agency (FEMA) Region III works with the emergency management agencies of Pennsylvania, Maryland, Delaware, Virginia, West Virginia, and Washington D.C. The Maryland Joint Operations Center (MJOC) notifies FEMA Region III when the State Response Operational Status Level is elevated in response to an incident or in anticipation of a planned event. Additionally, all status updates, information, and reports sent out of the MJOC throughout an incident are sent to FEMA Region III. During certain types of emergencies, such as radiological incidents, a notification phone call will be made directly to the FEMA Region III Operations Center to expedite communication and coordination. FEMA Region III monitors the situation and makes contact with MEMA's Executive Director or the SEOC Commander if a request for federal support is anticipated.

If the SEOC Commander or the State's Senior Policy Group determines that a representative from FEMA is needed in the SEOC, the FEMA Region III Administrator has the authority to place a FEMA representative in the SEOC as an external liaison. Federal interagency pre - and post-disaster incident support in Region III is managed primarily out of the State-Federal Joint Field Office, with support from the Regional Response Coordination Center (RRCC).

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# Emergency Roles and Responsibilities of County Leadership

## County Executive

### ROLES AND RESPONSIBILITIES

- Holds the executive power of the County as the elected chief executive officer and the official head of the County government. (Howard County Charter, Section 302)
- Declares a local state of emergency within Howard County by executive order if there is a threat or occurrence of an emergency. (Howard County Code, Section 6.103)
- Designates/recommends the County’s Director of Emergency Management for appointment by the Governor of Maryland. (Howard County Code, Section 17.109(b); Md. Public Safety Code Ann. Section 14-109(b)(1))
- Adopts the County’s Emergency Operations Plan by executive order or another procedure as may be required by state or federal law. (Howard County Code, Section 17.109(c))
- During a declared local state of emergency, issues executive orders that the Executive considers necessary to implement the Emergency Operations Plan and protect the health, safety, and welfare of persons within Howard County. (Howard County Code, Section 6.104(a))
- May act in accordance with the executive authority during a local state of emergency by and through the Director of Emergency Management or other County officials. (Howard County Code, Section 6.104(b))
- If the threat or occurrence of an emergency appears likely to last more than seven days, may call the County Council into emergency session prior to the end of the seventh day to consider a resolution that consents to the continuation of the state of emergency for such time as may be appropriate. (Howard County Code, Section 6.103(c))
- May call the County Council into emergency session for the purpose of introducing or enacting emergency legislation. (Howard County Charter, Section 208)

## Chief Administrative Officer (CAO)

### ROLES AND RESPONSIBILITIES

- Serves as the head of the Department of County Administration. (Howard County Code, Section 6.401)
- Serves as Acting County Executive upon designation by the County Executive when the latter is unable to perform the duties and responsibilities of the Executive by reason of absence from the County or disability. (Howard County Code, Section 6.401(d)(1))
- Serves as the County’s Personnel Officer. (Howard County Code, Section 6.401(d)(4))
- Serves as the County’s Purchasing Agent. (Howard County Code, Section 6.401(d)(5))
- Administers the County’s risk management, loss prevention, and insurance management programs and supervises the County’s safety program (Howard County Code, Section 6.401(d)(8))

- Authorizes situational pay for non-uniformed, non-union employees. (Howard County Internal Memorandum for Situational Pay for Non-uniformed, Non-union Employees (Pursuant to the Howard County Pay Plan for Fiscal Year 2014))

## Chief of Staff

### ROLES AND RESPONSIBILITIES

- Serves as liaison to County Council during large or prolonged emergencies.

## Director of Emergency Management

### ROLES AND RESPONSIBILITIES

- Designated by the County Executive and appointed by the Governor. (Howard County Code, Section 17.109(b)(1))
- Organizes, administers, and operates the Office of Emergency Management. (Md. Public Safety Code Ann., Section 14-109)
- Organizes and directs the County's response to an emergency. (Howard County Code, Section 17.109(b)(2))
- Directs the development and implementation of County-wide emergency plans.
- Submits the Emergency Operations Plan prepared by the Office of Emergency Management to the County Executive for adoption. (Howard County Code, Section 17.109(c))
- Serves as the authorized County representative for purposes of requesting and responding to requests under the Maryland Emergency Management Assistance Compact (MEMAC). (Howard County Code, Section 17.109(b))

## County Council

### ROLES AND RESPONSIBILITIES

- Holds the legislative power of the County and consists of five members who are elected from the Councilmanic Districts. (Howard County Charter, Section 202)
- May be called into emergency session for the purpose of introducing and enacting emergency legislation either by the County Executive or by a majority of members of the Council. (Howard County Charter, Section 208)
- May pass emergency bills to meet an immediate emergency affecting public health, safety, or welfare. (Howard County Charter, Section 209(d))
- During a declared local state of emergency, may be called into emergency session to consider a resolution that consents to the continuation of the state of emergency for such time as may be appropriate. (Howard County Code, Section 6.103(c))

# Emergency Declarations

## Non-Declared Emergencies

The County Executive, the County Administrative Officer (CAO), or Emergency Management Director, or their designee, may direct County departments and agencies to respond to emergencies or disasters as outlined in this plan without a formal declaration of an emergency when the expectation is that local resources will be used and that no reimbursement of costs will be requested. The Emergency Management Director, or designee, may re-direct and deploy County resources and assets as necessary to prepare for, adequately respond to, and quickly recover from an emergency incident.

## General Emergencies

There are three levels of emergency declarations that may apply to an emergency or disaster within Howard County depending on the scope and magnitude of the event – local, state, and federal.

### Local Declaration

A declaration of a local state of emergency activates the Emergency Operations Plan (EOP) and provides for the expeditious mobilization of County resources in responding to a major incident.

### State Declaration

A declaration of a state of emergency by the Governor of Maryland that includes Howard County provides the County access to the resources and assistance of the departments and agencies of the state, including the National Guard, in the event local resources are insufficient to meet the needs.

### Federal Declaration

The Governor of Maryland may request a federal emergency or major disaster declaration. In the event that Howard County is declared a federal disaster area, the resources of federal departments and agencies are available to provide resources and assistance to augment those of the County and the state.

## Declaration of a Local State of Emergency

- Section 6.103 of the Howard County Code prescribes the authorities pertaining to the declaration of local emergencies. If there is a threat or occurrence of an emergency, the County Executive may declare a state of emergency within Howard County by executive order.
- An executive order declaring a local state of emergency shall be promptly publicized, filed with the Administrator to the County Council, and effective for up to seven days.
- If the threat or occurrence of an emergency appears likely to last more than seven days, the County Council shall be called into emergency session prior to the end of the seventh day to

consider a resolution that consents to the continuation of the state of emergency for such time as may be appropriate.

- The declaration of a local state of emergency takes effect immediately and activates the Emergency Operations Plan (EOP).
- The Public Information Office and the Office of Emergency Management will notify County departments, cooperating organizations, and the public of emergency declarations and terminations.

## Declaration of a State of Emergency by the Governor

- The Maryland Emergency Management Act, found in the Annotated Code of Maryland, Public Safety Article, § 14-101, et. seq., prescribes the authority and implications of a declaration of a state of emergency by the Governor.
- The Governor may declare a state of emergency if public safety is endangered or on reasonable apprehension of immediate danger to public safety.
- The Governor may declare a state of emergency on his or her own initiative or on the application of the chief executive officer or governing body of a county or municipal corporation, or the Secretary of State Police. Therefore, the Howard County Executive may recommend a declaration of a state of emergency by the Governor. The state of emergency is declared by executive order or proclamation.
- The Governor's declaration of a state of emergency provides for the expeditious provision of assistance to local jurisdictions included in the declaration, including use of the Maryland National Guard.

## Federal Emergency and Major Disaster Declarations

- Under the provisions of the Robert T. Stafford Act, the Governor may request the President to declare a major disaster or emergency declaration for incidents that are (or threaten to be) beyond the scope of the state and local jurisdictions to effectively respond.
- A Presidential Major Disaster Declaration puts into motion long-term federal recovery programs, some of which are matched by state programs, and designed to help disaster victims, businesses, and public entities.
- An Emergency Declaration is more limited in scope and without the long-term federal recovery programs of a Major Disaster Declaration. Generally, federal assistance and funding are provided to meet a specific emergency need or to help prevent a major disaster from occurring.
- The major disaster or emergency declaration designates the political subdivisions within the state (generally counties and independent cities) that are eligible for assistance. There are three major categories of disaster aid available under a Major Disaster Declaration:
  1. Individual Assistance: Aid to individuals and households.

2. Public Assistance: Aid to state or local governments to pay part of the costs of rebuilding a community's damaged infrastructure.
3. Hazard Mitigation: Funding for measures designed to reduce future losses to public and private property.

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# Concept of Operations

## Overview of Emergency Operations

Howard County will operate under one of or a hybrid of the two systems, depending on the size, nature, and scope of the incident or event:

- Multi-Agency Coordination System (MACS) with corresponding Emergency Support Functions (ESFs); and/or
- On-Scene Incident Command Systems (ICS).

Because the specific circumstances of an event and operational triggers are dynamic, it is not possible to pre-identify the operating system that will be implemented for response operations. As such, a scenario-based planning approach was used to create examples of how the County may choose to operate using the three hazard types identified in the Hazard Identification and Risk Assessment (HIRA).

**Figure 25: Examples of Operating Systems Based on Hazard Types**

Hazard Type	Examples
<p style="text-align: center;"><u>Natural Hazards</u></p>	<p>Typically large-scale weather-related natural hazards are predictable and will affect the entire County. Management starts with the MACS and based on size and complexity, may require the integration of multiple departments operating out of Departmental Operation Centers (DOCs). On-scene operations management will use ICS, as needed. Small-scale weather events may be managed by an individual department.</p>
<p style="text-align: center;"><u>Adversarial/Intentional Hazards</u></p>	<p>Typically these manmade incidents are managed on-scene using ICS with the Office of Emergency Management / Emergency Operations Center (EOC) serving in a traditional support role if required. As a situation escalates, it may become necessary to change operations to the MACS for expanded county-wide incident management.</p>

Hazard Type	Examples
<p style="text-align: center;"><u>Technological/Accidental Hazards</u></p>	<p>Typically these manmade incidents are managed on-scene using ICS with the Office of Emergency Management / EOC serving in a traditional support role if required. As a situation escalates, it may become necessary to change operations to the MACS for expanded County-wide incident management.</p>

## Multi-Agency Coordination System (MACS)

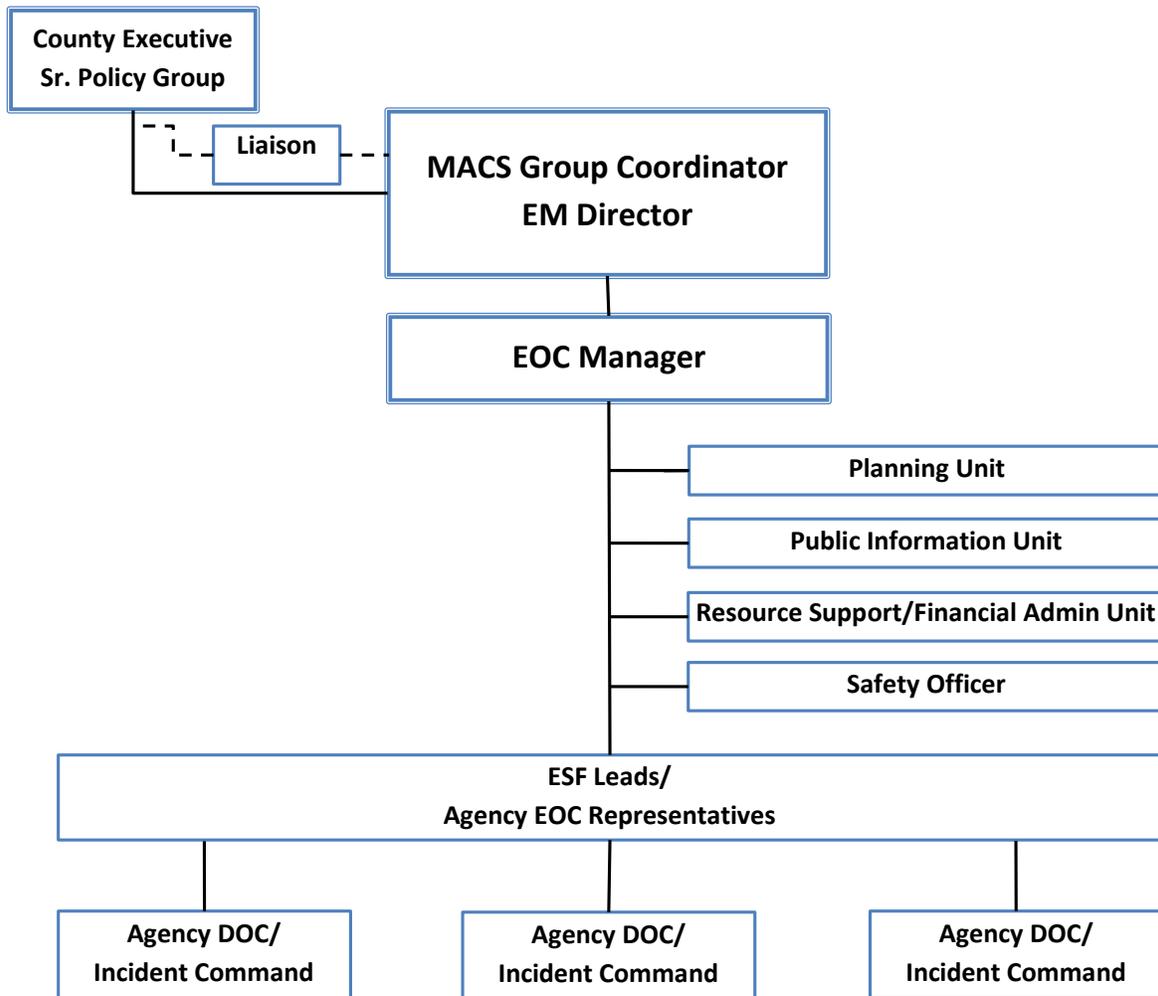
Any emergency situation requiring higher-level resource management or information management may result in the activation of MACS. Multi-agency coordination is the participation of agencies and disciplines involved at any level of emergency response operations, working together in a coordinated effort to facilitate decisions for overall emergency management, including the sharing of critical resources and the prioritization of incidents.

The MACS integrates distinct elements into a common system with responsibility for coordination of resources and support to emergency operations. The primary elements of the MACS include facilities, equipment, personnel, procedures, and communications.

The primary functions of a MACS are to:

- Support incident management policies and priorities;
- Facilitate logistics support and resource tracking;
- Make resource allocation decisions based on incident management priorities;
- Coordinate incident-related information; and
- Coordinate interagency and intergovernmental issues regarding incident management policies, priorities, and strategies.

**Figure 26: Howard County Multi-Agency Coordination System (MACS)**



## **MACS / EOC Positions**

### ***MACS Coordinator***

While department heads maintain command and control of their department resources, the MACS Coordinator is responsible for the management of the entire MACSystem. Specifically, the MACS Coordinator ensures that all activities occurring in and through the EOC are aligned with the incident objectives, County policies, and operational priorities. To achieve this, the MACS Coordinator:

- a. Supervises the assignment of personnel in the EOC;
- b. Establishes incident objectives;
- c. Ensures incident objectives are reviewed and approved by the County Executive and the Senior Policy Group; and
- d. Facilitates Senior Policy Group meetings and discussion.

### *EOC Manager*

The EOC Manager is responsible for managing the flow of EOC operations. The EOC Manager:

- a. Manages the MACS/EOC operations;
- b. Assists in setting the EOC planning and meeting schedule;
- c. Conducts EOC briefings;
- d. Coordinates the development of situation reports;
- e. Assists with resource allocation; and
- f. Delegates tasks, as necessary.

The EOC Manager reports to the MACS Coordinator.

### *EOC Technicians*

EOC Technicians are employees of the Howard County Department of Fire and Rescue Services trained in EOC operations. EOC Technicians:

- a. Maintain the technology and communications systems within the EOC, including WebEOC, County View, and radios;
- b. Serve as the primary point of contact for all external communication to the EOC; and
- c. Provide support to the EOC manager, as necessary.

EOC Technicians report to the EOC Manager.

### *Safety Officer*

The Safety Officer ensures that a safe working environment is established and maintained for County-wide operations. The Safety Officer in the EOC maintains situational awareness by communicating with safety officers in the field.

The Safety Officer routinely inspects and corrects any deficiencies in the operating environment of the EOC. The Safety Officer also ensures that personnel are not over-stressed or working for extended periods that may jeopardize their health. The Safety Officer ensures that the building and other facilities used in support of the EOC are in safe operating condition.

When the Safety Officer deems an environment or operation unsafe, he or she can stop all work and modify any unsafe environment or operations, notifying the MACS Coordinator of actions taken.

The Safety Officer works in coordination with the EOC Manager.

## **MACS Groups / Units**

### ***Senior Policy Group***

The Senior Policy Group serves as a policy- and strategic-level advisory body during ongoing or long-term emergency situations to analyze critical information and support the County Executive by identifying emergent needs and providing policy recommendations for action, including public messaging. The Senior Policy Group works together to ensure consistent information is being shared across the various departments. The Senior Policy Group is generally comprised of the County Executive, the Chief Administrative Officer (CAO) or designee, select Cabinet members or designees, and select external partners. The MACS Coordinator is responsible for facilitating Senior Policy Group meetings and discussions.

### ***Planning Unit***

Depending on the nature or scope of the emergency, a Planning Unit may be established at the discretion of the MACS Coordinator or designee. The Planning Unit typically includes representatives from agencies whose ESFs are activated, other key stakeholders, and subject matter experts. The Planning Unit Manager will facilitate Planning Unit discussions.

The Planning Unit develops general strategies based on the incident objectives approved by the County Executive. These objectives and general strategies are given to the appropriate primary agency for each activated ESF. Each ESF's primary agency with assistance from its support agencies and cooperating partners is responsible for developing the specific tasks and tactics used in furtherance of the general strategy or strategies to achieve its assigned objective(s).

The ESF's primary agency will compile all strategies, tasks, and tactics into an ESF-specific incident action plan (IAP) for the assigned operational period.

All ESF-specific plans (e.g., IAPs, standard operating procedures (SOPs), etc.) will be pushed back up to the Planning Unit for compilation into a County-wide IAP for the assigned operational period that will be presented to the County Executive for final approval.

### **Planning Unit Manager**

The Planning Unit Manager is responsible for effectively managing the Planning Unit. The Planning Unit Manager:

- a. Facilitates Planning Unit meetings and discussions;
- b. Ensures the Planning Unit has the appropriate staffing of personnel and subject matter experts;
- c. Ensures the Planning Unit aligns efforts with the approved incident objectives;
- d. Addresses any policy level decisions with the EOC Manager and or the MACS Coordinator to be vetted through the Senior Policy Group; and
- e. Conducts brief outs to the EOC.

The Planning Unit Manager works in coordination with the EOC Manager.

### ***Public Information Unit***

The Public Information Unit within the MAC System is responsible for the management of external communications. The Public Information Officer is responsible for the effective management of the Unit and may choose to operate under a Joint Information System (JIS).

For additional information see ESF #5 (Information and Planning) Annex and the Joint Information System (JIS) section of the Basic Plan.

### **Public Information Officer**

The Public Information Officer is responsible for managing the Public Information Unit, identifying the public information needs of the incident, and managing the Joint Information System when necessary. Additional responsibilities may be found in ESF #5 (Information and Planning) and the Joint Information System section to the Basic Plan.

The Public Information Officer works in coordination with the EOC Manager.

### ***Resource Support/Financial Administration Unit***

The Resource Support/Financial Administration Unit within the EOC is responsible for:

- a. Managing the acquisition and allocation of internal and external resources requested by County departments and agencies through the EOC;
- b. Managing the release of County resources to other jurisdictions that have requested such resources;
- c. Collecting, documenting, analyzing, and reporting the costs associated with County response operations and with damages incurred during the incident; and
- d. Overseeing the demobilization of County and external resources.

When obtaining external resources requested by Howard County, the Resource Support/Financial Administration Unit will make every reasonable effort to be as cost-effective as possible. When possible and appropriate, existing contracts or memoranda of understanding (MOUs) will be used. The Resource Support/Financial Administration Unit will adhere to all existing County purchasing and procurement policies.

The Resource Support/Financial Administration Unit works with departments and cooperating partners to obtain the necessary financial figures and impact descriptions. All departments, agencies, and external partners supporting county-wide response operations are required to track costs associated with their activities, and to report those costs to the Resource Support/Financial Administration Unit. The Resource Support/Financial Administration Unit reports on the total running costs and any problems that may arise from the current and projected financial situation.

The Resource Support/Financial Administration Unit works with the Department of Inspections, Licenses and Permits to organize preliminary damage assessment (PDA) teams with local, state, and federal stakeholders to conduct timely assessments of damage to public and private property.

The Resource Support/Financial Administration Unit is also responsible for the demobilization of all external resources.

For additional information see ESF #7 (Resource Support and Logistics) Annex and the Financial Management Annex.

### **Resource Support/Financial Administration Unit Manager**

The Resource Support/Financial Administration Unit Manager is responsible for managing the Unit and works in coordination with the EOC Manager.

## **On-Scene Operations**

When an incident or event requires the use of an on-scene ICS, the Office of Emergency Management will support the ICS from the EOC by coordinating overall resource support to on-scene operations.

### **Incident Command System (ICS)**

Initial response activities in Howard County are primarily performed at the field level. Emphasis is placed on minimizing loss of life and property and damage to the environment. Field responders use the ICS to organize response to the emergency or disaster by incorporating the functions, principles, and components of ICS. The incident command structure develops in a top-down, modular fashion that is based on the size and complexity of the incident. As needed, separate functional elements can be established, each of which can be further sub-divided, if needed. Responsibility for the establishment and expansion of the ICS organization ultimately rests with the Incident Commander. As incident complexity increases, the organization expands from top down as function responsibilities are delegated.

When an emergency or disaster has occurred or is imminent, the responding department or agency will establish on-scene incident command. An Incident Commander will be designated and an Incident Command Post (ICP) will be established. Depending on the scope and magnitude of the event, the ICP may be a designated emergency vehicle or may evolve into a more formal facility.

The Incident Commander is responsible for managing all on-scene tactical operations, including developing incident objectives, approving on-scene strategies and tactics, and ordering and releasing on-scene resources. The Incident Commander may request additional resources through established mutual aid agreements with neighboring jurisdictions.

For incidents when there is more than one agency with incident jurisdiction or when the incident crosses political jurisdictions, a Unified Command will be established. Agencies work together through the designated members of the Unified Command to establish common objectives and strategies under a single IAP.

When a single incident covers a large geographical area or there are multiple incidents, multiple local ICS organizations may be required. When multiple organizations are operational, it may be necessary to establish an Area Command organization to oversee the management of multiple incidents. Area

Command has the responsibility to set overall strategy and priorities, allocate critical resources according to the priorities, and ensure that all incidents are properly managed and established objectives are achieved.

## **Pre-Designated Field Operating Areas**

The County has identified pre-designated operating areas to stage and mobilize materials, equipment, and other resources.

## **Mobile Command Program**

The County Mobile Command Program serves all County agencies where its resources may be deployed to an emergency scene or other event. Mobile Command resources are equipped with modern technology to support communications, coordination, monitoring, accountability, and security.

## **Emergency Operations Center (EOC)**

As stated earlier in this section, Howard County uses a hybrid of operating systems. When the County operates under the MACS, the EOC serves as the physical location where these operations are conducted. When the County operates under on-scene ICS, the EOC serves in a traditional EOC functional role.

## **Departmental Operation Centers (DOC)**

County departments and private agencies may establish DOC staffed by their personnel to support emergency operations, coordinate departmental/agency based mission planning, and provide assistance to agency personnel assigned to the EOC. DOC functions will include managing its respective resources, managing administrative functions relevant to the incident, coordinating exchange of equipment, enhancing department continuity of operations, and conducting expedient training.

### ***DOC Coordination***

- DOCs report their department's status directly to the EOC.
- DOCs may coordinate actions with other County departments when the EOC is not activated.
- When the EOC is activated, departments that establish DOCs must assign a liaison representative to the EOC to coordinate communication between the EOC and the DOC.
- Private agencies that establish DOCs may, with the permission of the Director of the Office of Emergency Management, assign a liaison representative to the EOC to coordinate communication between the EOC and the DOC.
- Departments may designate primary and alternate locations for their DOCs.

## **Joint Information System (JIS)**

The Joint Information System (JIS) refers to processes, procedures, and systems for communicating timely and accurate information to stakeholders, media, and the public during an emergency or disaster. The JIS is under the authority and responsibility of the Howard County Executive's Office of Public Information. In order to ensure effective information sharing and situational awareness on a continual

basis between the Incident Command Structure and the JIS/JIC (Joint Information Center), a Public Information Unit may be established in the Emergency Operations Center (EOC). For more information on the policies, concept of coordination, and roles and responsibilities, see ESF #5 (Information and Planning) and the Public Information Unit section in the Basic Plan.

## Joint Information Center (JIC)

Within Howard County, a Joint Information Center (JIC) may be established to provide information to the media and public during emergency operations. The Howard County Executive's Office of Public Information is responsible for establishing and staffing a JIC under the JIS.

1. Once a JIC is established, all information must be coordinated through the JIC.
2. The JIC will be directed by the County Executive's Office of Public Information. Should the scope or severity of the emergency warrant, the County Executive's Office of Public Information will coordinate with Public Information Offices (PIOs) in neighboring jurisdictions in the state and region, and will include federal agencies when necessary.
3. Release of information for site-specific emergencies rests with the on-scene command staff PIO, unless the County PIO has been designated with or assumed the responsibility.
4. The PIO is responsible for briefing the County Executive and Senior Policy Group, as needed.

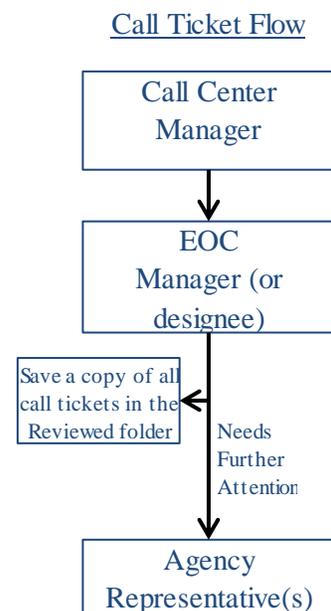
## Call Center

The Call Center is a non-emergency information line for County residents and visitors that can be activated by the PIO. Specific processes and procedures of the Call Center can be found in the *Non-Emergency Call Center Operations Plan*. Additionally, *The Call Center Triggers Checklist* can be used to determine if the Call Center is needed. If another agency determines the need to open the Call Center based on the established *Call Center Triggers*, that agency can make a request to the PIO.

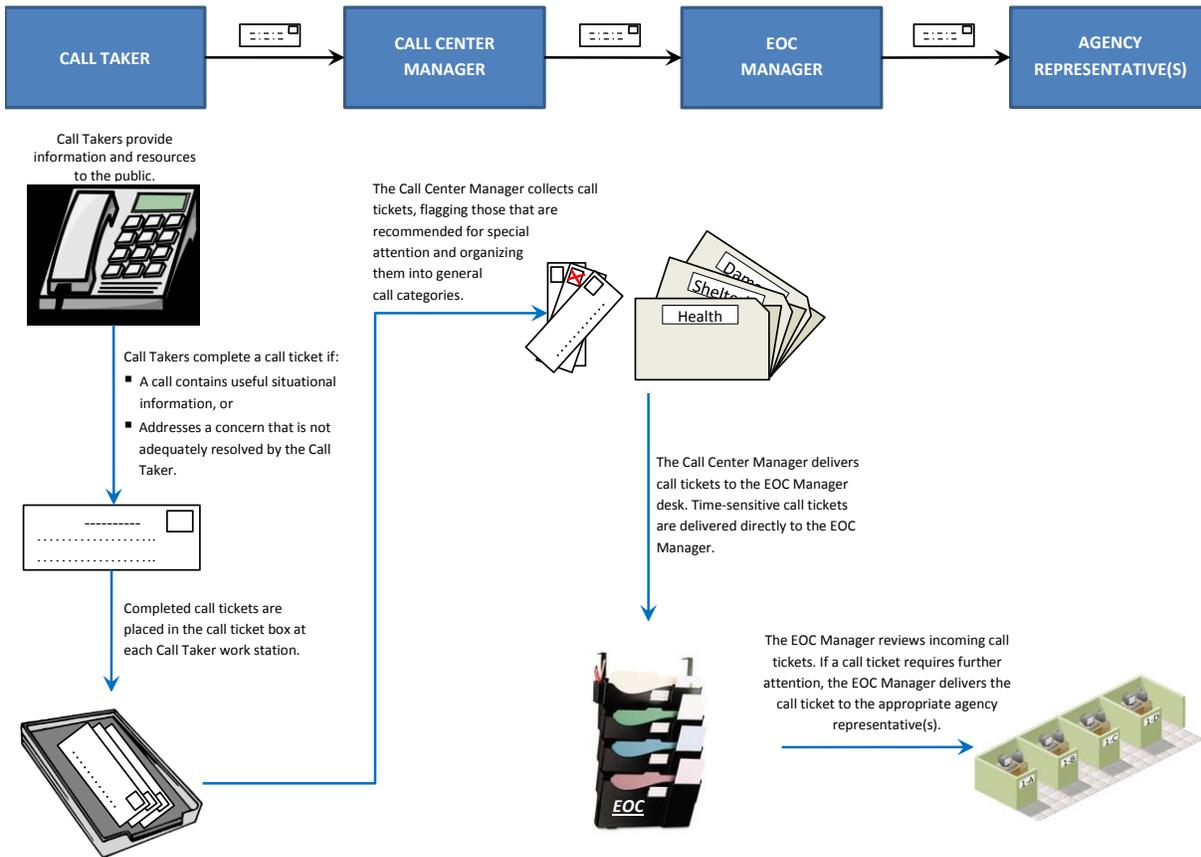
Once the Call Center is activated, the PIO is responsible for assigning a Call Center Manager to supervise Call Center operations. The PIO and the EOC Manager are the primary points of contact for the Call Center Manager. In the absence of a Call Center Manager, the PIO assumes all Call Center management responsibilities.

The primary Call Center responsibilities of PIO include:

- Making the decision to activate the Call Center;
- Assigning a Call Center Manager and Call Center Operators;
- Drafting the Call Center Public Message Brief and Resource Contact List;
- Maintaining open communication with the EOC Manager & department representatives; and
- Updating and adapting the Public Message Brief to respond to public concerns.



**Figure 27: Call Center Integration with the EOC**



## Emergency Support Functions (ESFs)

Howard County organizes the various departments, agencies, and cooperating organizations into fifteen (15) emergency support functions, commonly referred to as ESFs, to facilitate planning and coordination through MACS in order to achieve an effective emergency response and eventually recovery.

Each ESF focuses on specific emergency functions that align with the Federal Emergency Management Agency’s (FEMA) core capabilities. In the ESF Annexes to this Emergency Operations Plan (EOP), each respective ESF has outlined a designated Primary Agency, identified Support Agencies, and Cooperating Partners along with their specific roles and responsibilities.

ESFs will be activated as needed to support actual or anticipated requirements and will provide representatives to the EOC upon activation.

## Primary Agencies

Primary agencies are designated on the basis of their authorities, resources, expertise, and capabilities in a functional area. The primary agency is responsible for all pre-incident planning and coordination to facilitate the preparedness of all ESF support agencies and cooperating organizations to provide resources and perform assigned operational roles. The table below outlines the County's fifteen (15) ESFs along with the designated primary agency.

**Figure 28: Howard County Emergency Support Functions and Primary Agencies**

ESF #	Emergency Support Function	Primary Agency
1	Transportation	Office of Transportation
2	Technology and Communications	Department of Technology and Communications
3	Public Works and Engineering	Department of Public Works
4	Fire and Rescue Services	Department of Fire and Rescue Services
5	Information and Planning	Public Information Office; Office of Emergency Management
6	Mass Care and Sheltering	Department of Citizen Services Department of Corrections
7	Resource Support and Logistics	Department of County Administration
8	Public Health and Medical Services	Howard County Health Department
9	Search and Rescue	Department of Fire and Rescue Services
10	Oil and Hazardous Materials Response	Department of Fire and Rescue Services
11	Agricultural, Historical, and Natural Resources	Office of Emergency Management; Department of Planning and Zoning; Howard County Economic Development Authority
12	Energy and Utilities	Department of Public Works
13	Law Enforcement and Security	Department of Police
14	Volunteers and Donations Management	Department of Recreation and Parks, Department of Citizen Services
15	Damage Assessment	Department of Inspections, Licenses and Permits

## Support Agencies

Support agencies are County departments or agencies assigned based on resources or capabilities in a given functional area. The organization of County departments and agencies under the emergency support functions within the MACS is identified in more detail in the ESF Annexes. Identified agencies are expected to provide the ESF with personnel that have decision making authority as well as resources to support emergency operations, as requested by the Director of Emergency Management or the ESF's primary agency.

The following tables display each County department or agencies corresponding ESFs:

Office of Emergency Management	
Primary	Support
ESF 5-Information and Planning	ESF 1-Transportation
ESF 11-Agricultural, Historical, and Natural Resources	ESF 2-Technology and Communications
	ESF 3-Public Works
	ESF 4-Fire and Rescue Services
	ESF 6-Mass Care and Sheltering
	ESF 7-Resource Support and Logistics
	ESF 8-Public Health and Medical Services
	ESF 9-Search and Rescue
	ESF 10-Oil and Hazardous Materials Response
	ESF 12-Energy and Utilities
	ESF 13-Law Enforcement and Security
	ESF 14-Volunteers and Donations Management
	ESF 15-Damage Assessment
<b>Total: 2</b>	<b>Total: 13</b>

Police Department	
<i>Primary</i>	<i>Support</i>
ESF 13-Law Enforcement and Security	ESF 1-Transportation
	ESF 2-Technology and Communications
	ESF 3-Public Works
	ESF 4-Fire and Rescue Services
	ESF 5-Information and Planning
	ESF 6-Mass Care and Sheltering
	ESF 7-Resource Support and Logistics
	ESF 8-Public Health and Medical Services
	ESF 9-Search and Rescue
	ESF 10-Oil and Hazardous Materials Response
	ESF 11-Agricultural, Historical, and Natural Resources
	ESF 14-Volunteers and Donations Management
	ESF 15-Damage Assessment
<b>Total: 1</b>	<b>Total: 13</b>

Office of Law	
<i>Primary</i>	<i>Support</i>
	ESF 1-Transportation
	ESF 2-Technology and Communications
	ESF 3-Public Works and Engineering
	ESF 4-Fire and Rescue Services

	ESF 5-Information and Planning
	ESF 6-Mass Care and Sheltering
	ESF 7-Resource Support and Logistics
	ESF 8-Public Health and Medical Services
	ESF 9-Search and Rescue
	ESF 10-Oil and Hazardous Materials Response
	ESF 11-Agricultural, Historical, and Natural Resources
	ESF 12-Energy and Utilities
	ESF 13-Law Enforcement and Security
	ESF 14-Volunteers and Donations Management
	ESF 15-Damage Assessment
<b>Total: 0</b>	<b>Total: 15</b>

Department of Fire and Rescue Services	
<i>Primary</i>	<i>Support</i>
ESF 4-Fire and Rescue Services	ESF 1-Transportation
ESF 9-Search and Rescue	ESF 2-Technology and Communications
ESF 10-Oil and Hazardous Materials Response	ESF 3-Public Works
	ESF 5-Information and Planning
	ESF 7-Resource Support and Logistics
	ESF 8-Public Health and Medical Services
	ESF 11-Agricultural, Historical, and Natural Resources
	ESF 13-Law Enforcement and Security

	ESF 15-Damage Assessment
<b>Total: 3</b>	<b>Total: 9</b>

Department of Recreation and Parks	
<i>Primary</i>	<i>Support</i>
ESF 14-Volunteers and Donations Management	ESF 1-Transportation
	ESF 3-Public Works and Engineering
	ESF 5-Information and Planning
	ESF 6-Mass Care and Sheltering
	ESF 7-Resource Support and Logistics
	ESF 8-Public Health and Medical Services
	ESF 9-Search and Rescue
	ESF 10-Oil and Hazardous Materials Response
	ESF 11-Agricultural, Historical, and Natural Resources
	ESF 13-Law Enforcement and Security
	ESF 15-Damage Assessment
<b>Total: 1</b>	<b>Total: 11</b>

Department of Public Works	
<i>Primary</i>	<i>Support</i>
ESF 3-Public Works and Engineering	ESF 1-Transportation
ESF 12-Energy and Utilities	ESF 4-Fire and Rescue Services
	ESF 5-Information and Planning

	ESF 8-Public Health and Medical Services
	ESF 9-Search and Rescue
	ESF 10-Oil and Hazardous Materials Response
	ESF 11- Agricultural, Historical, and Natural Resources
	ESF 13-Law Enforcement and Security
	ESF 14-Volunteers and Donations Management
	ESF 15-Damage Assessment
<b>Total: 2</b>	<b>Total: 10</b>

Health Department	
Primary	Support
ESF 8-Public Health and Medical Services	ESF 3-Public Works and Engineering
	ESF 5- Information and Planning
	ESF 6-Mass Care and Sheltering
	ESF 9-Search and Rescue
	ESF 10-Oil and Hazardous Materials Response
	ESF 11-Agricultural, Historical, and Natural Resources
	ESF 13-Law Enforcement and Security
	ESF 14-Volunteers and Donations Management
	ESF 15-Damage Assessment
<b>Total: 1</b>	<b>Total: 9</b>

Department of Technology and Communications	
<i>Primary</i>	<i>Support</i>
ESF 2-Technology and Communications	ESF 5-Information and Planning
	ESF 8-Public Health and Medical Services
	ESF 9-Search and Rescue
	ESF 10-Oil and Hazardous Materials Response
	ESF 13-Law Enforcement and Security
	ESF 14-Volunteers and Donations Management
	ESF 15-Damage Assessment
<b>Total: 1</b>	<b>Total: 7</b>

Office of Transportation	
<i>Primary</i>	<i>Support</i>
ESF 1-Transportation	ESF 3-Public Works and Engineering
	ESF 5-Information and Planning?
	ESF 15-Damage Assessment
<b>Total: 1</b>	<b>Total: 3</b>

Department of County Administration	
<i>Primary</i>	<i>Support</i>
ESF 7-Resource Support and Logistics	ESF 1-Transportation
	ESF 5-Information and Planning
	ESF 6-Mass Care and Sheltering

	ESF 12-Energy and Utilities
	ESF 14-Volunteers and Donations Management
	ESF 15-Damage Assessment
<b>Total: 1</b>	<b>Total: 6</b>

Department of Planning and Zoning	
<i>Primary</i>	<i>Support</i>
ESF 11-Agricultural, Historical, and Natural Resources	ESF 1-Transportation
	ESF 3-Public Works and Engineering
	ESF 5-Information and Planning
	ESF 6-Mass Care and Sheltering
<b>Total: 1</b>	<b>Total: 4</b>

Howard County Public School System	
<i>Primary</i>	<i>Support</i>
	ESF 1-Transportation
	ESF 3-Public Works and Engineering
	ESF 5-Information and Planning
	ESF 6-Mass Care and Sheltering
	ESF 8-Public Health and Medical Services
	ESF 15-Damage Assessment
<b>Total: 0</b>	<b>Total: 6</b>

Department of Citizen Services	
<i>Primary</i>	<i>Support</i>
ESF 6-Mass Care and Sheltering	ESF 5-Information and Planning
ESF 14-Volunteers and Donations Management	ESF 8-Public Health and Medical Services
	ESF 10-Oil and Hazardous Materials Response
	ESF 12-Energy and Utilities
<b>Total: 2</b>	<b>Total: 4</b>

Department of Inspections, Licenses and Permits	
<i>Primary</i>	<i>Support</i>
ESF 15-Damage Assessment	ESF 3-Public Works and Engineering
	ESF 5-Information and Planning
	ESF 11-Agricultural, Historical, and Natural Resources
<b>Total: 1</b>	<b>Total: 3</b>

Department of Corrections	
<i>Primary</i>	<i>Support</i>
ESF 6-Mass Care and Sheltering	ESF 8-Public Health and Medical Services
	ESF 13-Law Enforcement and Security
	ESF 14-Volunteers and Donations Management
<b>Total: 1</b>	<b>Total: 3</b>

Public Information Office (PIO)	
Primary	Support
ESF 5-Information and Planning	ESF 6-Mass Care and Sheltering
	ESF 10-Oil and Hazardous Materials Response
	ESF 13-Law Enforcement and Security
<b>Total: 1</b>	<b>Total: 3</b>

Economic Development Authority (EDA)	
Primary	Support
ESF 11-Agricultural, Historical, and Natural Resources	
<b>Total: 1</b>	<b>Total: 0</b>

County Executive Office	
Primary	Support
ESF 5-Information and Planning	
<b>Total: 1</b>	<b>Total: 0</b>

Howard County Mental Health Authority	
Primary	Support
	ESF 6-Mass Care and Sheltering
	ESF 8-Public Health and Medical Services
	ESF 14-Volunteers and Donations Management
<b>Total: 0</b>	<b>Total: 3</b>

Department of Finance	
<i>Primary</i>	<i>Support</i>
	ESF 7-Resource Support and Logistics
	ESF 14-Volunteers and Donations Management
<b>Total: 0</b>	<b>Total: 2</b>

Sheriff's Office	
<i>Primary</i>	<i>Support</i>
	ESF 13-Law Enforcement and Security
<b>Total: 0</b>	<b>Total: 1</b>

Department of Housing and Community Development	
<i>Primary</i>	<i>Support</i>
	ESF 6-Mass Care and Sheltering
<b>Total: 0</b>	<b>Total: 1</b>

Howard Soil Conservation District	
<i>Primary</i>	<i>Support</i>
	ESF 11-Agricultural, Historical, and Natural Resources
<b>Total: 0</b>	<b>Total: 1</b>

## Cooperating Partners

A cooperating partner is a non-County organization that has been identified as a potential resource for supporting the County's emergency response operations. The following organizations serve as cooperating partners in the various ESFs:

- Adventist Community Services (Chesapeake ACS Disaster Response)
- American Red Cross
- Bay Area Recovery Canines (BARC)
- Baltimore City Bureau of Water and Wastewater
- Baltimore Gas and Electric (BGE)
- Chesapeake Search Dogs
- Civil Air Patrol
- Colonial Pipeline Company
- Columbia Association
- Comcast
- CSX
- Federal Bureau of Investigation - Joint Terrorism Task Force (FBI - JTTF)
- Federal Emergency Management Agency (FEMA)
- FirstEnergy Corp.
- Governor's Office of Service and Volunteerism
- Grassroots Crisis Intervention Center
- Howard Community College
- Howard County Farm Bureau
- Howard County General Hospital (HCGH)
- Howard County Library System
- Mansfield Oil
- Maryland Department of Agriculture (MDA)
- Maryland Department of Environment (MDE)
- Maryland Department of Health and Mental Hygiene (DHMH)
- Maryland Department of Human Resources
- Maryland Department of Natural Resources (DNR)
- Maryland Department of Social Services
- Maryland Historical Trust
- Maryland National Guard
- Maryland State Highway Administration
- Maryland State Police (MSP)
- Maryland Coordination and Analysis Center (MCAC)
- Maryland Emergency Management Agency (MEMA)
- Maryland Natural Resource Police
- Maryland Public Service Commission
- MDWARN
- Mid-Atlantic DOGS Search and Rescue
- Maryland Institute for Emergency Medical Services Systems (MIEMSS)
- Motorola
- Office of the State Fire Marshal
- Radio Amateur Civil Emergency Services (RACES)
- Regional Transit Agency (RTA) of Central Maryland
- Team Rubicon
- The Salvation Army
- TrotSAR Mounted Search and Rescue Team, Inc.
- U.S Army Corp of Engineers (USACE)
- United States Department of Agriculture (USDA)
- Verizon
- Volunteer Center Serving Howard County
- Washington Gas
- Washington Suburban Sanitary Commission (WSSC)
- Williams Gas Pipeline

# Transition to Recovery

The transition from response operations to recovery is a gradual process, the pace and timing of which depend upon the circumstances of the disaster. As response activities diminish, disaster recovery activities increase. During this time period, direction and control of the County's response operations are transferred to recovery under the authority of the Multi-Agency Coordination System (MACS) Coordinator.

**Figure 29: Recovery Continuum<sup>1</sup>**

*Recovery is a sequence of interdependent and often concurrent activities that advance a community toward a successful recovery.*



<sup>1</sup> <http://emilms.fema.gov/is1a/EMOPsummary.htm>

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