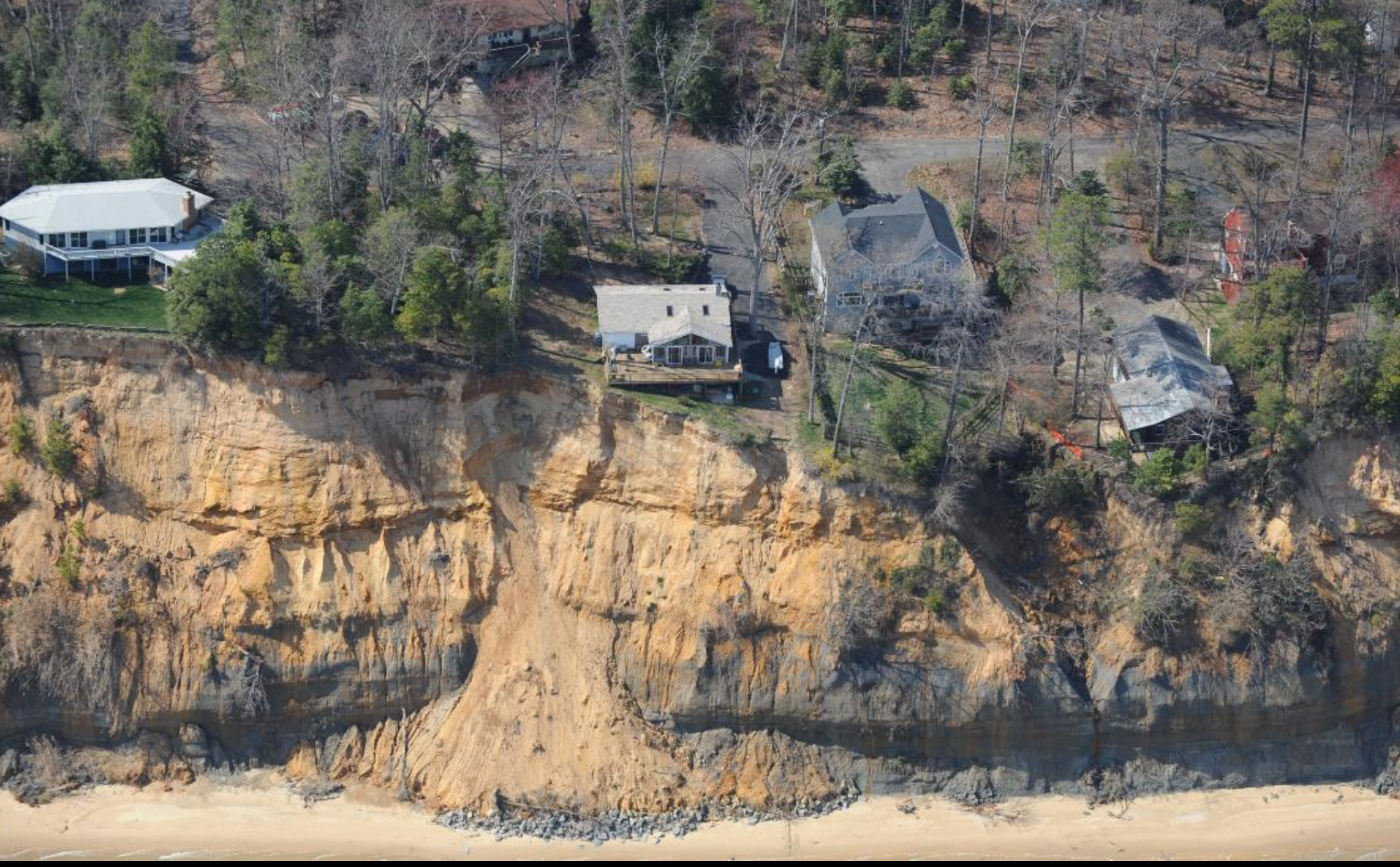

# State of Maryland Mitigation Operations Plan

# (SMOP)

FINAL DRAFT
June 30, 2014

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## SIGNATURE PAGE

The State of Maryland is committed to a consistent and inclusive approach to reducing the impact of threats and hazards to communities across the State.

_____

Mark James

State Hazard Mitigation Officer

Maryland Emergency Management Agency

_____

Kenneth Mallette

Executive Director

Maryland Emergency Management Agency

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# ACRONYMS AND DEFINITIONS

The following acronyms and definitions reflect only those acronyms or terms used in this document. The full Maryland Emergency Management Agency (MEMA) Authorized Acronym Table (MAAT) is a separate document.

| | |
|---|---|
| AAR | - After Action Report |
| BOC | - Business Operations Center |
| $CO_2$ | - Carbon Dioxide |
| DBED | - Department of Business and Economic Development (Maryland) |
| DGS | - Department of General Services (Maryland) |
| DHCD | - Department of Housing and Community Development (Maryland) |
| DHR | - Department of Human Resources (Maryland) |
| DNR | - Department of Natural Resources (Maryland) |
| FEMA | - Federal Emergency Management Agency |
| FMA | - Flood Mitigation Assistance |
| GHG | - Greenhouse Gases |
| HIRA | - Hazard Impact Risk Assessment |
| HMA | - Hazard Mitigation Assistance |
| HMGP | - Hazard Mitigation Grant Program |
| HSPD-5 | - Homeland Security Presidential Directive 5 |
| IP | - Improvement Plan |
| MAC | - Mitigation Advisory Committee |
| MDE | - Maryland Department of the Environment |
| MDEMA | - Maryland Emergency Management Association |
| MDOT | - Maryland Department of Transportation |
| MDP | - Maryland Department of Planning |
| MEA | - Maryland Energy Administration |
| MEMA | - Maryland Emergency Management Agency |
| MEPP | - Maryland Emergency Preparedness Program |
| MIA | - Maryland Insurance Administration |
| NIMS | - National Incident Management System |
| NMF | - National Mitigation Framework |

| | | |
|---|---|---|
| NPG | - National Preparedness Goal |
| PDM | - Pre-Disaster Mitigation |
| PPD-8 | - Presidential Policy Directive 8 |
| PSIP | - Private Sector Integration Program |
| PSC | - Maryland Public Service Commission |
| RGGI | - Regional Greenhouse Gas Initiative |
| SEOC | - State Emergency Operations Center |
| SHMO | - State Hazard Mitigation Officer |
| SMOP | - State Mitigation Operations Plan |
| THIRA | - Threat and Hazard Identification and Risk Assessment |
| TOD | - Transit-Oriented Development |
| VOAD | - Voluntary Organizations Active in Disaster |
| ZEV | - Zero Emissions Vehicle |

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## MITIGATION MISSION STATEMENT

Ensure the ability of the State of Maryland to effectively reduce the impacts of all hazards on both individuals and property in coordination with all necessary state, local, federal, private sector, and voluntary, faith-based, and nongovernmental agencies in order to create a more resilient Maryland.

## I. PURPOSE

The Maryland State Mitigation Operations Plan (SMOP) describes the roles and responsibilities of entities within Maryland to reduce the vulnerabilities, consequences, impacts, duration, and the financial and human costs of hazards to which Maryland is susceptible.

## II. SCOPE

The SMOP is the State Mitigation Mission Area Operations Plan within the Maryland Emergency Preparedness Program (MEPP). The SMOP outlines the ongoing state-level hazard mitigation efforts that occur prior to, during, and following an incident, or disaster. The magnitude to which the Mitigation Mission Area is executed is dependent upon regulatory activity and funding each year. The identified actions and activities in this Plan are based on existing State agency statutory authorities.

*While providing a structure of procedures and guidelines, at no time is the SMOP intended to inhibit the use of experience and commonsense by Maryland Emergency Management Agency leadership and staff, State of Maryland departments/agencies representatives, or organizations and businesses when determining the actions and resources needed to reduce the vulnerabilities, consequences, impacts, duration, and the financial and human costs of a hazard. The details described in this Plan may or may not apply to specific situations. State employees must use their discretion in each situation to determine the best course of action. Procedures listed in this Plan serve as guidance, but are not intended to replace the best judgment of those who are directly handling a specific hazard mitigation-related task.*

# III. OBJECTIVES

The objectives to be met throughout the execution of the SMOP are as follows:

## A. Reduce risk by prioritizing investments.

Assessing the impacts of natural, manmade, and technological hazards on communities enables strategic prioritization of mitigation projects, and enhances the State's ability to reduce or eliminate long-term risks through the effective allocation of resources and the dissemination of information.

## B. Support local jurisdictions' involvement in hazard mitigation planning.

All disasters are local, and it is the State of Maryland's role to provide assistance to the local jurisdictions in the form of personnel, resources, and operational coordination, at their request, when their resources are exceeded.

## C. Integrate risk-reduction programs across State government, and with local governments and the private sector.

Use existing or new regulations, local ordinances, land use and building practices, and mitigation projects to reduce the risk of natural hazards on life and property. The primary tool to accomplish the consolidation and execution of risk-reduction programs and strategies is the State All-Hazards Mitigation Plan.

## D. Encourage and promote the value of mitigation statewide.

Encourage more participation from various departments and agencies across both the State and local governments to foster stronger intergovernmental coordination.

# IV. MITIGATION PLANNING FACTS AND ASSUMPTIONS

The State of Maryland has developed this Plan to address the risks identified in the State's Threat and Hazard Identification and Risk Assessment (THIRA), which is updated annually, and the Hazard Identification and Risk Assessment (HIRA), which is updated every five years. Both assessments are developed through statewide coordination and input from all of Maryland's 23 counties and the cities of Baltimore, Annapolis, and Ocean City. This Plan takes into account all threats and hazards to provide a standard framework for mitigation operations at the State level.

- Private and nonprofit organizations within the State of Maryland are an essential part of hazard mitigation operations, and the State takes action to support risk-reduction initiatives at all levels of government, and with the private and nonprofit sectors.
- Maryland departments/agencies need to assist communities with hazard mitigation efforts, within policy, regulatory, and financial constraints.
- Statewide hazard-mitigation operations extend beyond traditional federally-funded programs, such as the Hazard Mitigation Grant Program (HMGP). While the State receives mitigation funds every year, after a disaster, the State, or communities within the State, will likely be eligible for additional mitigation-related assistance.
- The State of Maryland integrates issues related to planning for people with disabilities and others with access and functional needs in all mitigation strategies and initiatives, as appropriate.

# V. MITIGATION DOCTRINE

## A. All Hazards Planning

An incident may occur in the State with or without warning, under a myriad of circumstances. Maryland, while cognizant of its identified threats and hazards, conducts planning efforts in accordance with an all-hazards philosophy.

## B. National Standards

This Plan is consistent with Presidential Policy Directive 8 (PPD-8), Homeland Security Presidential Directive 5 (HSPD-5), and the National Incident Management System (NIMS) – the primary components of national preparedness doctrine. This document supports seamless coordination and integration of national (federal and other states') resources to supplement State resources during hazard mitigation operations. Together, the National Preparedness Goal (NPG), National Mitigation Framework (NMF), and NIMS present the guiding principles that enable all mitigation partners to work towards mitigating the effects of anything from the smallest incident to the largest catastrophe. The State implements and adapts national standards through the Maryland Emergency Preparedness Program (MEPP), which is outlined in the section below.

## C. All Emergencies are Locally-Driven

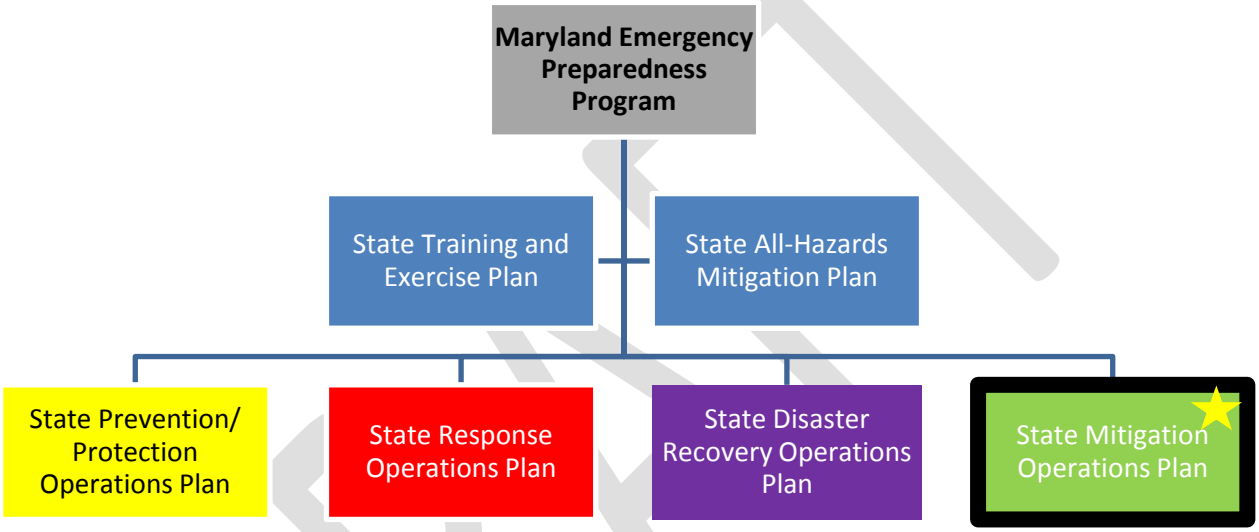
Local jurisdictions have the capability to perform hazard mitigation operations prior to, during, and following most disasters. Hazard mitigation operations should always be ongoing at both the State and local levels.

Assistance from the State may be provided to local jurisdictions under a variety of circumstances, such as when federal funds become available, or when State-led initiatives dictate. The State may also provide technical expertise to local jurisdictions that may not possess it internally. When resources and/or coordination requirements exceed local capabilities, local authorities may request State hazard-mitigation resources and assistance.

# VI. Plan Organization

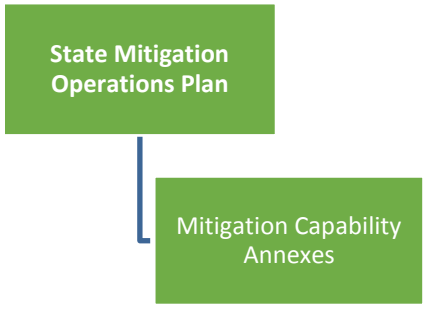
The Maryland State Mitigation Operations Plan, or SMOP, describes the roles and responsibilities of State-level entities to effectively deliver hazard mitigation capabilities statewide. The SMOP is one of four all-hazards mission area operations plans (Prevention/Protection, Mitigation, Response, and Recovery) within the Maryland Emergency Preparedness Program.

**Figure 1 – The Maryland Emergency Preparedness Program Plan Hierarchy**




The MEPP is the State's overarching construct for emergency preparedness. The MEPP is an all-hazards approach to the delivery of specific capabilities for each of Maryland's four mission areas (listed above) to address the State's risk. This document serves as the operations plan for the Mitigation Mission Area, and is maintained by the Mitigation Advisory Committee (MAC).

**Figure 2 – SMOP Components**



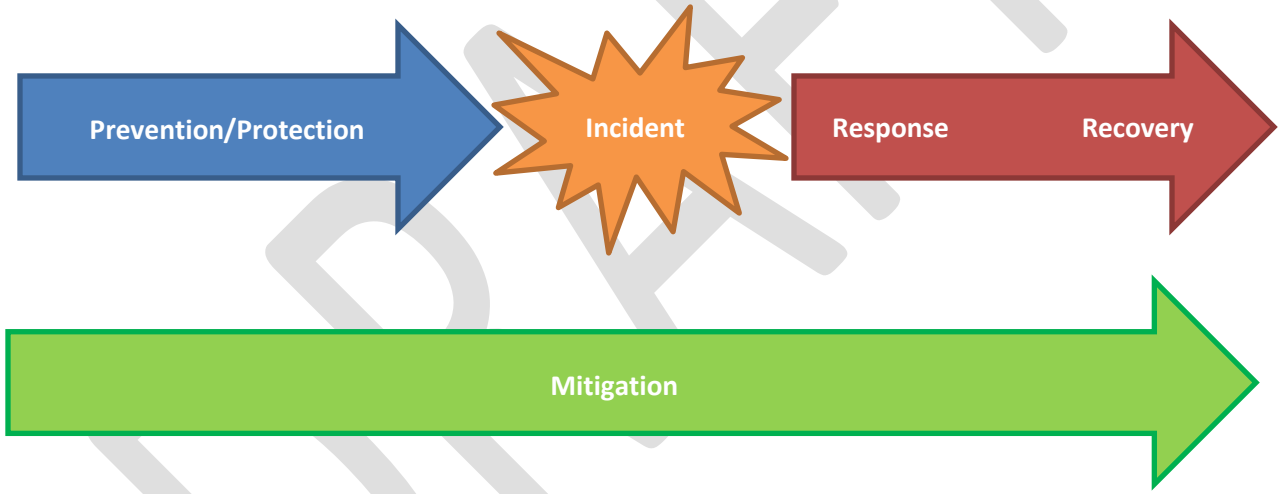

The SMOP is supplemented by Mitigation Capability Annexes that identify capability targets and resources needed and available to meet those targets. The SMOP and Mitigation Capability Annexes describe common management and coordination processes that apply to all mitigation activities.

## A. Mission Area Interdependencies

### 1. The mission areas are divided between crisis management and consequence management, each with distinct focuses and operational activities.

- *Crisis management* (shown below in blue) is the process of preventing or reducing the risk of a threat or hazard to the State, its citizens, or its infrastructure (Prevention/Protection).
- *Consequence management* (shown below in red) is the process of addressing the impacts of a threat or hazard to the State, its citizens, or its infrastructure, and restoring the State's ability to function, while taking steps to reduce future vulnerabilities (Response and Recovery).
- Note: Mitigation is depicted in green as crosscutting both crisis and consequence management because elements of the Mitigation Mission Area are included in both types of planning.

**Figure 3 – Mission Area Interdependence**




Capabilities involved in the Prevention/Protection, Response, and Recovery Mission Areas greatly impact Mitigation Mission Area operations. Many of the resources used daily to deliver the capabilities of the other three mission areas are utilized to support mitigation operations. Capabilities within the Mitigation Mission Area reduce the impact and severity of an incident, and generate the risk-based planning assumptions that the MEPP is based upon. Recovery capabilities are the direct evolution of an emergency from stabilization to community restoration.

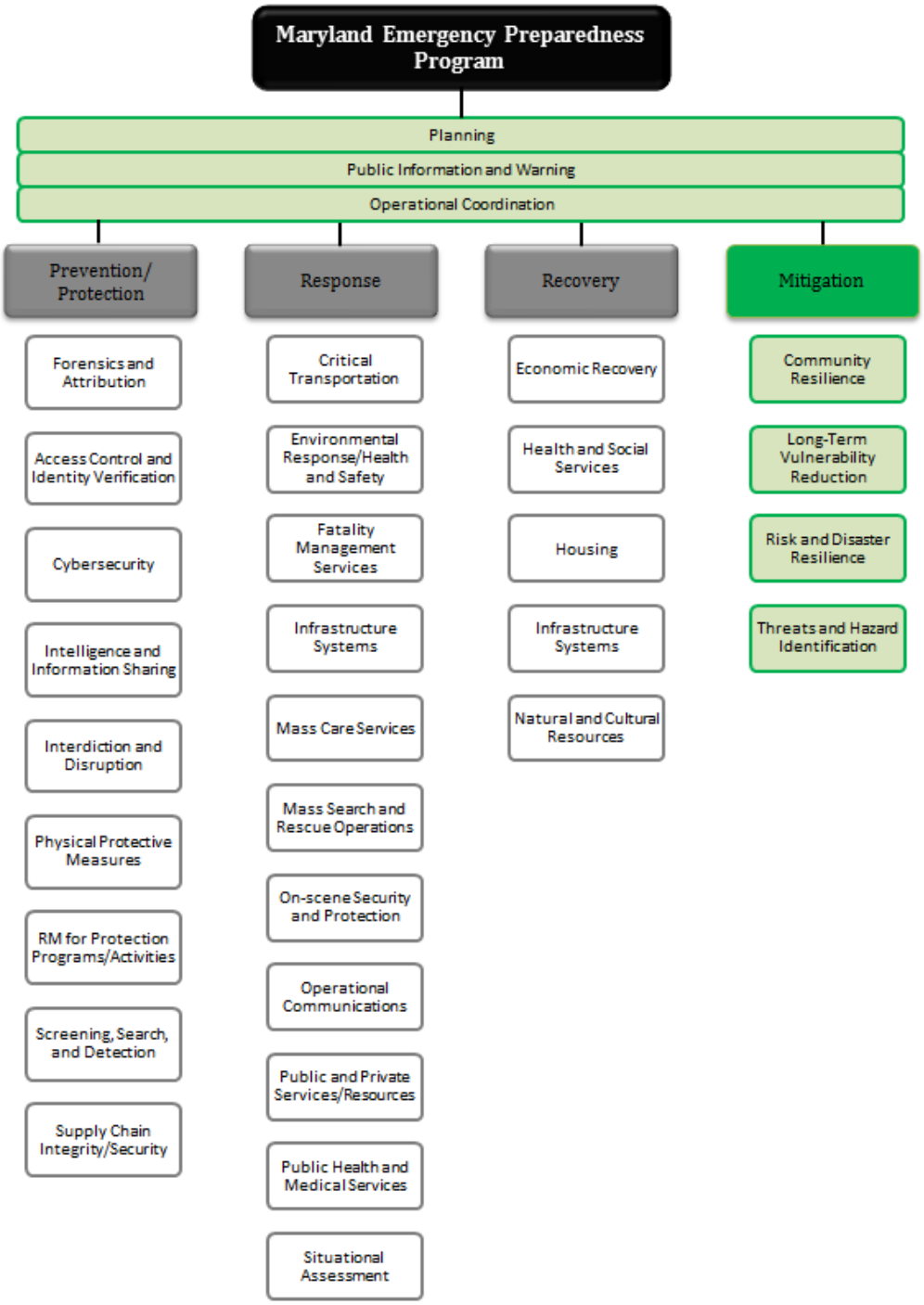
While this Plan pertains solely to those capabilities within the Mitigation Mission Area, thoughtful consideration is essential as to how capabilities are being delivered in the context of this Plan, and how

this may impact the delivery of capabilities needed for concurrent operations within other mission areas.

# VII. CAPABILITIES FOR MITIGATION

The Mitigation Mission Area capabilities are a list of the activities that generally must be accomplished during mitigation operations, regardless of which levels of government are involved. The Mitigation Mission Area includes seven capabilities – four that apply only to mitigation, and three that are common to all four mission areas. The figure below outlines the capabilities for each of the four mission areas as defined by the Maryland Emergency Preparedness Program Strategic Plan.

**Figure 4 – Mitigation Mission Area Capabilities**




The Mitigation Mission Area includes those capabilities necessary to reduce loss of life and property by reducing the impact of disasters. It is focused on ensuring that the State is able to reduce the consequences, impacts, duration, and financial and human costs that responding and recovering from

adverse incidents has on governments, individuals, the private sector, communities, critical infrastructure, and other states.

The table below provides a description of each mitigation capability and the critical tasks to achieve its objective.

**Table 1 – Mitigation Mission Area Capability Overview**

| Planning | |
|---|---|
| **Description** | Conduct a systematic process engaging the whole community, as appropriate, in the development of executable strategic, operational, and/or community-based approaches to meet defined objectives. |
| **Capability Targets** | **Mitigation Planning**<br>1. At the direction of the Mission Area Lead, develop and execute necessary crisis action plans within two operational periods, using existing contingency plans where applicable.<br>2. Revise the State's All-Hazards Mitigation Plan every 5 years<br>3. Evaluate implementation of mitigation strategies included in the State's All-Hazards Mitigation Plan annually.<br>4. Ensure Federal approval of All-Hazards Mitigation Plans for each of Maryland's 26 local jurisdictions on the applicable 5 year revision cycle through financial program administration, plan integration guidance, and plan compliance review. |
| **Public Information and Warning** | |
| **Description** | Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available. |
| **Capability Targets** | **Digital Media**<br>1. Within 30 minutes of an event, spread safety warnings through Twitter to four million people in the state (including Tweets and Retweets.)<br>2. Within 30 minutes of an event, spread safety warnings through Facebook to a million followers<br>3. Within 12 hours of an event, update the MEMA website to provide relevant safety information.<br>4. Produce one YouTube video per quarter to highlight a threat or hazard/<br>**Traditional Media**<br>1. Deliver a coordinated media message to 50 different media outlets within two hours of a JIC activation.<br>2. Maintain a media calendar highlighting threats and hazards throughout the year, and contact all media outlets in the state for each calendar entry. |

| | |
|---|---|
| | 3. Within one hour of activation of the JIC, notify the media of SEOC activation and availability for interviews.<br>4. Ensure 100% JIC staffing for 24/7 operations during an incident.<br>**5.** Within twelve hours of a request being made, coordinate and facilitate visits of 100% of elected officials and other VIPs to the affected area.<br>**Public Outreach/Direct Contact**<br>1. Hold one public event per region per quarter.<br>2. Present at 2 national conferences a year.<br>3. Table or present at 4 major and 12 minor public events in Maryland throughout the year.<br>4. Develop and implement a risk-based editorial calendar to target public outreach activities.<br>**Advertising/Signage**<br>1. For a no-notice event in appropriate area (i.e., in a geographic area with digital billboard coverage), contact the billboard operator within 10 minutes to post notification.<br>2. For an event with notice (hurricane, winter storm, etc.) contact billboard operator no later than one hour after appropriate National Weather Service notification about rotating safety messages. |
| **Operational Coordination** | |
| **Description** | Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of capabilities. |
| **Capability Targets** | **Mitigation Operational Coordination**<br>1. Before the start of the first operational period, or within the first operational period of a no-notice event, determine which crisis action and contingency plans are relevant.<br>2. Within seventy-two hours of the conclusion of life-saving operations, determine which mitigation strategies and projects were involved in the operation.<br>3. Within one week of an event, communicate any unmet mitigation needs identified in the operation to the Mitigation Grants Program. |
| **Community Resilience** | |
| **Description** | Lead the integrated effort to recognize, understand, communicate, plan, and address risks so that the community can develop a set of actions to accomplish Mitigation and improve resilience. |
| **Capability Targets** | **Individual Resiliency**<br>1. 25% of a three day supply of food and water.<br>2. 50% of Maryland citizens can receive information without electricity.<br>3. 50% of Maryland citizens have important documents protected.<br>4. Produce and update on an annual basis a social vulnerability index to map the vulnerability of Maryland.<br>**Institutional Resiliency**<br>1. 100% of prek-12th grade schools have a preparedness plan. |

| | |
|---|---|
| | 2. 50% of Maryland small businesses have attended a COOP seminar.<br>3. 100% increase in PSIP membership.<br>**Local Government Coordination**<br>1. 100% of Jurisdictions are engaged in the Maryland Emergency Preparedness Program (MEPP).<br>2. 100% of Maryland State Agencies have a COOP Plan. |
| **Long-Term Vulnerability Reduction** | |
| **Description** | Build and sustain resilient systems, communities, and critical infrastructure and key resources lifelines so as to reduce their vulnerability to natural, technological, and human-caused incidents by lessening the likelihood, severity, and duration of the adverse consequences related to these incidents. |
| **Capability Targets** | **Reduce Vulnerability from Natural Hazards**<br>1. Every five years, update the State Hazard Mitigation Plan to reflect current status of projects and needs of the state.<br>2. On the timeline specified, administer grants and projects that reduce the vulnerability to natural disasters.<br>3. At the end of each year, identify and evaluate natural disaster risk reduction policies.<br>**Reduce Vulnerability from Technological Hazards**<br>1. Every five years, update the State Hazard Mitigation Plan to reflect current status of projects and needs of the state.<br>2. On the timeline specified, administer grants and projects that reduce the vulnerability to technological disasters.<br>3. At the end of each year, identify and evaluate technological disaster risk reduction policies.<br>**Reduce Vulnerability from Human-caused Hazards**<br>1. Every five years, update the State Hazard Mitigation Plan to reflect current status of projects and needs of the state.<br>2. On the timeline specified, administer grants and projects that reduce the vulnerability to man-made disasters.<br>3. At the end of each year, identify and evaluate man-made disaster risk reduction policies. |
| **Risk and Disaster Resilience Assessment** | |
| **Description** | Assess risk and disaster resilience so that decision makers, responders, and community members can take informed action to reduce their entity's risk and increase their resilience. |
| **Capability Targets** | **Natural Hazard Resilience Assessment**<br>1. At the end of each year, develop a ranking of all potential natural threats and hazards using quantitative analysis to prioritize risk reduction programs.<br>**Technological Hazard Resilience Assessment**<br>1. At the end of each year, develop a ranking of all potential technological threats and hazards using quantitative analysis to prioritize risk reduction programs.<br>**Man-made Hazard Resilience Assessment**<br>1. At the end of each year, develop a ranking of all potential man- |

| | |
|---|---|
| | made threats and hazards using quantitative analysis to prioritize risk reduction programs. |
| **Threats and Hazard Identification** | |
| **Description** | Identify the threats and hazards that occur in the geographic area; determine the frequency and magnitude; and incorporate this into analysis and planning processes so as to clearly understand the needs of a community or entity. |
| **Capability Targets** | **Identify Threats from Natural Sources**<br>1. Each month, add to a running list of new or potentially altered natural hazards.<br>2. Each year, identify all potential natural threats and hazards.<br>**Identify Threats from Technological Failure Sources**<br>1. Each month, add to a running list of new or potentially altered technological hazards.<br>2. Each year, identify all potential technological threats and hazards.<br>**Identify Threats from Human-caused Sources**<br>1. Each month, add to a running list of new or potentially altered man-made hazards.<br>2. Each year, identify all potential man-made threats and hazards. |

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# VIII. CONCEPT OF COORDINATION

Mitigation is an ongoing process aimed at reducing the human and financial consequences of potential or actual threats and hazards. Effective hazard mitigation requires an assessment of local risks and strategic investments into a community's well-being. Local jurisdictions should have the capacity to effectively engage in ongoing mitigation operations without any outside assistance. If a disaster occurs that exceeds the resource capacity of the local jurisdictions and the State, a Presidential Disaster Declaration (Declaration) will be requested by the State. If a Declaration is received, a wide array of federal programs and resources become available to the State, targeted at reducing the risk of future hazards.

The State is responsible for implementing risk-reduction strategies and coordinating those activities in support of Maryland's individuals, communities, local jurisdictions, and the private and nonprofit sectors. The Maryland Emergency Management Agency (MEMA) and the State Hazard Mitigation Officer (SHMO) act as the conduit of coordination among all risk-reduction initiatives and partnerships.

Local jurisdictions are responsible for coordinating risk-reduction initiatives and partnerships within their areas of responsibility. This includes developing, assessing, and implementing mitigation capabilities to reduce long-term vulnerability.

## A. Mitigation Advisory Committee

The Maryland Mitigation Advisory Committee (MAC) serves as the leadership group for the Mitigation Mission Area at the state level. The State departments and agencies engaged in mitigation operate according to their statutory authorities in a roundtable, group approach to making decisions. MEMA serves as the lead for the Mitigation Mission Area and the SHMO serves as chair of the MAC. The MAC helps to identify Maryland threats and hazards and conducts assessments to prioritize threats and hazards according to risk. Additionally, the MAC reviews, analyzes, and prioritizes projects submitted for potential funding by FEMA. This group is responsible for making recommendations to the MEMA Executive Director as to which projects should be submitted to FEMA for funding. The authority to submit projects to FEMA for funding rests with the Executive Director of MEMA.

MAC membership and operations are guided by the Bylaws of the Maryland Mitigation Advisory Committee, which are included below.

## 1. ARTICLE I – NAME

This organization shall be known by the long title as the Maryland Mitigation Advisory Committee (herein referred to as the Committee).

## 2. ARTICLE II – PURPOSE & AUTHORITY

**Section A – Purpose**

The purpose of the Committee is to advise the Maryland Emergency Management Agency (MEMA) on concerns of hazard-mitigation planning, activities, and policies. All hazards, including natural and man-made, may be considered, and the Committee should adhere to the State Hazard Mitigation Plan prepared in accordance with the federal Disaster Mitigation Act of 2000 (DMA 2000). Specific charges to the Committee are to:

1) The Committee implements the State Hazard Mitigation Plan, through the following actions:
    a. Initiate the preparation of appropriate proposals from state agencies and encourage local and regional, multi-jurisdictional governmental agencies to submit proposals for hazard mitigation projects and Multi-Hazard Mitigation Plans;
    b. Review Multi-Hazard Mitigation Plans and plan updates of local and region, multi-jurisdictional governmental agencies and make recommendations to MEMA;
    c. Review proposals submitted for hazard mitigation projects and make recommendations to MEMA for funding priorities; and
    d. Assist MEMA in the preparation of formed proposals to FEMA for hazard mitigation projects.

The Committee will evaluate and prioritize all eligible applications using the following Project Ranking Criteria:

- Nature of Hazard – frequency and severity of the hazard, or multiple hazards
- Environmental – impact on the built and natural environment
- Benefit Cost Impact – cost per structure or person compared to benefits, mitigation of multiple hazards
- Community Impact – loss of life, health issues, ease of evacuation, loss of essential facilities, damage to critical facilities and economic hardship for a community

- Other – consistency with state and local plans, availability of other measures to solve the problem, local government match availability

2) Review and revise the State Hazard Mitigation Plan, as required by federal law or as needed. The current State of Maryland Hazard Mitigation Plan was approved by FEMA on August 28, 2008. The Disaster Mitigation Act of 2000 requires that all state hazard mitigation plans be updated and approved by FEMA every three years to remain in effect.

Activation of the Committee shall occur through a request from the Governor's Authorized Representative through the State Hazard Mitigation Officer (SHMO) to member state departments/agencies and the Maryland Emergency Management Agency. The State Hazard Mitigation Officer will direct the Committee, conduct membership actions, and ensure that the Committee's actions are in compliance with Federal and legal requirements.

## 3. ARTICLE III – MEMBERSHIP

**Section A – Committee Members**

The Committee is staffed from but not limited to the following departments, agencies and associations:

1) Maryland Emergency Management Agency
2) Maryland Emergency Management Association
3) Maryland Department of Business and Economic Development
4) Maryland Department of Housing and Community Development
5) Maryland Department of Human Resources
6) Maryland Department of Natural Resources
7) Maryland Department of Planning
8) Maryland Department of the Environment
9) Maryland Department of Transportation
10) Maryland Department of General Services
11) Maryland Insurance Administration
12) Maryland State Treasurer's Office
13) Maryland Energy Administration

Other State, Federal and Local agencies may be asked to participate as the need arises.

All members are expected to attend each bi-annual meeting in person or via teleconference. On those occasions when a committee member is unable to attend, a proxy or pre-designated alternate may be identified to act on behalf of the absentee. Should a committee member be unable to attend two consecutive meetings with no proxy named, the State Hazard Mitigation Officer will conduct appropriate membership actions, up to and including and removing the member and appointing a replacement.

Only committee members may vote on issues of Committee business. Action shall be determined by majority vote, except as provided for by these Bylaws.

A list of attendees and meeting minutes will be maintained by the Secretary. Agendas will be provided to all Committee Members prior to the meeting. Notification will be by electronic mail or as otherwise required.

## 4. ARTICLE IV – OFFICERS

**Section A – Elections**

Committee members are elected to serve by the secretary of each represented state agency. Elections shall be held in the case that a current committee member resigns or on an as needed basis by the MAC during a scheduled meeting.

**Section B – Secretary and Staff Support**

A staff member of MEMA will be appointed Secretary. The Secretary need not be a committee member. Duties of the Secretary including keeping records of the Committee, minutes of its meetings and distribute the agendas.

## 5. ARTICLE V – MEETINGS

**Section A – Regular Meetings**

Committee meetings will be held on a bi-annual basis, or scheduled when necessary by the Committee or SHMO. Scheduled meetings will be coordinated prior to the submission of HMA and HMGP grants applications to FEMA. All scheduled meetings shall conform to Maryland laws. At each meeting the Committee will announce the next meeting. The Secretary or the State Hazard Mitigation Officer will provide committee members with a meeting agenda at least two (2) days prior to the scheduled

meeting date. Minutes of meetings and agendas for upcoming meetings will be circulated by electronic mail or as otherwise required.

**Section B – Special Meetings**

The Committee may call additional meetings beyond its regular schedule as necessary for the conduct of its business. Such meetings may be called by the State Hazard Mitigation Officer, or by a majority of the committee members.

**Section C – Quorum**

A quorum for a committee meeting shall be a simple majority vote by present committee members. A two-thirds vote is required for a motion to pass.

## 6. ARTICLE VI – ADOPTION AND AMENDMENTS

**Section A. Initial Adoption of the Bylaws**

These bylaws shall be adopted initially by a majority vote by present committee members at a scheduled meeting.

**Section B. Amendments to the Bylaws**

These bylaws may be amended upon the affirmative vote of a two-thirds majority of the committee members at any meeting of the Committee, provided that any proposed changes have been distributed to all members at least fifteen (5) days prior to such action Amendments to or replacements of these bylaws must also be approved by the State Hazard Mitigation Officer.

Approved by action of the committee members at the meeting on _____.

Signed: _Mark James_____, State Hazard Mitigation Officer

Mark James

Date: _____

And with the approval of the State Hazard Mitigation Officer, with minor changes as suggested by legal counsel.

Signed: _____, MAC member

Date: _____

# IX. CONCEPT OF OPERATIONS

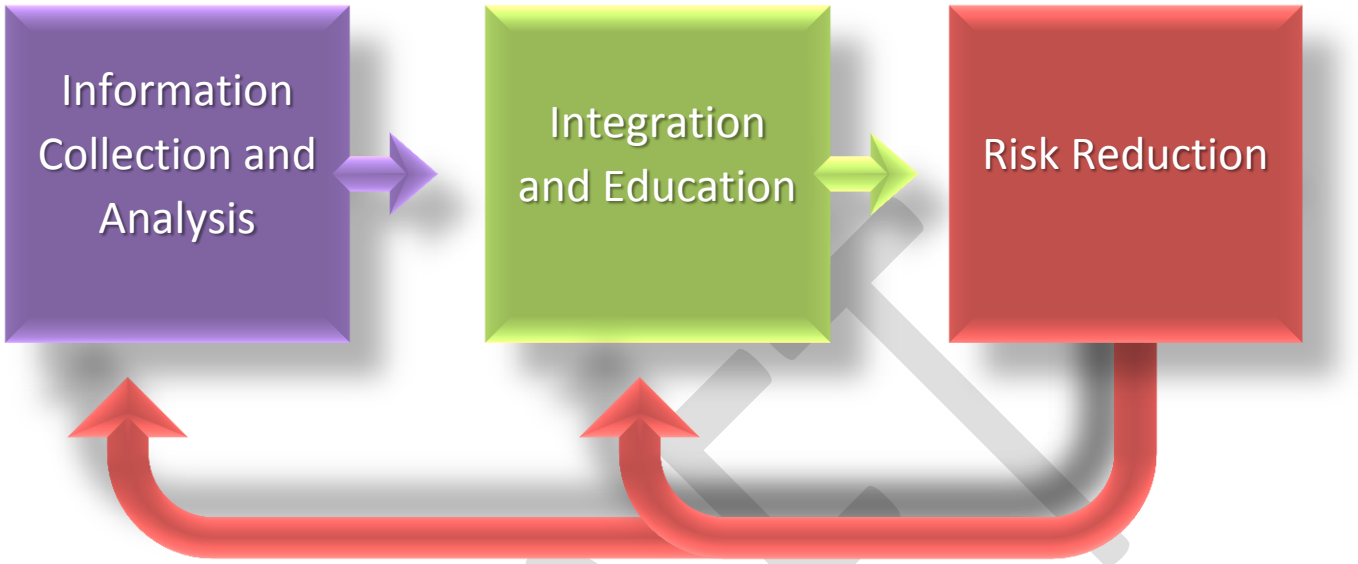
Hazard mitigation is a shared mission among all of the State agencies and departments, local jurisdictions, neighborhoods, businesses, nonprofit organizations, and individual citizens. While the State has certain responsibilities, reduction of long-term vulnerability and the building of resilient communities is only achieved if all Marylanders work in concert to reduce risk.

As the lead for the Mitigation Mission Area, the Maryland Emergency Management Agency is responsible for the facilitation of the Maryland Mitigation Process, detailed below. The capabilities for the Mitigation Mission Area are broken into three phases of an ongoing process, aimed at developing and sustaining resilient communities that are actively reducing their risk to the threats and hazards they face.

The first phase of the Maryland Mitigation Process, Information Collection and Analysis, ties in with the first step of the Maryland Preparedness System: to assess Maryland's risk to all threats and hazards to help inform risk reduction priorities. Integration and Education, focuses on developing innovative approaches to incorporate the various risk reduction activities and initiatives across the State into the State's All-Hazard Mitigation Plan. Additionally, this phase includes activities to help educate Maryland's citizens and communities on the threats and hazards they face and to encourage preparedness activities at all levels of Maryland's community. Finally, the Risk Reduction phase reflects the development and sustainment of risk reduction programs for families, communities, governments, and businesses, ensuring Maryland is well-equipped to withstand the impacts of future disasters, should they occur.

The Maryland Mitigation Process is a continuous process that requires feedback. Once risk reduction programs are implemented, the success of those programs is tracked through the Maryland Preparedness System. Through annual preparedness reporting, the State gains a better understanding of other threats and hazards it faces, as well as the ability of the State's residents, communities, and businesses to withstand the impacts of future disasters. Future decisions as to strategies for mitigation integration planning efforts, public education, and risk reduction programs are made using information learned through this process.

535 **Figure 5 – Maryland Mitigation Process**



## A. Information Collection and Analysis

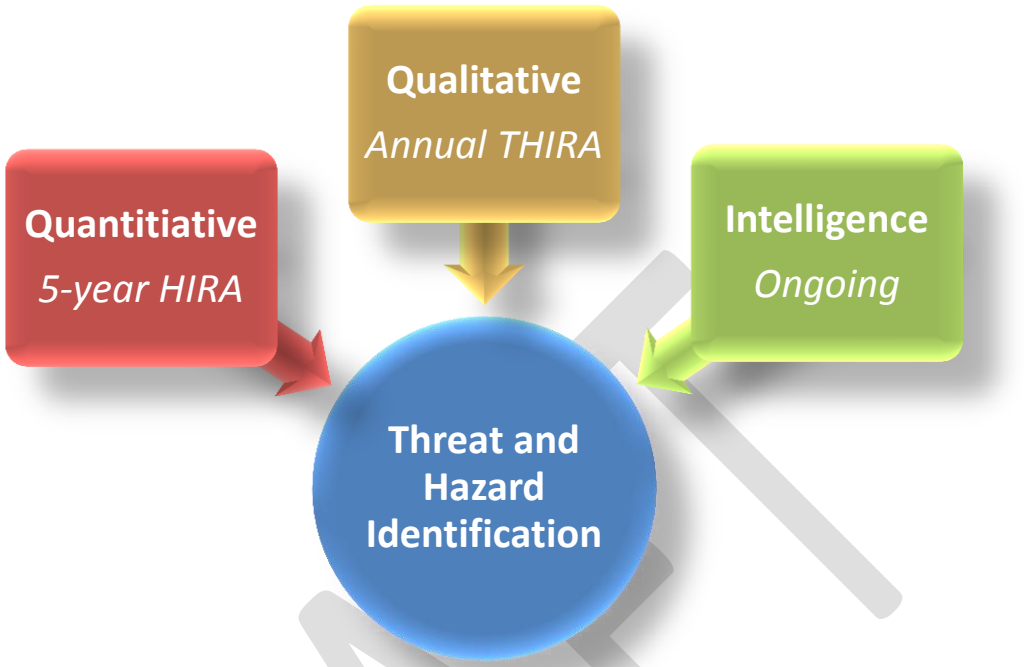
To effectively manage and reduce risk throughout the State, mitigation priorities are established using information gathered through threat and hazard identification. A variety of factors are considered when establishing the State and local mitigation priorities. These include the nature of the hazard, potential impacts of hazards, and a cost/benefit analysis.

**Figure 6 – Information Collection & Analysis**


The nature of the hazard looks specifically at the frequency (i.e., how often does the particular threat occur?), the likelihood (i.e., how likely is it that the threat will occur?), duration (i.e., the amount of time we will be affected by the threat), and the severity (i.e., the potential impact on life, property, and economy) of the threat or hazard. The impact of the hazard is considered in the context of the environment, the community, and the implications for individuals (e.g., loss of life, health, and safety). Focusing on the potential impact of a hazard allows the community to plan ahead to better respond and recover. Finally, a cost/benefit analysis is conducted to assess project costs compared with historical and potential loss without the implementation of the project.

Threats and hazards are identified and assessed on a continuous basis in Maryland. Assessments examine the full breadth of threats and hazards that face the State, including both human-caused and naturally–occurring disasters, catastrophic acts of violence and terrorism, and the isolated or systemic failure of critical infrastructure systems. The figure below illustrates how Maryland delivers the Threat and Hazard Identification capability.

**Figure 7 – Maryland THIRA Capability Delivery**




Through the Hazard Identification and Risk Assessment process, the State conducts a quantitative review every five years and uses this information to inform the State All-Hazard Mitigation Plan (supported by the Hazard Mitigation Grant Program). Additionally, a qualitative review of threats and hazards and their projected impacts is conducted annually through the Threat and Hazard Identification and Risk Assessment (supported by the State Homeland Security Grant Program). These efforts complement law enforcement and terrorism risk assessments conducted through the implementation of the State Prevention/Protection Operations Plan, and form the foundation of emergency preparedness as Step 1 of the Maryland Preparedness System.[1]

[1] Maryland Emergency Preparedness Program Strategic Plan (Sept. 2013), available at http://mema.maryland.gov/Documents/2013_MEPP_StratPlan_SIGNED.pdf.

## B. Integration & Education

Phase 2 is broken into two separate parts: Mitigation Integration, and Education. While Mitigation Integration focuses on the development and execution of the State All-Hazards Mitigation Plan through the inclusion of multidisciplinary planning efforts, Education focuses on providing residents, visitors, communities, and businesses with the information they need to prepare for the potential impacts of a disaster.

**Figure 8 – Integration and Education**


### 1. Mitigation Integration

Traditionally, hazard mitigation projects in the State have been identified and implemented through the State All-Hazards Mitigation Plan using funds from Hazard Mitigation Assistance (HMA) grant programs, which consist of three separate grants: The Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), and Flood Mitigation Assistance (FMA). Mitigation funds may also be available for eligible Public Assistance projects after Presidentially Declared Disasters.

The focal point for risk reduction and hazard mitigation in Maryland is the State All-Hazards Mitigation Plan. Through the development and exeuction of the State All-Hazards Mitigation Plan, Maryland implements a statewide program that incorporates many program and policy initiatives into a single strategy for disaster risk reduction. Integrating elements of State agency and local planning initiatives takes hazard mitigation planning beyond just the traditional federally-funded programs and into areas such as land use, transportation, climate change, sustainability, natural and cultural resource protection, watershed management, and economic development. This fosters innovative approaches that can be used and adapted within all of Maryland's communities. The plan-integration process blends the various policies, plans, and programs across disciplines via two-way information exchange where the

State All-Hazards Mitigation Plan informs and is informed by other planning processes and mitigation initiatives happening throughout the State.[2] As a result, communities, citizens, and the State as a whole, have a better understanding of the threats and hazards they face, and of the opportunities that exist to reduce their risk.

The Mitigation Mission Area is focused on collaboration, and facilitating integrated planning efforts across all disciplines and all levels of government. Traditional FEMA-centric hazard mitigation programs serve as one programmatic area within the Mitigation Mission Area. In recent years, mitigation has expanded into a broad range of projects, addressing non-traditional risks, hazards, and threats.

Each State agency's programs and projects have the potential to contribute significantly to the resiliency initiatives that fall under the larger mitigation umbrella, and are captured in the State All-Hazards Mitigation Plan. The figure below shows the various program areas of Mitigation Initiatives that are integrated into the State's All-Hazard Mitigation Plan.



[2] Based off of the Draft FEMA Region III Plan Integration Guide released in January 2013

**Figure 9 – Mitigation Program Areas**


The execution of these programs and projects, keeping mitigation principles in mind, can ensure that mitigation in the State is an ongoing process. Some notable State agency resiliency initiatives are included with a synopsis of each in Appendix A.

### 2. Education

Educating individuals on the risks prevalent in their communities is an important first step in building a culture of preparedness that promotes community resilience. Once an individual is aware of the risks they face, and the interdependent nature of all facets of their community (e.g., economy, health and social services, infrastructure, natural and cultural resources), they can begin taking action to mitigate

those risks. Communities that take mitigation actions benefit from fewer disruptions from disasters, and a decreased need for outside support and resources.

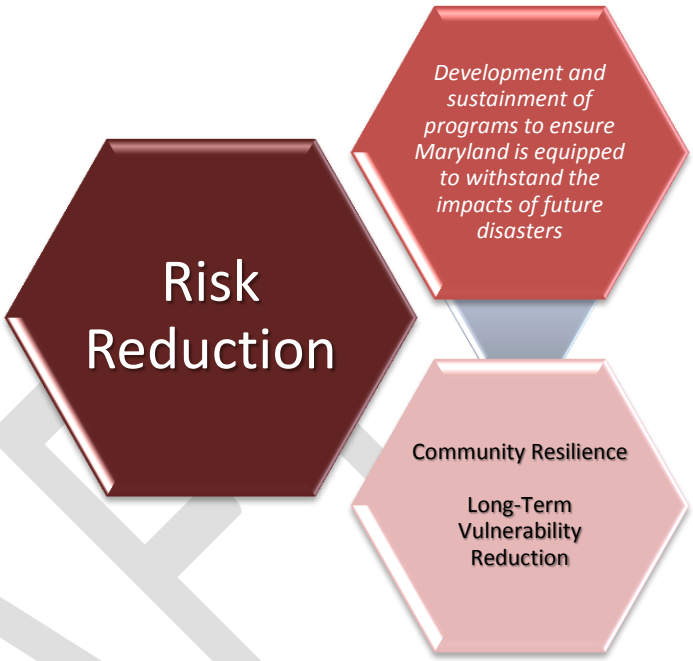
Individuals informed on the opportunities and benefits of community preparedness find similar individuals within the community who share the same goals, values, and purposes. This initial interaction promotes information sharing and collective action by the community to promote mitigation and resilience activities. The Citizen Corps Council and the Ready Campaign are two specific programs that work to support these community preparedness efforts by providing a vehicle for collaboration between local governments and community leaders. Citizen Corps, an organization that coordinates volunteer activities, provides localized preparedness education, training, and exercises to their respective communities. The Ready Campaign, a national public service advertising campaign led by FEMA, also works to raise public awareness about the need to increase the national level of preparedness through public outreach. The Ready Campaign also encourages citizens to make a kit, make a plan, and stay informed about emergencies and the way to respond to those emergencies.

MEMA enhances individual, family, business, and community preparedness through an all-hazards educational approach. MEMA uses a variety of methods to reach the public including traditional media, social media, public service announcements, website, phone app, billboards, presentations, fairs, and community events. Annually, MEMA participates in statewide outreach events through a risk-based editorial calendar, attendance at the Maryland State Fair, and several other public events. Collectively, these outreach methods provide numerous ways to educate the public and ultimately increase community resilience.

## C. Risk Reduction

Risk reduction is accomplished through a variety of policy-based activities including, but not limited to, regulations, local ordinances, and land use and building practices. Mitigation addresses long-term risk from disaster-causing hazards and their effects, including reducing exposure to hazards, minimizing loss of life and property, and encouraging intelligent land and environmental management and improvements to community preparedness. The execution of the aforementioned risk-reduction activities helps to build community resilience by helping the community recover more quickly following a disaster, or by preventing the adverse impacts of the event altogether. By acting before a disaster, it may be possible to prevent a disaster from occurring, or to at least mitigate the effects of a disaster.

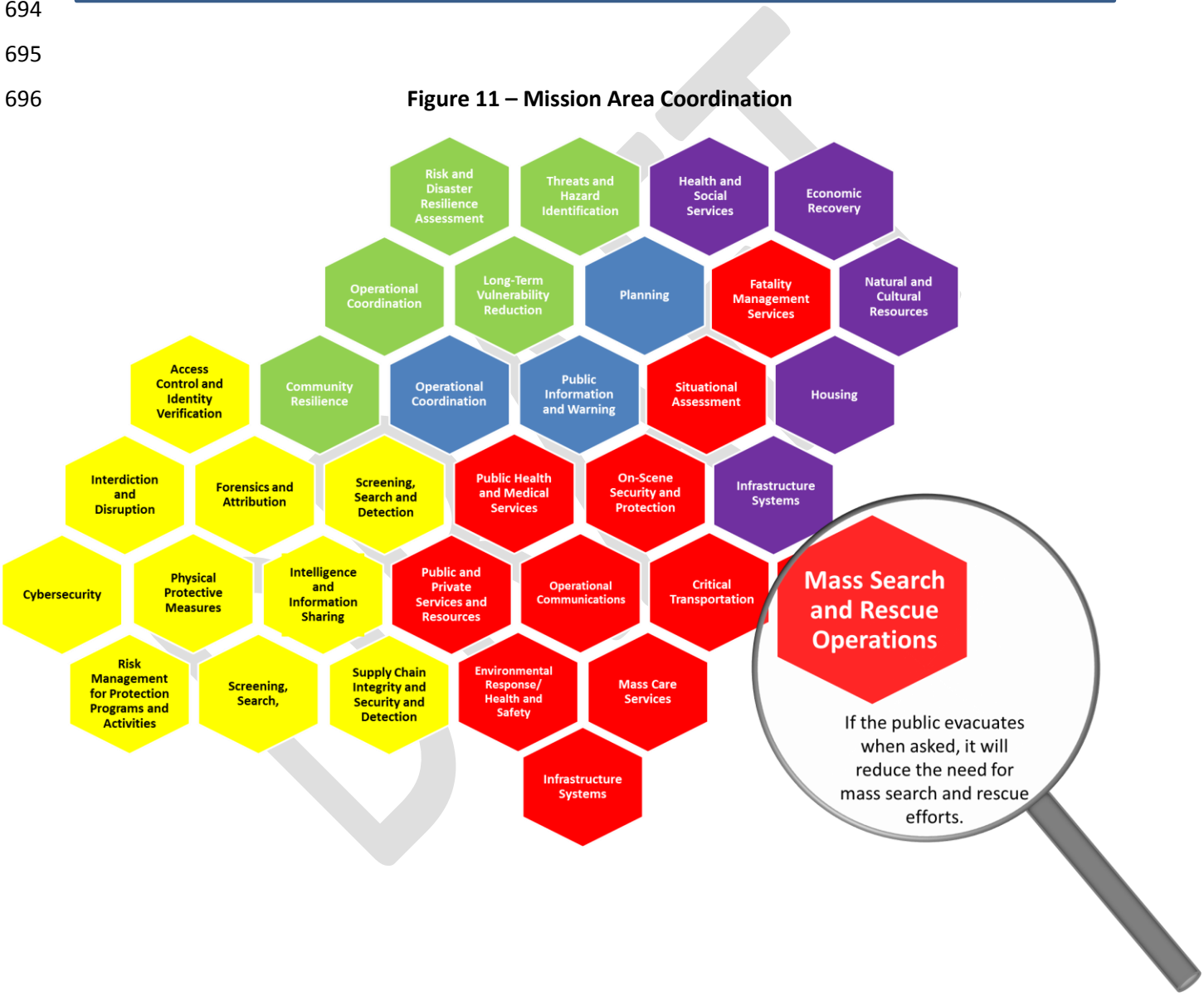
**Figure 10 – Risk Reduction**




Successful delivery of the mitigation capabilities through the Maryland Mitigation Process results in a reduced need to deliver capabilities across the other Mission Areas. As communities, citizens, and visitors develop a better understanding of the threats and hazards they face, and as government, nonprofit and private-sector partners seek to integrate planning efforts, the need for delivery of capabilities in the Prevention/Protection, Response, and Recovery Mission Areas lessens. Additionally, integrated planning efforts and a better understanding of the State's preparedness enable the government, nonprofit, and private sectors to more effectively provide search and rescue services after a hurricane. This concept is depicted in the graphic below.

By examining a Response capability, such as mass search and rescue, from the Mitigation perspective, it would be important for citizens and visitors to understand the hazards that pose the greatest risk to them, so they can properly prepare. In the event of a major hurricane, a well-educated general public with knowledge and understanding of its own hazards and preparedness would evacuate, thereby reducing the need for mass search and rescue after the hurricane has passed.

**Figure 11 – Mission Area Coordination**



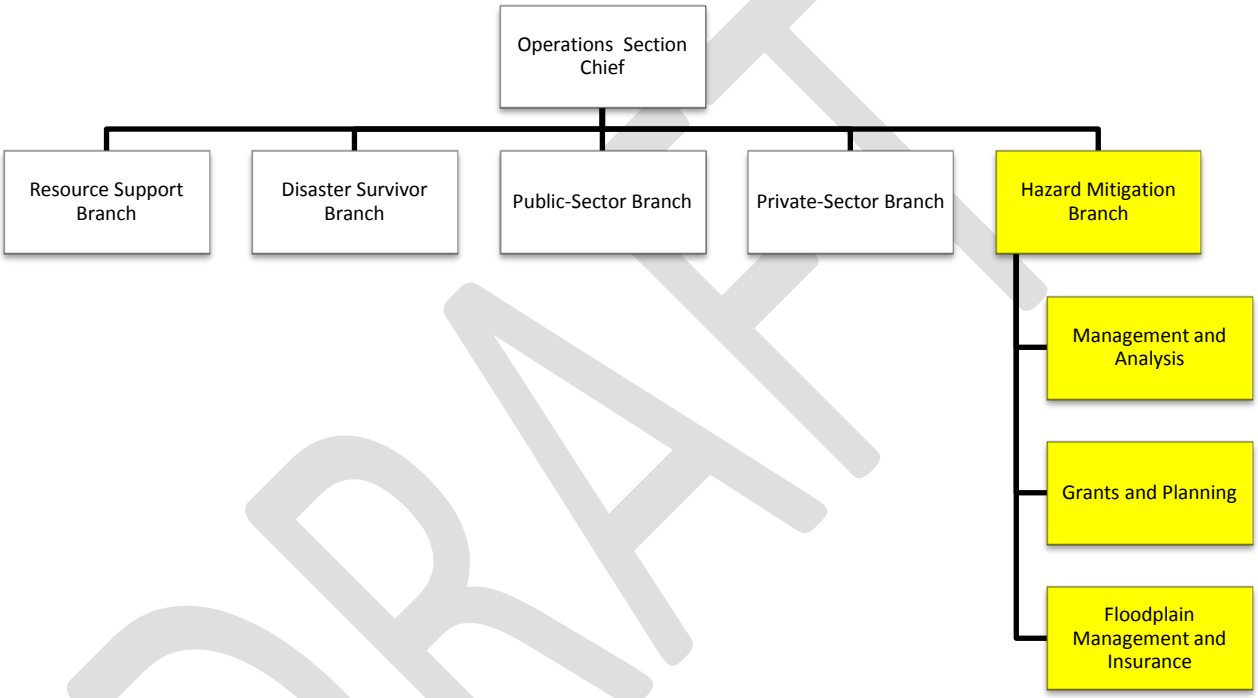

At the State level, the MEPP ensures a more robust understanding of the threats and hazards the State faces, the purpose of which is to decrease the State's risk. The MEPP also provides a way to effectively measure the State's level of preparedness to deliver all the necessary capabilities and to manage the

consequences of disasters. Through the MEPP and the Maryland Mitigation Process, the desired result of communities that are resilient and have reduced their long-term vulnerability is achieved, and all of Maryland's citizens, visitors, communities, and businesses are better prepared to withstand the impacts of future disasters.

# X. Mitigation During Recovery Operations

Although the delivery of mitigation capabilities spans all mission areas, there is a direct link between the Recovery and Mitigation Mission Areas. During disaster recovery operations, as guided by the State Disaster Recovery Operations Plan (SDROP), mitigation capabilities are delivered through the Hazard Mitigation Branch as depicted in the figure below.

**Figure 12 – Mitigation During Recovery Operations**




The Hazard Mitigation Branch is intended to support efforts to rebuild communities that are sustainable and resilient, which may include new building standards or building techniques to better manage the risks faced by communities. This Branch includes the activities related to floodplain management and flood insurance, as well as applicable hazard mitigation grants and planning activities. The specific roles and responsibilities of this Branch are outlined in the SDROP.

# XI. COORDINATION OF LOCAL MITIGATION PLANNING

Following the introduction of the Disaster Mitigation Act of 2000, the majority of Maryland counties have adopted FEMA-approved hazard mitigation plans. Addressing potential hazards at the local, state, and federal levels streamlines government processes by increasing efficiency and avoiding conflicting outcomes. Facilitating active participation from not only the emergency management community, but also local planning leadership and community development staff, produces a hazard mitigation plan of true value.

Engaging local leadership, staff, and stakeholders from the beginning of the hazard mitigation planning process establishes defined channels for communication and cooperation. These important channels may then translate into more informed future hazard mitigation efforts by raising the group's awareness of current projects, future initiatives, or potential funding opportunities that could help implement the plan.

# XII. COORDINATING WITH THE FEDERAL GOVERNMENT

Cooperation among all levels of government and the community is imperative to the execution of the mitigation capabilities. Federal departments and agencies play a key role in promoting mitigation projects thereby, increasing the nation's resilience. Frequent communication occurs between the State and the federal governments at a functional level (e.g., federal program agency to state program agency) to ensure awareness of regulations, programs, funding, incentives, and best practices assists the State in reducing long-term vulnerabilities. The most frequent interaction between the federal government and the State occurs during federal grant implementation. Additionally, many State agencies have pre-existing agreements with federal counterparts to provide services and technical assistance after a disaster.

# XIII. COORDINATION WITH PRIVATE AND NONPROFIT ORGANIZATIONS

Private-sector entities and nonprofit organizations play an integral role in building resilient communities. Private-sector investments in programs and community risk-reduction efforts build capacity within communities to respond to and recover from disaster events. The commitment from both the private and nonprofit sectors to reduce their risk drives demand in communities for materials, systems, and technological solutions that are necessary to build and sustain resilient communities. Additionally, these groups can help set standards and criteria for safer and more resilient structures, invest in risk-reduction efforts in the community, serve as subject matter experts to help with projects, and, finally, can serve as a hub for volunteers and funding following an event.

To foster this unique relationship with the private sector and nongovernmental organizations, Maryland uses the Private Sector Integration Program (PSIP) and Maryland Voluntary Organizations Active in Disaster (VOAD). During emergencies, the PSIP provides a voice to the business community, and increases information sharing between the private and public sectors. During response operations, the PSIP includes a Business Operations Center (BOC), housed within the State Emergency Operations Center (SEOC), to better facilitate communication, situational awareness, and information sharing. The Maryland VOAD is made up of voluntary organizations, faith-based organizations, and professional associations. During response and disaster recovery operations, as well as during non-disaster times, this group works to augment government efforts by providing specialized services. Both of the aforementioned groups can provide training and education to their community, and should be engaged in risk-reduction policy and practical discussion.

# XIV. FINANCIAL ADMINISTRATION

While coordination of the expenditures of grant programs on mitigation projects and initiatives is encouraged, each State agency maintains responsibility for the proper accounting procedures associated with the grants they administer. Financial administration procedures are outlined by each responsible State agency. For HMGP specifically, these procedures are outlined in the Hazard Mitigation Officer Handbook.

# XV. PLAN MAINTENANCE

The State Mitigation Operations Plan is updated bi-annually by the MAC using the National Plan Development Process, in accordance with the Maryland Emergency Preparedness Program Strategic Plan. Capability Annexes are updated annually through the implementation of the Maryland Preparedness System.

After Action Reports (AAR) and Improvement Plans (IP) from exercises or real-world events may identify the need for incremental updates of the SMOP and/or Capability Annexes.

# XVI. APPENDIX A

The following Appendix includes information about Maryland's initiatives, listed in the table below.

**Table 2 – State Agency Initiatives**

| STATE AGENCY | INITIATIVES |
|---|---|
| **Maryland Department of Housing and Community Development** | • Housing and Building Energy Unit Initiatives |
| **Maryland Department of Natural Resources** | • Forest Mitigation<br>• Climate Change Adaptation Strategy, Phase I and II<br>• CoastSmart Communities Program<br>• Coast Smart Construction Guidelines |
| **Maryland Department of Planning** | • PlanMaryland<br>• Smart Growth |
| **Maryland Department of the Environment** | • Maryland's Greenhouse Gas Reduction Plan Regional Gas Initiative (RGGI)<br>• Chesapeake Bay Maryland Clean Cars Program<br>• Watershed Implementation Plan |
| **Maryland Department of Transportation** | • Transit-Oriented Development |
| **Maryland Energy Administration** | • Maryland Energy Assurance Plan<br>• EmPower Maryland<br>• Renewable Portfolio Standard<br>• Fuel Up Maryland<br>• Maryland Smart Energy Communities<br>• Project Sunburst |

## A. Energy Programs

Maryland has made renewable and cleaner energy a State priority over the past decade. As the threat climate change poses continues to rise, a significant amount of work has gone into reducing energy demands, increasing efficiency, and shifting to cleaner sources of energy, such as wind, solar, and hydropower. Collectively, these kinds of actions can reduce the impacts of climate change, and reduce the State's future vulnerability to those impacts. Each of the programs listed below plays a critical role in the overall reduction of that State's risk.

### 1. Maryland's Greenhouse Gas Emissions Reduction Act Plan

The Greenhouse Gas Emissions Reduction Plan highlights over 150 programs and initiatives that address renewable energy, transportation, green building, agriculture, fisheries, and the forestry sector.

Through the implementation of these important programs and initiatives, the Plan lays the framework to reduce greenhouse gas emissions by 25% by 2020. A key component of Maryland's Greenhouse Gas Reduction Plan is a Comprehensive Strategy for Reducing Vulnerability to Climate change, which is broken down into two phases. The first phase addresses the impacts of sea-level rise and coastal flooding, and the second phase addresses changes in climate and the likely impacts to human health, agriculture, forest and terrestrial ecosystems, bay and aquatic environments, water resources, and population growth and infrastructure. Each of the programs, and underlying greenhouse gas reduction and climate change adaptation strategies consequently, affect how the State conducts hazard mitigation.

### 2. Regional Greenhouse Gas Initiative

Following a provision in the 2006 Healthy Air Act, Maryland was required to join eight other Northeast and Mid-Atlantic states to participate in the first multi-state emissions cap and trade program, known as the Regional Greenhouse Gas Initiative. Using proceeds from the sale of RGGI $CO_2$ (carbon dioxide), the Maryland Energy Administration (MEA) administers the Strategic Energy Investment Fund (SEIF). Funds are then allocated to energy efficiency, conservation, residential energy bill assistance, renewable energy deployment, and climate change outreach and education. The overarching goal of the program is to reduce Maryland's $CO_2$ emissions by 10%, from current levels, by 2019, a critical component in reducing the State's vulnerability to climate change in the future.

### 3. EmPOWER Maryland

Since its enactment in 2008, the EmPOWER Maryland program has worked to reduce Maryland's energy consumption by 15% by 2015. The program has helped fund measures to reduce energy usage and peak demand, and save ratepayers billions of dollars. As a result of this legislation, five Maryland utility companies now offer energy-saver programs. Cost savings are also available for Maryland State offices and buildings. The EmPOWER Initiative has saved the State $21.3 million, and 130,000 tons of $CO_2$, annually.

### 4. Renewable Energy Portfolio Standard

Maryland's Renewable Energy Portfolio Standard requires electricity suppliers to generate a minimum portion of their retail sales from renewable energy sources. Retail electricity sale requirements increase yearly, leading to a 20% renewable energy (18% from renewable and 2% solar) requirement in 2022. Suppliers must submit compliance reports directly to the Public Service Commission (PSC) for review.

Any electricity supplier that fails to meet the yearly standards pays directly into the SEIF, which is used to fund grant and loan programs for Tier 1 renewable-energy resources.

### 5. Maryland Energy Assurance Plan

Extreme weather events can adversely impact the State's power grid, making it particularly vulnerable to prolonged power outages. Resilient energy supplies are a necessity for all members of Maryland's communities. A prolonged disruption of the supply of basic energy or fuel (e.g., petroleum products, electricity, or natural gas) would likely result in significant harm to Maryland's public health, safety, economy, and security. To address these growing concerns, the MEA and the PSC, in conjunction with MEMA, developed the Maryland Energy Assurance Plan. The Plan has four purposes:

1. To provide an overview of Maryland's interdependent energy landscape as a means to enhance reliability and facilitate recovery from disruptions to the State's energy supply;
2. To provide background information to guide investments in energy infrastructure, going forward;
3. To provide an analysis of the pre- and post-emergency roles, responsibilities, and relationships between the various factors that contribute to the State's energy supply; and
4. To provide background information to aid public agencies and private entities as they develop specific procedural energy emergency plans.

The four purposes of this document work together to make the energy infrastructure in Maryland more resilient to disruptions, which reduces the risk Marylanders face to problems associated with extended power outages.

### 6. Maryland Smart Energy Communities

The Maryland Smart Energy Communities Program helps local governments commit to a set of policies that lead to sustained energy savings, and opportunities for renewable energy development in their jurisdictions. Local governments must choose to adopt two of the three policies in order to participate in the program. These policies include:

- *Energy Efficiency Guidance Document:* Establish an electricity consumption baseline, and develop a plan with the goal to reduce per-square-foot electricity consumption of the city/town/county buildings by 15% within five years of the baseline year.

- *Renewable Energy Guidance Document:* Reduce the conventional centralized electricity generation serving a local government's buildings by meeting 20% of those buildings' electricity demand with distributed, renewable energy generation by 2022.
- *Transportation Petroleum Reduction:* Establish a petroleum consumption baseline for all local government vehicles, and put in place a comprehensive program designed to reduce the baseline petroleum consumption by 20% within five years of the baseline year.

Once the local government adopts two of the three available policies, they become eligible for grant funding from the MEA to use for energy-related projects in the community.

#### 7. Fuel Up Maryland

The "Fuel Up Maryland" Program is an initiative created by the MEA that provides assistance in the form of grant funding to service stations around Maryland that are interested in prewiring their facilities for backup power generation. Eligible service stations must be within a ½ mile of an on or off ramp of a Maryland evacuation route. The program aims to ensure that Marylanders have an adequate fuel supply in the event of an evacuation or emergency.

## B. Transportation Programs

Reducing the vulnerability of our transportation systems from climate change and extreme weather events helps keep transportation in-service, and provides additional modes of transportation that can be accessed during an emergency evacuation. Key programs being implemented as a result of the Greenhouse Gas Reduction Plan to help reduce the transportation infrastructure's vulnerability include the Maryland Clean Cars Program and Transit-Oriented Development (TOD).

#### 1. Maryland Clean Cars Program

Recognizing that one third of Maryland's $CO_2$ emissions are emitted from cars, in 2007 Maryland adopted California's strict vehicle emissions standards under the Maryland Clean Cars Program. The program works to regulate carbon dioxide emissions in the State by regulating greenhouse gas (GHG) emissions from passenger vehicles, and including a Zero Emissions Vehicle (ZEV) mandate for car manufacturers. The program aims to cut GHG by 30%, when fully implemented, lower smog-forming emissions from mobile sources by 1 ton/day, and reduce hazardous air pollutants by 80 tons/year by 2025.[3]

[3] http://www.mde.maryland.gov/programs/Air/MobileSources/CleanCars/Documents/CALEV_Fact_Sheet.pdf

### 2. Transit-Oriented Development

Transit-Oriented Development is a land-use strategy used in Maryland by the Department of Transportation to address sprawl, environmental issues, and traffic congestion. The overarching goal of TOD is to increase transit ridership by supporting transportation alternatives, broadening transportation network efficiencies, and reducing congestion. This kind of deliberate transportation planning supports land use and environmental conservation efforts by helping to minimize air and water quality impact.[4]

## C. Coast Smart Construction and Green Buildings Programs

In December 2012, Governor O'Malley signed an Executive Order requiring all new and reconstructed State structures be planned and constructed to avoid or minimize future flood damage. A number of smaller policy directives are included in the Executive Order, including, but not limited to, having all capital budget projects consider the risk of coastal flooding and sea level rise, and requiring that new and rebuilt structures be elevated two or more feet above the 10-year base flood level.

Mitigation projects often require the construction or reconstruction of existing structures. By engaging in energy-efficient practices for building design, site location, and construction, projects can reduce energy use, lessen the impacts of urban heat, mitigate storm water management issues, and harden buildings from severe storms. State and local building codes have been amended to include minimum energy efficiency requirements. As State and local entities continue to work on mitigation projects, working with green practices becomes increasingly important to resilience as green initiatives can help to reduce long-term vulnerability to climate change.

### 1. Project Sunburst

After the launch of Project Sunburst in 2010, MEA installed solar photovoltaic arrays on 17 government buildings throughout the State. Government facilities included in the initial install included the public school systems, the City of Baltimore, Talbot County facilities, BWI Thurgood Marshall Airport, and the Maryland Port Administration North Locust Point Marine Terminal and Cruise Terminal.

### 2. Housing and Building Energy Unit Initiatives

Funded through the U.S. Department of Energy's Better Building Program, Maryland's Department of Housing and Community Development was awarded $20 million for the BeSMART program. The award was used in DHCD's Energy Efficiency and Conservation Block Grant retrofit program to help people and communities install energy efficient retrofits for homes and small businesses. Program components

[4] http://www.mdot.maryland.gov/Office_of_Planning_and_Capital_Programming/TOD/TOD_Homepage.html

include a Green Retrofit Improvement Program, which targets small business owners; a Multi-family "Preservation and Energy Efficiency" program for renters; and an Efficient Home Program for homeowners. Energy savings are estimated at a 15-30% reduction in energy costs following the retrofit. The DHCD Housing and Building Energy Unit now manages increasing resources and investments in energy efficiency, and weatherization for low- and moderate-income households, small businesses, and sustainable communities.

## D. Land Use Programs

Local communities can minimize the harmful sprawl caused by development, and contribute to a reduction in Maryland's GHG emissions by better managing growth. Maryland's State agencies are working to help local governments implement smarter, more sustainable land use through a variety of policies and programs. Informed and integrated land use planning efforts can help reduce risk to a wide array of threats and hazards the State faces, and the programs listed below assist with this goal.

### 1. Greenhouse Gas Reduction Plan

The Greenhouse Gas Reduction Plan introduces land-use strategies aimed at reducing and mitigating greenhouse gas emissions by 1.1 million metric tons of $CO_2$ by 2020. The Plan encourages informed land use and conscious county, city, and town development that assists in reducing greenhouse gases.

### 2. Smart Growth

Maryland's Department of Planning is charged with implementing Smart Growth throughout the State. Smart Growth planning focuses on existing and planned infrastructure to avoid sprawl and sustainability. Smart Growth in Maryland has four goals:

1. Support existing communities by targeting resources to support development in areas where infrastructure exists;
2. Save Maryland's most valuable natural resources before they are lost forever;
3. Save taxpayers from the high cost of building infrastructure to serve development that has spread far from traditional population centers; and
4. Provide Marylanders with a high quality of life, whether they choose to live in rural communities, suburbs, small towns, or cities.

Together, these plans and programs integrate a variety of risk-reduction efforts that span all sectors across the State, with the ultimate goal of reducing the vulnerabilities, consequences, impacts, duration, and the financial and human caused costs of hazards.

### 3. PlanMaryland

Since 1959, the Maryland Department of Planning has been required to prepare a State Development Plan. In December 2011, Governor O'Malley accepted the State's first long-term plan for sustainable growth, or "PlanMaryland," to supersede the State Development Plan. The Plan identifies "Climate Change Impact Areas," which include: 50- and 100-Year Sea-level Rise Inundation Zones, 50-Year Erosion Vulnerable Zones, Category 2 Storm Surge Inundation Zones, Marsh Transition Zones, Temperature Sensitive Steams, Drought Hazard, and Wildlife Risk Areas. Highlighting these areas ensures that State and local governments make sound, sustainable decisions when developing and redeveloping in light of climate change.

### 4. CoastSmart Communities

Maryland's shorelines are susceptible to a wide range of hazards, including coastal flooding, storm surge, and sea level rise. The CoastSmart Communities program was created to assist Maryland's coastal communities in addressing these risks. The CoastSmart program manager uses a ground-up approach to engage local coastal communities in these issues based on their own values and priorities. The manager then provides a network and links to applicable tools and resources from the federal and state level. These tools include financial assistance through NOAA CZM funding in the form of grants to local governments, a CoastSmart Scorecard to evaluate risk and vulnerability, and an online resource center.

## E. Agriculture/Forestry Programs

Although the agricultural and forestry sectors contribute a small percentage of Maryland's greenhouse gases, these sectors have also been called upon to reduce greenhouse gas emissions. By engaging in sustainable forest and urban forest management over both suburban and urban areas, Maryland could see a total greenhouse gas reduction of five million metric tons.

### 1. Forest Planting and Forest Mitigation

The Maryland Critical Area Act, passed in 1984, marked the first time that the State and local governments jointly addressed the impacts of land development on habitat and aquatic resources. The law identified the "Critical Area" as all land within 1,000 feet of the Mean High Water line of tidal waters or the landward edge of tidal wetlands. The goal of the Critical Area law is threefold: to minimize adverse impacts on water quality, (2) conserve fish, wildlife and plant habitat in the Critical Area and (3) establish land use policies for development to address adverse environmental impacts. Forests and developed woodlands are important contributors to animal habitats and maintaining water quality. Planting trees to enhance the functions of the ecosystem, and subsequently reduce environmental

971 impacts, requires significant planning to determine what types of trees to plant and where to plant
972 them. The Critical Area regulations establish a goal for no-net loss of forests and establishes minimum
973 mitigation requirements for development activities in the Critical Area that impact forests and
974 developed woodlands.