

# G0318: Local Hazard Mitigation Planning

Student Manual

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FEMA

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# Module 0: Introductions and Overview

## Visual 1: Welcome

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Welcome to  
**G0318: Local Hazard Mitigation Planning**



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## Visual 2: Introductions and Overview

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### Introductions and Overview

Please remember to sign in on the attendance roster.

## Visual 3: Participant Introductions

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- Name
- Position and organization
  - Mitigation planning experience
  - Other roles and responsibilities
- Workshop expectations



### Participant Introduction/Expectations

Introduce yourself using the bullets on the slide as a guide.

## Visual 4: Participant Responsibilities

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### Participant responsibilities

- Ask questions
  - Especially about acronyms!
- Share experiences
- Engage in discussions
- Participate in activities



### Participant Responsibilities

It is your responsibility to take an active role in the learning process—ask questions, share stories and experiences, engage in discussions, and participate in all activities.

## Visual 5: Administrative Details

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Emergency exits



Restrooms



Cell phones



Break schedule

### Administrative Details

Before diving into the content, understand these administrative details about the course's delivery venue.

## Visual 6: Course Goal

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- The goal of this course is to provide local governments and their partners with the information necessary to prepare and implement their hazard mitigation plan.

### Course Goal

Consider the goal of this course.

## Visual 7: Course Objectives

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- Describe the roles and responsibilities of the various partners involved in hazard mitigation planning (HMP).
- Describe how to organize the hazard mitigation planning process and engage community members.
- Describe how to identify at-risk community assets and hazards as they relate to risk assessment.
- Describe the steps involved in identifying vulnerabilities, the impacts of those vulnerabilities, and the process for assessing risk.



### Course Objectives

These are the terminal learning objectives of the course.

## Visual 8: Course Objectives (Continued)

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- Describe the process of developing mitigation strategies and actions that reflect the results of the risk assessment and capabilities of the community.
- Describe the process of maintaining and updating a hazard mitigation plan.
- Describe the process for implementing a hazard mitigation plan.
- Describe the available mitigation funding and assistance.



### Course Objectives (continued)

These are the terminal learning objectives of the course.

## Visual 9: Course Materials

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- Participant Manual
- Activity Worksheet Packet
- Local Plan Review Guide

### Course Materials

Take a moment to familiarize yourself with the Participant materials.



## Visual 10: Overview of Module Structure

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- ▶ Introduction

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- 1** ▶ Planning Process: Role and Responsibilities

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- 2** ▶ Planning Process: Organizing and Engaging Community Partners

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- 3** ▶ Risk Assessment: Identifying Community Assets and Hazards

---

- 4** ▶ Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk

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- 5** ▶ Developing a Mitigation Strategy

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- 6** ▶ Plan Maintenance and Updates

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- 7** ▶ Plan Implementation

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- 8** ▶ Mitigation Funding and Assistance

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- 9** ▶ Conclusion

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### Overview of the Module Structure

The modules in this course address all of the requirements necessary to create or update a mitigation plan so that it not only meets FEMA’s requirements, but is also fully usable and implementable to best protect your community. We want you to be able to find these plans useful and to be more than just a checked box.

## Visual 11: Required and Special Consideration Elements

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Guidance has been included on required and special consideration elements. You'll see notes for:

- Required Hazard Mitigation Plan Elements and Activities
- Beyond the Basics
- Opportunities for Integrating Community Planning Efforts
- Planning Considerations for Multi-Jurisdictional Plans
- Options for Communities with Limited Capabilities

Required elements also contain an asterisk (\*) in the topic title.

### Required and Special Consideration Elements

Guidance has been included through the participant workbook on required and special consideration elements.

## Visual 12: Evaluation Strategy

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- Pre-Test
- Post-Test
  - Minimum Score: 75%

### Evaluation Strategy

Visual 13: You must achieve 75% or better on the course test to earn the continuing education units (CEUs) associated with the course.

## Visual 13: Fictional Communities

- **Hazard County** – a high capability county that is the Lead Jurisdiction and a Participating Jurisdiction for a multi-jurisdictional HMP.
- **Riskburg** – a community with relatively low capabilities that is a Participating Jurisdiction in the Hazard County HMP.
- **Dangerville** – a community with adequate capabilities that is a Participating Jurisdiction as part of a multi-jurisdictional HMP



### Fictional Communities

Throughout this course, the three following fictional communities may be referenced to explain concepts and support activities:

- **Hazard County** – a high capability county that is the Lead Jurisdiction and a Participating Jurisdiction for a multi-jurisdictional HMP.
- **Riskburg** – a community with relatively low capabilities that is a Participating Jurisdiction in the Hazard County HMP.
- **Dangerville** – a community with adequate capabilities that is a Participating Jurisdiction as part of a multi-jurisdictional HMP. Dangerville is capable of developing its own portion of the multi-jurisdictional HMP and the community is used as an example to illustrate all the requirements of the planning process.

# Module 1: Planning Process: Roles and Responsibilities

## Visual 1: Module 1: Planning Process

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### Planning Process **Roles and Responsibilities**

#### Planning Process: Roles and Responsibilities

This module provides fundamentals of mitigation and the roles and responsibilities of all the partners.

## Visual 2: Course Map

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	Introduction
<b>1</b>	<b>▶ Planning Process: Role and Responsibilities</b>
	Planning Process: Organizing and Engaging Community Partners
	Risk Assessment: Identifying Community Assets and Hazards
	Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk
	Developing a Mitigation Strategy
	Plan Maintenance and Updates
	Plan Implementation
	Mitigation Funding and Assistance
	Conclusion

### Course Map

This module will focus on understanding fundamentals of mitigation, mitigation planning, and the roles and responsibilities of all the partners.

## Visual 3: Module Learning Objectives

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- Differentiate between mitigation and preparedness.
- Recall the roles and responsibilities of the entities involved in hazard mitigation planning.



### Module Learning Objectives

By the end of this module, you should be able to meet these objectives:

- Differentiate between mitigation and preparedness.
- Recall the roles and responsibilities of the entities involved in hazard mitigation planning.



## Visual 4: An Introduction to Mitigation

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An elevated coastal house in the process of being built

## An Introduction to Mitigation

Think about what mitigation is, and what it accomplishes.

Image Source: Mitigation Planning Success Stories ([arcgis.com](https://arcgis.com))

## Visual 5: What is Hazard Mitigation?

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Sustained activity undertaken to reduce or eliminate the long-term risk to life and property from hazards.

What is Hazard Mitigation?

Consider this definition of mitigation.

# Visual 6: Examples of Mitigation



## Examples of Mitigation

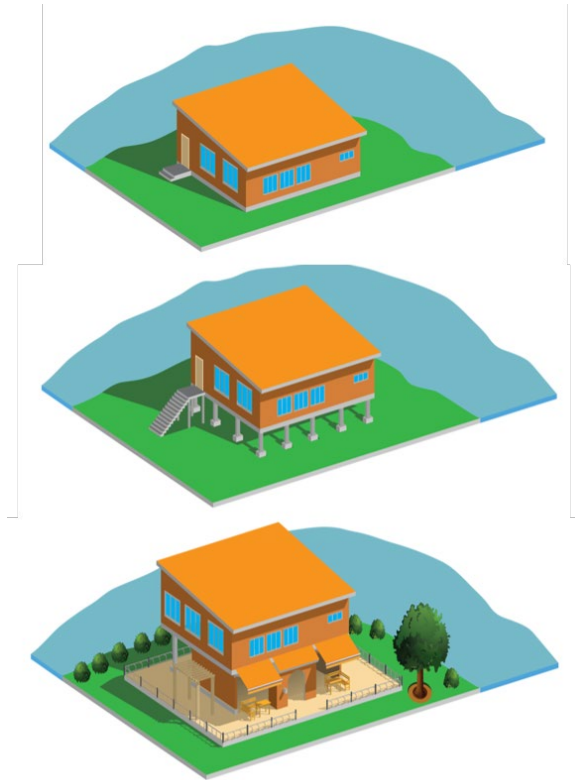
Mitigation provides long-term solutions. Home elevations or acquisitions reduce risk in the long term. Building codes and other planning tools prevent vulnerabilities in the first place.

Investing in response infrastructure is not a long-term solution.

## Visual 7: Mitigation is an Opportunity

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- Return to normal
- Reduce future vulnerability
- Use the opportunity to achieve multiple objectives



### Mitigation is an Opportunity

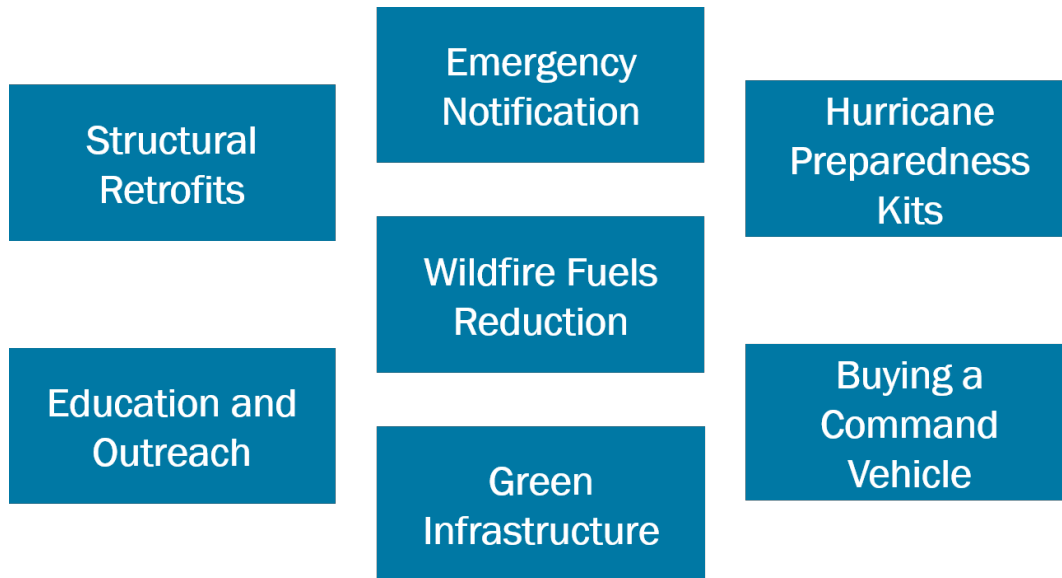
Mitigation can present itself as an opportunity to achieve multiple community goals all at once. After a disaster, the impulse is to return to normal, to go back to the original circumstances. During the recovery process, it is possible to not only reduce future impacts and vulnerability, but to tackle other community projects at the same time.

Take the example shown here, for instance. Here, there are three possible scenarios.

1. After a flood, the community returns the structure to its original state. This is recovery, rather than mitigation, since it does not reduce future losses.
2. This is where we see mitigation. The structure has been raised out of the floodplain so that it will not be damaged by floods again.
3. The third scenario goes a step further. In this instance, the community not only raised the building, but provided landscaping underneath the structure, as well as picnic tables so that it can be a community meeting space. This establishes a small park that is less susceptible to floods and retrofits the building.

## Visual 8: Activity: Let's Play "Mitigation or Preparedness"?

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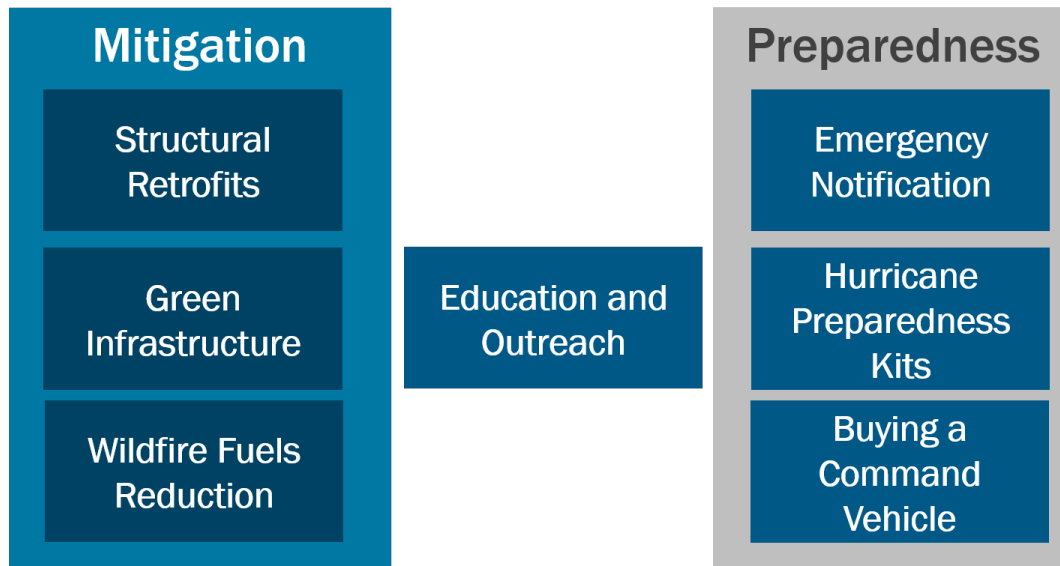


### Activity: Let's Play "Mitigation or Preparedness"?

Are the examples on the slide mitigation or preparedness?

## Visual 9: Mitigation or Preparedness?

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### Mitigation or Preparedness?

Remember, mitigation is an ongoing process that is focused on long-term solutions. While preparedness seeks to rectify the short-term effects of hazards, mitigation is in it for the long haul. Mitigation seeks to permanently reduce the risk from hazards.

## Visual 10: Hazard Mitigation Planning

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The process that results in mitigation actions that will protect the community from the impact of future disasters.



### Hazard Mitigation Planning

Mitigation is most successful when it starts with a long-term strategy in a mitigation plan.

Hazard mitigation planning engages the whole community in a process to:

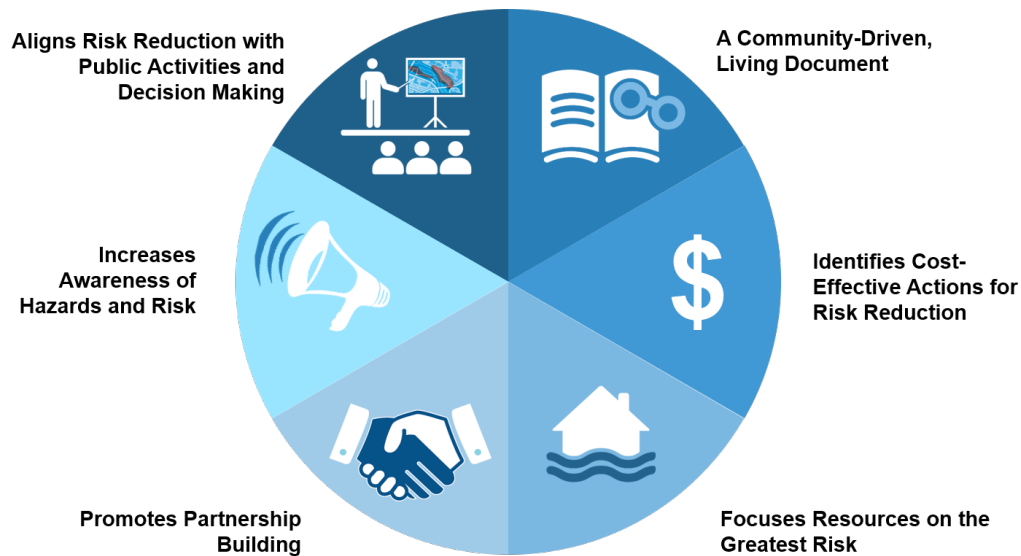
- Engage the whole community to understand risk
- Come up with solutions to reduce risk
- Create an action plan to implement the solutions

The purpose of mitigation planning is to identify policies and actions that can be implemented over the long term to reduce risk and future losses.

- These mitigation policies and actions are identified based on an assessment of hazards, vulnerabilities, and risks.
- The planning process incorporates the participation of a wide range of partners and the public – the whole community – in the planning process. This creates an open and inclusive process that provides transparency and legitimacy to the decisions made during plan development. An inclusive mitigation planning process also facilitates the establishment of partnerships that will be critical to recovery should a disaster occur.



## Visual 11: Benefits of Mitigation Planning



### Benefits of Mitigation Planning

Mitigation Plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. It creates a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters.

States, Local, and Tribal governments benefit from mitigation planning by:

- Identifying cost-effective actions for risk reduction that are agreed upon by stakeholders and the public
- Focusing resources on the greatest risks and vulnerabilities
- Building partnerships by involving people, organizations, and businesses
- Increasing education and awareness of hazards and risk
- Communicating priorities to state and federal officials
- Aligning risk reduction with other community goals

## Visual 12: Successful Mitigation Planning

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- Uses a process that:
  - Brings community leaders, members, and partners together
  - Evaluates risk for your community and the assets (people, places, infrastructure, etc.) that it cares about most
  - Determines how to achieve your community's greatest needs and enhance resilience
- Positions the community to reduce risk before disasters and recover more quickly following disasters



### Successful Mitigation Planning

A successful planning process involves bringing community members and other partners together to discuss their knowledge, their perception of risk, and how to meet their needs as part of the process.

Mitigation reduces the severity of hazards, and it sets the community up for rebuilding stronger following a disaster event. A mitigation plan can help identify and support pre-disaster and post-disaster mitigation efforts.

## Visual 13: Mitigation is an Investment

Mitigation is an investment to:

- Prevent human injury and loss of life.
- Protect community assets (structure/infrastructure, historic, and cultural).
- Reduce costs of disaster response/recovery.
- Support who and what is important to your community.

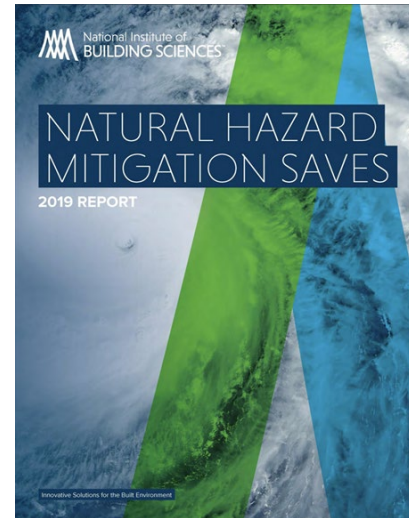


This is an opportunity for integrating community planning efforts.

Note

## Visual 14: Improving Long-Term Financial Stability

The [Natural Hazard Mitigation Saves: 2019 Report](#) represents the most exhaustive benefit-cost analysis of natural hazard mitigation, from adopting up-to-date building codes and exceeding codes to addressing the retrofit of existing buildings and utility and transportation infrastructure.



### Improving Long-Term Financial Stability

The Natural Hazard Mitigation Saves: 2019 Report represents the most exhaustive benefit-cost analysis of natural hazard mitigation, from adopting up-to-date building codes and exceeding codes to addressing the retrofit of existing buildings and utility and transportation infrastructure. As the figure shows, the benefit-cost ratio can go up to 13:1, which is a substantial return on investment. For the report and accompanying [fact sheets](#), also available at [www.nibs.org/mitigationsaves](http://www.nibs.org/mitigationsaves).

Mitigation saves money in the long term and can better prepare your community for changing future conditions. These conditions may occur in the natural environment and through development changes. The HMP and related planning initiatives (including building codes) should look to the future with a safer, more resilient community.

The community may need to address rapid development changes or climate action plans.



This is an opportunity for integrating community planning efforts.

Note

## Visual 15: Building Codes Save

### National Findings of Modeled I-Code Savings

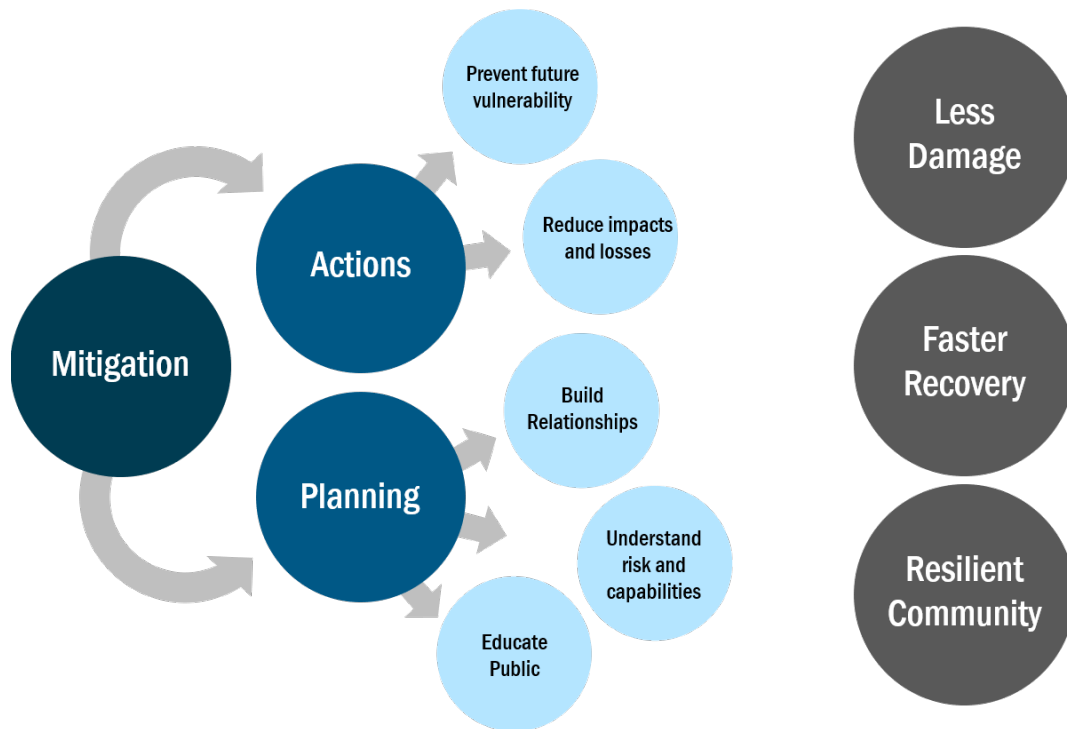
Total losses avoided are based on building and content damages	Number of Post-2000 Structures	Money Saved, annual average
Floods	786k	\$484 million
Earthquakes	2.4m	\$60 million
Hurricane Winds	9.2m	\$1.1 billion

### Building Codes Save: A Nationwide Study of Loss Prevention

- Taking the extraordinary step of calculating how much damage had been averted in communities that have adopted modern building codes, FEMA found that, since the first edition of the International Codes (I-Codes) in 2000, communities that have adopted them have saved approximately \$1.6B in average annualized losses, saving the Nation \$32B over that 20-year period in avoided building and contents losses.
- The study also found that currently 65 percent of counties, cities, and towns across the U.S. have not adopted modern building codes, only 50 percent of cumulative post-2000 construction adhered to the I-Codes, and 30 percent of new construction is occurring in communities with no codes at all or codes that are more than 20 years outdated.
- If all new buildings across the U.S. were built to modern editions of the I-Codes, the country would save more than \$600 billion by 2060.
- The cost of strengthening a new home against natural hazards is minimal compared with overall construction costs. For example, hurricane safeguards add \$4,500 to the cost of a \$300,000 home but avert \$48,000 in damage over 30 years.
- Unless communities update their standards, around 4.2 million homes will be built between 2016 and 2040 in communities with archaic building codes unless states and localities update their standards. That represents 30% of the 13.9 million buildings to be constructed in that period.

To learn more about the study, visit the [Building Codes Save](https://www.fema.gov/emergency-managers/risk-management/building-science/building-codes-save-study) (also accessible at <https://www.fema.gov/emergency-managers/risk-management/building-science/building-codes-save-study>)

## Visual 16: Mitigation Increases Resilience



### Mitigation Increases Resilience

If resilience is the ability to adapt to changing conditions and prepare for, withstand, and rapidly recover from disruption caused by a hazard, then mitigation is a key component of making a community more resilient. Mitigation actions and planning are key links in making communities safer in the long run by addressing vulnerabilities and reducing impacts from hazards.

## Visual 17: Resilient Communities

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What are the features of a community that actively contributes to resiliency?

- Makes proactive investments and policy decisions
- Effectively communicates risk and vulnerability to citizens
- Builds public and private sector capabilities and partnerships
- Implements smart changes and makes necessary improvements when given the opportunity



## Resilient Communities

What are the features of a community that actively contributes to resiliency?

- Makes proactive investments and policy decisions
- Effectively communicates risk and vulnerability to members of the public
- Builds public and private sector capabilities and partnerships
- Implements smart changes and makes necessary improvements when given the opportunity

## Visual 18: Code of Federal Regulations

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Title 44 Code of Federal Regulations Section 201.6

Robert T. Stafford Disaster Relief and Emergency Assistance Act as amended by the Disaster Mitigation Act of 2000

### Code of Federal Regulations

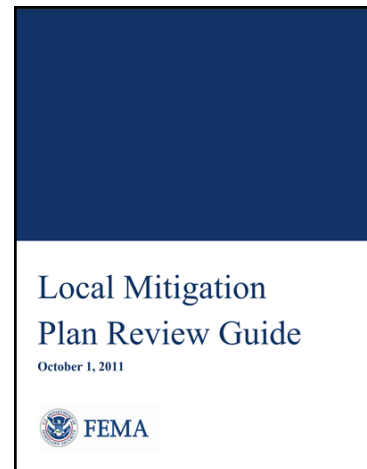
The Robert T. Stafford Disaster and Emergency Assistance Act as amended by the Disaster Mitigation Act of 2000 provides the basis for mitigation planning that requires State, Tribal, and local governments to develop and adopt FEMA-approved hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including Public Assistance Permanent Work and Hazard Mitigation Assistance funding.



## Visual 19: Local Mitigation Planning Regulations and Plan Review Guide

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- Requirements can be found at 44 Code of Federal Regulations (CFR) Section 201.6 and are outlined in the Guide
- Local Mitigation Plan Review Guide
- FEMA's official interpretation of local mitigation planning requirement
- Includes standard operating procedure for plan reviews



### Local Mitigation Planning Regulations and Plan Review Guide

The Local Mitigation Planning Regulations are found at 44 CFR Section 201. Section 201.6 addresses the requirements for local mitigation plans.

The [Local Mitigation Plan Review Guide](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)) is the official interpretation of the Local Mitigation Planning Requirements found at 44 CFR 201.6. The Guide lays out the requirements and assists communities in understanding these requirements. It is also a resource for FEMA plan reviewers.

The Local Mitigation Plan Review Guide focuses on requirements and simplifies the review process. We will not spend a lot of time discussing the regulations or the plan review process in this training, but the Guide is part of your training packet.

You may want to keep the Guide handy to reference the requirements noted throughout the course.

## Visual 20: A Thorough Planning Process Will:



### A Thorough Planning Process Will:

An inclusive and diverse planning process can:

- Engage all jurisdictions to participate in the planning process so that they are eligible to adopt a finished HMP
- Document the existing authorities, policies, programs, and resources that do and will support mitigation
- Show how communities participate in the NFIP by including Floodplain Managers
- Gather data, information, and plans that support the HMP update
- Include the authors and owners of other planning mechanisms and capital improvement plans that can integrate mitigation actions
- Document progress to inspire more action

A thorough process will also produce actionable projects, ones that are “shovel ready” and more easily implemented.



This is an opportunity for integrating community planning efforts.

Note

## Visual 21: Planning is the Foundation for Resilience



### Planning is the Foundation for Resilience

This slide shows a local community’s journey through the various stages of its Mitigation Program. Imagine the community’s Mitigation Program as the mountain, where the goal is to reach the top – resilience. The decision makers, like this person on the left, would be informed by the community priorities, and would USE the mitigation planning process to navigate through the entire journey.

Important milestones along the way are (starting from the bottom):

1. The planning grant. A state, tribe, and/or local government identifies its planning needs by carefully drafting the scope of the plan/plan update/planning-related activity, based on recent disasters, changes in risk (and/or risk information), growth and land-use changes, changes in mitigation priorities, addition of new partners, such as infrastructure and lifeline owners, etc.

A planning grant is not necessary to write a plan but more funding may be needed for the planning process, as additional jurisdictions and partners are added to the planning process, or for the mitigation strategies, as more actions are identified and scoped for ease of implementation using a wider range of public and private resources. Planning grant costs may decrease as risk assessment data is leveraged from states and shared with local governments.

2. Using this initial leg of the journey to build partnerships, the state, tribe, and/or local government involves the right stakeholders, such as infrastructure and lifeline owners,

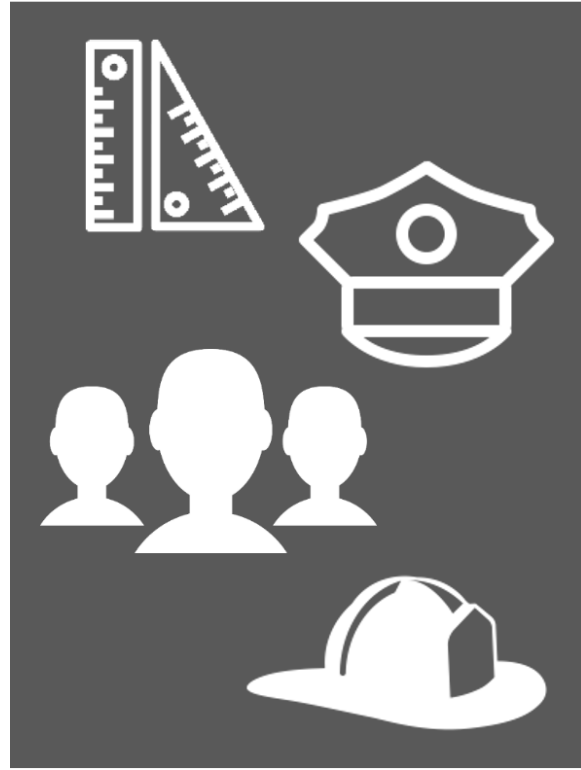
into the planning process, and crosses another important milestone – a FEMA-approved mitigation plan.

3. When it's time for Project Scoping, the state, tribe, and/or local government uses the thought process of understanding risks and evaluating alternatives, as well as working with partners to develop projects that are the most cost-effective and beneficial to the whole community. HMA provides assistance to support this phase (previously called Advanced Assistance). Once again, this step is not necessary to apply for a mitigation project but may be useful in developing the information needed for the project application and EOHP reviews to expedite obligation once the HMA project grant application is submitted.
4. Mitigation investments are made using project applications under various HMA programs, or through other funding sources, federal and otherwise.
5. Mountain climbers know that sometimes you have to return to base before you can climb higher. Similarly, it takes regular 5-year plan updates to implement enough mitigation actions to reach the peak – a resilient community.

## Visual 22: Overview of Partners

Many roles in hazard mitigation planning:

- Federal
- State
- Local
  - Lead Jurisdiction
  - Participating Jurisdiction(s)
  - Stakeholders
  - The Public
  - Planning Consultant



### Overview of Partners

The **Lead Jurisdiction** is the entity sponsoring development of a hazard mitigation plan (HMP) including:

- Counties, Planning District Commissions, or Planning and Development Councils for multi-jurisdictional HMPs. Each community that adopts the plan should consider itself as having buy-in to the mitigation plan.
- Individual communities who are developing their own mitigation plans
- This entity may be the planning grant recipient or sub-recipient if the plan is funded by FEMA. When HMA planning grants are used to develop an HMP, lead jurisdiction is typically the grantee (for States and DC) or subgrantee (for all others). It is assumed there will be a designated POC to coordinate the planning process and to be the lead for communications with FEMA, the State (if applicable), and the Planning Consultant (if applicable).

**Participating Jurisdiction(s)** are any eligible incorporated jurisdiction, special district, or public entity (e.g., a college or university) that is engaged throughout the planning process and intends to formally adopt the HMP. For a single-jurisdictional HMP, the Participating Jurisdiction is also the Lead Jurisdiction. For multi-jurisdictional HMPs, the Lead Jurisdiction may also be a Participating Jurisdiction. This group is often referred to as the Planning Team.

**Stakeholders** are any non-jurisdictional partners in the planning process. These may be non-governmental organizations, community groups, adjacent or neighboring communities, or other State, Federal, or local agencies.

**The Public** includes all community citizens who live in the planning area.

**Planning Consultants** are contract consultants hired by the government to support the planning process that can provide a range of support services.

## Visual 23: Roles and Responsibilities:

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### Federal Emergency Management Agency

- Provide training and technical assistance when requested by States and Participating Jurisdictions
- Review and approve Hazard Mitigation Plans (HMPs) in concert with States

### Roles and Responsibilities: FEMA

We are all in this together!! However, it is important to understand the different but related roles and responsibilities for all participants in the hazard mitigation planning process.

FEMA is here to provide technical assistance if and when you need it, to help explain any of the planning requirements, and to connect you to resources. FEMA will also review and approve the plan, in coordination with the State.



## Visual 24: Roles and Responsibilities

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### States/Territories

- Maintain and update State-level HMP
- Provide guidance for including data sources and preferred formats
- Support plan implementation with funding and technical assistance and training
- Troubleshoot challenges and identify opportunities
- First review of local plans



### Roles and Responsibilities: States/Territories

Each State/Territory may have specific requirements that need to be considered and addressed in the HMP in addition to the Code of Federal Regulations requirements.

Key message: There are “requirements” but there is also a broad range of “opportunities” to improve HMPs beyond the minimum standards and create a more resilient community.

## Visual 25: Roles and Responsibilities

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### Lead Jurisdiction

- Serve as a primary point of contact for plan submission and review
- Engage and support sustained involvement by Participating Jurisdictions
- Facilitate cooperative efforts between Participating Jurisdictions, where appropriate
- Manage grant and/or consultant

### Roles and Responsibilities: Lead Jurisdiction

**Lead Jurisdiction** is the jurisdiction “sponsoring” the development of the mitigation plan. Having a lead jurisdiction as a role is often used in multi-jurisdictional plans, when it helps to have a single point of contact for engaging the participating jurisdictions and for coordinating with the State and FEMA. The lead may be a regional planning entity, a county, or even a local jurisdiction.

As we said before, this is often the grant subrecipient (if a local jurisdiction), so the lead has to manage the grant. Often the lead jurisdiction will engage and manage a consultant if one is being used.

If it is a single jurisdictional plan, there is only a lead jurisdiction.

## Visual 26: Roles and Responsibilities

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### Jurisdictional Representatives

- Be involved in the planning process
- Objectively assess risks
- Identify and encourage comprehensive solutions
- Follow through with the implementation of mitigation actions
- Integrate mitigation across the community

### Roles and Responsibilities: Jurisdictional Representatives

A **Jurisdictional Representative** is a designated POC for a Participating Jurisdiction working with the Lead Jurisdiction and Planning Consultant (if applicable) and supporting efforts of their Planning Team. It is also the responsibility of the communities adopting the plan to ensure that the planning consultants, if applicable, are held accountable for meeting FEMA's mitigation plan review standards. Before development of the plan begins, ensure that they are familiar with the Local Plan Review Guide.

It is also the responsibility of each community to be involved! Contractors do not represent your community, even if they are helping you through the planning process. No consultant can decide for a jurisdiction what vulnerabilities are unacceptable, what must be mitigated, and how to mitigate. It takes a jurisdictional Planning Team to evaluate information and make those decisions.

## Visual 27: Roles and Responsibilities

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### Stakeholders

#### Non-municipal partners:

- Engage community through outreach
- Contribute data, knowledge, and perspectives
- Provide technical expertise
- Integrate mitigation with related initiatives



### Roles and Responsibilities: Stakeholders

Stakeholders are all the other partners you bring to the table for a full and comprehensive planning process. They may be non-profits, advocacy organizations, or universities. At a minimum, they must include agencies with the authority to regulate development, adjacent communities, and other entities involved in hazard mitigation activities. These partners provide information, data, and expertise that can support your planning process. They also may be connected to the public and able to share information about risk and mitigation. For example, you might invite a watershed advocacy group that does community education on water issues. They can help share the news about the plan and can have ideas for potential mitigation actions.

When you have diverse representation and multiple outreach points to community partners, you are more likely to identify and implement comprehensive mitigation actions.

## Visual 28: Roles and Responsibilities: Consultants and Plan Developers

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- Support government entities in implementing the planning process
- Contribute data, knowledge and insight gained from supporting other planning efforts
- Provide technical expertise



### Roles and Responsibilities: Consultants and Plan Developers

Planning Consultants and Plan Developers include private planning consultants, academic institutions, planning districts, or non-profit organizations that work under contract to the Lead Jurisdiction to provide comprehensive or selected professional and technical support for developing an HMP. If Federal funds are used for developing an HMP, the Planning Consultant services must be procured in a manner consistent with the Code of Federal Regulations. The Planning Consultant or Plan Developer will work to support the Lead Jurisdiction and all Participating Jurisdictions. Work with a Participating Jurisdiction may include working solely with the Plan Developer or also engaging with the Planning Team pending community preferences and/or budget constraints.

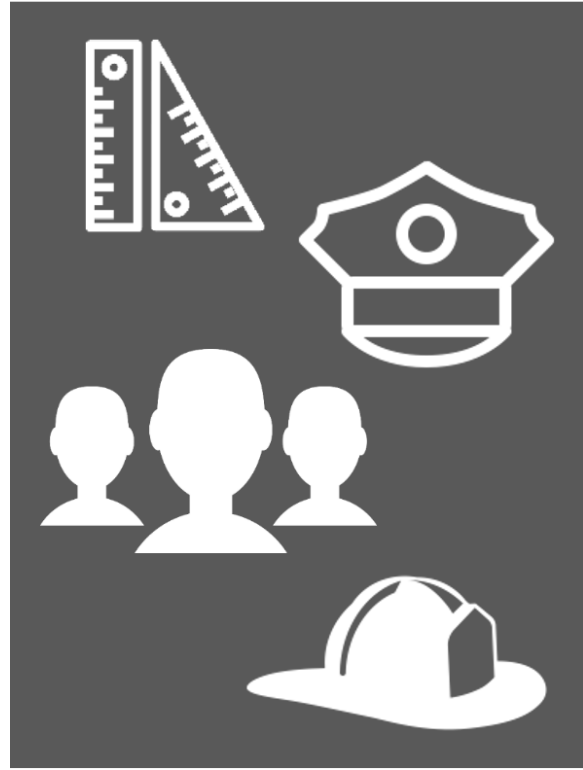
Consultants are not a required partner in the planning process, but some jurisdictions do hire them to support their work.

## Visual 29: Discussion: Roles and Responsibilities

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Do you know your role?

- Lead Jurisdiction
- Participating Jurisdiction
- Stakeholder
- Planning Consultant/Developer
- More than one
- None of the above



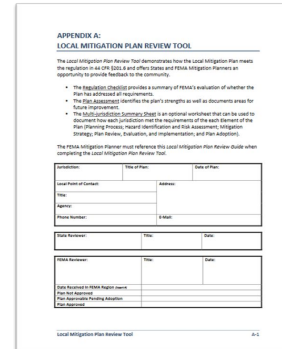
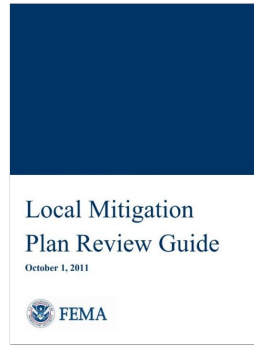
### Discussion: Roles and Responsibilities

It is important to note that you may in fact be more than one at a time.



# Visual 30: Resources and Tools

Section 4: Regulation Checklist of the Local Mitigation Plan Review Guide spells out what must be included in the HMP to gain FEMA approval.



## Resources and Tools

The [Local Mitigation Plan Review Guide](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)) provides the requirements that FEMA uses to check plan reviews. Please reference it throughout the course if you have questions!

## Visual 31: Questions

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### Questions?

This concludes this module. If you have any questions, pose them to the instructor.



## Visual 32: FEMA logo

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# Module 2: Planning Process: Organizing and Engaging Community Partners

## Visual 1: Module 2: Planning Process: Organize & Engage Community Partners

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### Planning Process

## **Organize & Engage Community Partners**

### Planning Process: Organize & Engage Community Partners

This module provides detailed guidance for organizing and engaging community members in the hazard mitigation planning process.

## Visual 2: Course Map

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	Introduction
	Planning Process: Role and Responsibilities
<b>2 ▶</b>	<b>Planning Process: Organizing and Engaging Community Partners</b>
	Risk Assessment: Identifying Community Assets and Hazards
	Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk
	Developing a Mitigation Strategy
	Plan Maintenance and Updates
	Plan Implementation
	Mitigation Funding and Assistance
	Conclusion

### Course Map

This module will focus on how to engage the public and potential stakeholders and integrating the mitigation planning process into other existing processes.

This module helps address Elements A1-A4 of the mitigation planning requirements, according to the 2011 Local Plan Review Guide.

## Visual 3: Module Learning Objectives

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- Discuss the role of the planning team, community partners, and the public in hazard mitigation planning.
- Recall the process of gathering information and documentation essential for a successful mitigation plan.



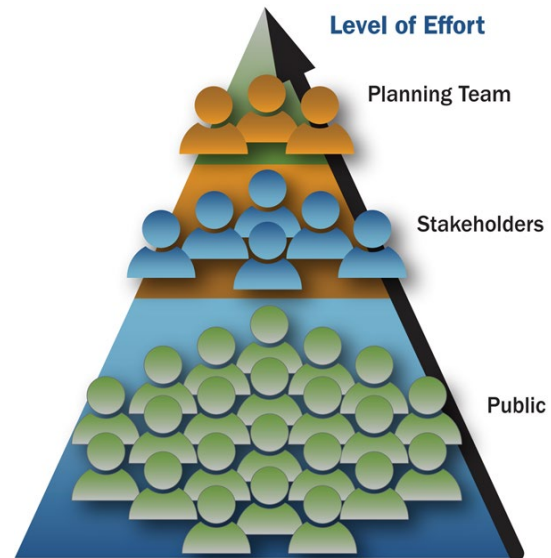
### Module Learning Objectives

By the end of this module, you should be able to perform these objectives:

- Discuss the role of the planning team, community partners, and the public in hazard mitigation planning.
- Recall the process of gathering information and documentation essential for a successful mitigation plan.

## Visual 4: This is Your Community's Plan

- The process is as important as the plan
- The plan is only as good as the involvement and buy-in that goes into it
- Develop the plan to serve your whole community
- The plan should represent the current needs and values of the community



### This is Your Community's Plan

Before you start to build the plan, it is important to remember: The mitigation plan belongs to your community. While FEMA has the authority to approve plans, there is no required format. You get to build a planning process and a plan that works for you. Additionally, if you are using a contractor to write your plan, you are not giving them all the responsibility. They are there to facilitate the process, but it is still your community's plan.

They may have a routine process, but make sure that it works for you. When writing the mitigation plan, keep the following things in mind:

- The process is as important as the plan.
- The plan is only as good as the involvement and buy-in that goes into it.
- Develop the plan to serve your whole community.
- The plan should represent the current needs and values of the community.

The graphic shows how to organize involvement of the whole community; there's a role for each player, and we will cover that in later slides.



You develop the process and determine your approach.

Tip

## Visual 5: Building the “Right” Planning Team Will:



### Building the “Right” Planning Team Will:

The purpose of gathering community partner stakeholders and participants from each jurisdiction includes:

- Provide for direct input from community members in each Participating Jurisdiction regarding hazards, exposed assets, and potential solutions
- Connect with an inclusive and diverse array of community partners in the public and private sectors
- Integrate hazard mitigation with other community planning and implementation efforts (and vice versa)
- Identify and enable champions for community resilience and hazard mitigation
- Facilitate the sustained implementation of mitigation actions identified during the planning process



This is an opportunity for integrating community planning efforts.

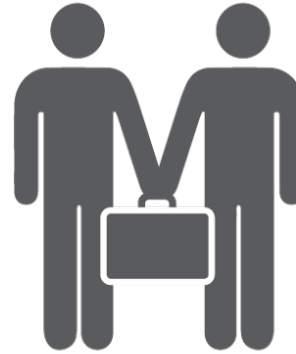
Note

## Visual 6: Who Should be on the Planning Team? \*

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Key participants to consider:

- Planning and zoning staff
- Engineering and public works personnel
  - Floodplain Administrators
  - Other hazard specialists
- Emergency managers
- Administrative staff and grant managers
- Geographic Information System (GIS) specialists
- Community leaders
- Coastal Zone Managers
- Business community representatives
- Building Code Officials



### Who Should be on the Planning Team?

Key participants on the Planning Team for each Participating Jurisdiction could include:

- Emergency management and public works personnel with direct experience in risks faced by the community
- Floodplain Administrators to show how communities participate in the NFIP
- Other hazard specialists, e.g., based on your risks, a Wildfire Mitigation Specialist may be applicable
- Engineering, planning, and zoning staff who have responsibilities for regulating development
- Administrative staff, in particular individuals with responsibilities for managing local capital improvement budgets or capabilities for applying for and managing grants
- GIS Specialists who can analyze and map data to support the planning process and communicate complex information, such as the locations of assets at risk in threat- or hazard-prone areas and estimates of damage for a particular disaster scenario
- Elected officials, potentially represented by one member of the governing body who can serve as a champion when the HMP is brought forward for approval at the end of the update process
- If your community is on the coast, Coastal Zone Managers can provide insight into vulnerabilities
- Business community representatives including major employers and small businesses



- Building Code Officials who can ensure existing or new structures are safe and in compliance with federal and local codes, contractual specifications, and zoning laws

It is important to distinguish between those who should serve as members of the planning team and other stakeholders. Stakeholders are individuals or groups that are affected by a mitigation action or policy and include businesses, private organizations, and members of the public. Unlike planning team members, stakeholders may not be involved in all stages of the planning process, but they inform the planning team on a specific topic or provide input from different points of view in the community.

Members of the public are typically not on the Planning Team but if it's possible, they can be included in addition to participating jurisdictions and stakeholders. However, members of the public must be on the planning team if your community is interested in maximizing CRS credits through a combined local mitigation planning process and CRS Floodplain Management Plan.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include A1



This is a required hazard mitigation plan element/activity.

Note

## Visual 7: Role of the Team

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Generally, the Planning Team brings together subject matter expertise in:

- Hazards and disaster history
- Regulating development
- Local budgets and financing
- Private sector partnerships
- Developing and implementing hazard mitigation actions



### Role of the Team (continued)

Generally, an inclusive, diverse, and effective Planning Team brings together individuals or organizations with subject matter expertise in

- Hazards and disaster history such as local emergency managers and public works officials, i.e., Who is already familiar with problems in the community?
- Regulating development through planning and zoning ordinances (i.e., Who is on local commissions or staff?)
- Local budgets and financing including capital improvements (i.e., Who controls the money?)
- Private sector partnerships
- Note: Whether large industrial HQ or small business operators, 90% of businesses fail within a year if they do not reopen within the first five days following a disaster. How are you planning for the mom and pop shops? What risks do they face if the roads are out, cell reception lost, or power is unavailable?
- Implementing hazard mitigation actions including engineering and public works departments (i.e., Who will likely be responsible for getting things done?)

When you're thinking about who should be included as a member of the Planning Team, it is important to think about expertise level, opportunities for cross coordination and awareness, and general interest. All of these pieces can drive the cost up or down and impact the quality of your final products and process.

## Visual 8: Initial Planning Team Tasks

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### Initial Planning Team Tasks:

- Review the current mitigation plan (if this is an update)
- Determine plan scope and schedule
- Develop an outreach strategy



**Gather data, plans, reports,  
and studies**

### Initial Planning Team Tasks (continued)

Initial planning team tasks include the following:

- If you already have a mitigation plan, start by reviewing it. This will help you start your update. Look for the Opportunities for Improvement in the previous Review Tool.
- Determine plan scope and schedule.
- Develop an outreach strategy.
- Review feedback on your current HMP review from the state and FEMA for suggested improvements and best practices to continue.

One of the most important tasks for stakeholders is to gather the data, plans, reports, and studies that will be incorporated into the plan. This information is critical to have so that the mitigation plan is consistent with other local planning initiatives and goals and is as actionable as possible.

The planning team will need to hold a series of meetings or work sessions during the planning process. The first meeting of the planning team, or the plan kickoff meeting, should focus on introducing team members, describing the overall purpose of the plan, defining the team's responsibilities, validating the project scope and schedule, and brainstorming who else should be involved in the planning process.

It may also be helpful to hold planning team meetings at a restaurant or to schedule the meeting at lunchtime and provide food to ensure a good level of attendance/participation.

As you're getting started, make sure your scope of work matches the complexity of your situation and the available resources. In general, the lower the complexity, the lower the cost and overall level of effort.



This is an option for communities with limited capabilities.

Note

## Visual 9: Why is Engaging Community Partners/Stakeholders so Important?

---

Success in reducing risk requires:

- Reflecting the community's values
- Local knowledge
- Sustained effort to develop, maintain, and implement the HMP



### Why is Engaging Community Partners/Stakeholders so Important? (continued)

Photo Source: Pixabay.

Success in reducing risk to your community requires:

- Reflecting the community's values.
- Applying local knowledge regarding risks, assets, and capabilities.
- Sustained effort to develop and maintain the plan as well as implement recommended mitigation actions.

Each Participating Jurisdiction that is part of the multi-jurisdictional HMP should work to gain Stakeholders. If you are doing a multi-jurisdictional plan, each community should have their own internal team that you could engage with during the process.

To be eligible to adopt the finished HMP, each Participating Jurisdiction must fully participate in the process and contribute input used in the HMP. This means conducting meetings, filling in forms, noting progress on existing actions, and planning actions moving forward. This commitment should have already been established via letters of agreement between the Lead Jurisdiction and Participating Jurisdictions.

## Visual 10: Who Should You Involve?

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Consider:

- Building on your previous hazard mitigation Planning Team
- Expanding an existing local emergency planning committee
- Utilizing other existing committees



### Who Should You Involve?

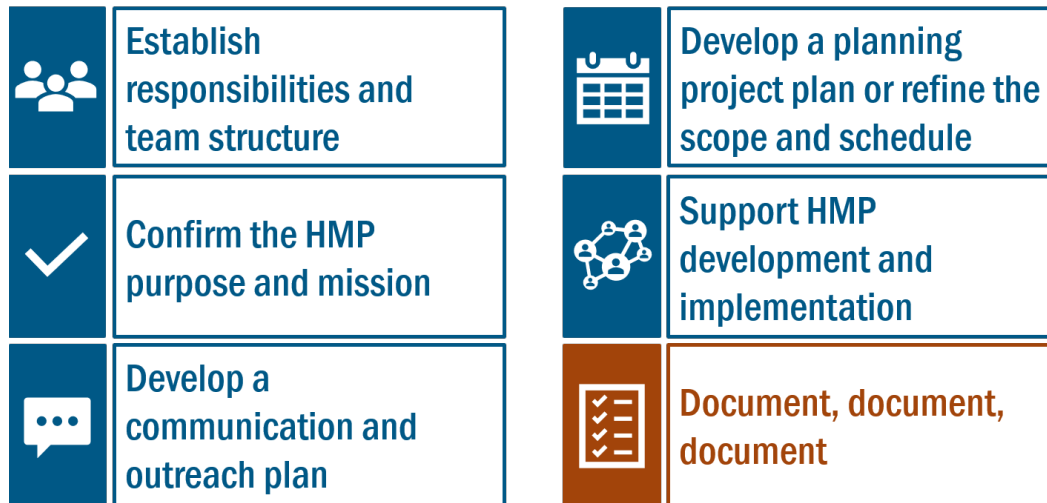
Assembling a whole new team may not be necessary if a sustained planning and implementation process is in place. Consider:

- Building on a previous hazard mitigation Planning Team.
- Expanding an existing local emergency planning committee.
- Utilizing other existing committees, especially those that oversee land use planning, housing, etc.

Also, how and when you pick team members can vary—for example:

- “Put me in coach!” or “Pick me! Pick me!” (i.e., Who is highly motivated or interested?)
- Deliberate, hand select, and recruit members (i.e., Who will have the most potential impact during the planning and implementation?)
- Start small and build up as needs become clearer and opportunities appear (i.e., Is there a “Steering Committee” that can be counted on during the entire planning and implementation process with other contributors inserted when needed?)

## Visual 11: Initial Stakeholder Tasks



### Initial Stakeholder Tasks

All of this assumes (for an HMP update) that the Stakeholders will review the current approved HMP at the beginning and throughout the process as appropriate.

“Support HMP development and implementation” includes a number of facets that are covered in other modules but in summary includes:

- Documenting existing authorities, policies, programs, and resources that support or will support mitigation.
- Gathering data, information, and plans that support the plan development/update.
- Sustaining efforts following plan development during subsequent implementation.

## Visual 12: Activity: Who Would You Invite to Your Planning Team? \*

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- Use Worksheet 2.1 Mitigation Planning Team Worksheet.
- Identify who you would recruit to be a member of your local planning team.
- Identify who would be stakeholders.



### Activity: Who Would You Invite to Your Planning Team?

#### Activity Directions:

- Use Worksheet 2.1 Mitigation Planning Team Worksheet.
- Identify who you would recruit to be a member of your local planning team and who would be your stakeholders.
- You have 5 minutes to complete the activity.
- Be prepared to share your answers with the class.



This is a required hazard mitigation plan element/activity.

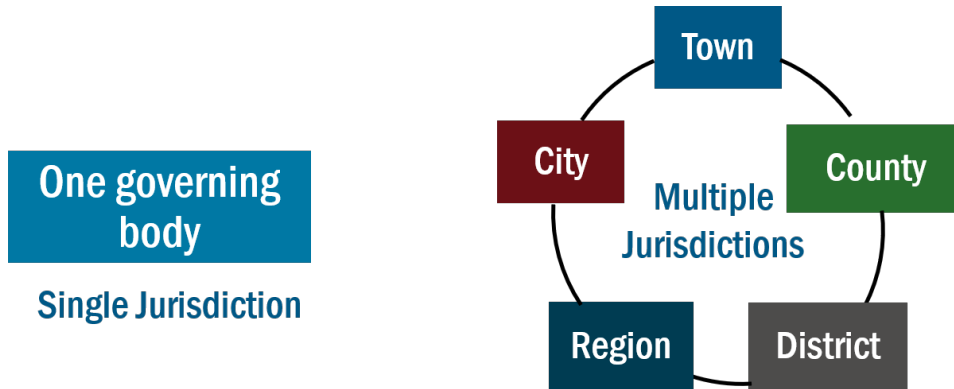
Note



## Visual 13: Single or Multi-Jurisdiction Plan

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Each adopting governments must meet the mitigation planning requirements.



### Single or Multi-Jurisdiction Plan

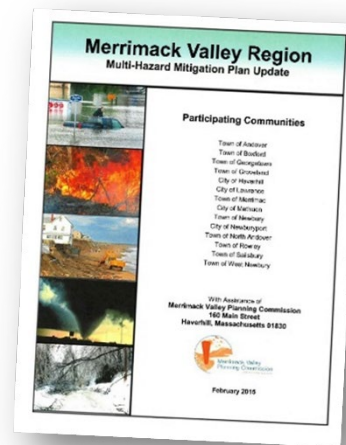
One key decision to make is whether the plan will be single jurisdiction or multi-jurisdiction. A single jurisdiction plan involves a planning process for one community or tribe, or special districts, whereas a multi-jurisdictional plan can include multiple communities, tribes, and/or special districts.

## Visual 14: Multi-Jurisdiction Requirements

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Each jurisdiction seeking plan approval must:

- Participate in the planning process
- Assess unique risks
- Identify specific mitigation activities
- Adopt the plan



### Multi-Jurisdiction Requirements

Multi-jurisdictional plans have certain requirements that help to ensure that each community has undergone its own planning process as part of the overall effort.

## Visual 15: Benefits and Challenges of Multi-Jurisdictional Plans

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- **Benefits of Multi-Jurisdictional Plans**
  - Improves communication and coordination
  - Enables comprehensive and regional mitigation approaches
  - Maximizes economies of scale by sharing costs and capabilities
  - Avoids duplication of effort
  - Provides organizational structure
  - Broader opportunities for stakeholder engagement
  
- **Challenges of Multi-Jurisdictional Plans**
  - Reduces individual control over process
  - Involves coordinating and timing the process with multiple jurisdictions (with past histories)
  - Getting a detailed assessment of risks, specific mitigation actions, and involvement by jurisdictions
  - Requires organization of large amounts of information into a single document

### Benefits and Challenges of Multi-Jurisdictional Plans (continued)

While there are certain individual requirements for each community, MJ plans can often have a lot of advantages over each community during its own plan.

Logistics is key to success – ensure there is ownership of the plan and each jurisdiction understands their responsibilities.

It is also important to have a lead jurisdiction at the helm to coordinate all of the participating jurisdictions.

## Visual 16: Deliverables, Tasks, and Schedule


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Photo Source: Pixabay.

# Visual 17: Check Deliverables, Tasks, Schedule

- Are all deliverables identified?
- Are tasks feasible?
- Do tasks make sense, given time and budget limits?
- Is the schedule adequate?
- How is a Planning Consultant involved (if applicable)?


FEMA
Job Aid

Federal Insurance and Mitigation Administration

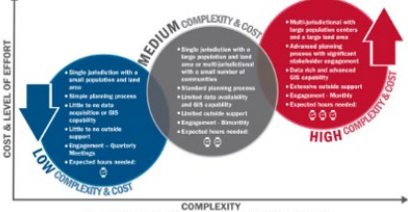
### CONSIDERATIONS FOR LOCAL MITIGATION PLANNING GRANT SUBAPPLICATIONS

Developing a local hazard mitigation plan can help your community reduce the loss of life and property by lessening the impact of hazards. Having a FEMA-approved hazard mitigation plan is also required for communities (subapplicants) interested in receiving grant funding from FEMA for eligible mitigation projects. FEMA's [Hazard Mitigation Assistance \(HMA\)](#) provides planning grants to communities looking to develop or update their hazard mitigation plans. The purpose of this job aid is to provide considerations for the development of a planning grant scope of work with the ultimate goal of encouraging strong, comprehensive planning grant subapplications. It will help you think critically about what is needed for your hazard mitigation plan, and will help you understand the level of effort and cost implications of those needs.

Planning grant subapplications should identify the required steps to complete your hazard mitigation plan in a clear, concise, and meaningful narrative. The narrative presented in your subapplication will become part of the conditions of the FEMA award, so it is important to make sure that it accurately represents your community's needs and that the costs you present match the identified planning tasks. In general, the cost and level of effort needed to develop or update a local hazard mitigation plan grow with the complexity of the planning area, planning process, and data analysis needed, as shown below.

**Mitigation Planning Regulations and HMA Grant Guidance**

The guidance provided in this job aid is consistent with the requirements for local hazard mitigation plans in Section 322 of the Stafford Act (42 U.S.C. 5165), Title 44 of the Code of Federal Regulations (CFR) 379.6(c)(1), 201.6, and 201.7 for tribal plans. Mitigation planning guidance is available from the [FEMA Mitigation Planning website](#). The most recent HMA guidance is available on the [HMA website](#).



Factors: Planning Area - Planning Process - Available Data and Risk Assessment

\*FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and

Page 1 of 7

## Visual 18: Review Plan Updates: First Look at the Current, Approved HMP

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- Find your previous plan review tool from FEMA.
- Look at Section 2: Plan Assessment for Opportunities for Improvement.
- Incorporate any changes from the last 5 years.



Changes in leadership



New hazards or disaster activity



Progress towards actions



Changes in development



Changes in regulations

### Review Plan Updates: First Look at the Current, Approved HMP

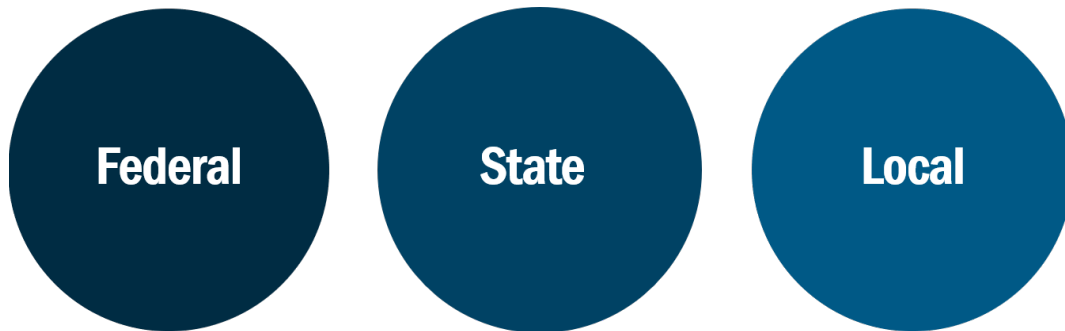
Are you updating your HMP (as opposed to developing a new one)? If you are updating, refer to the Local Mitigation Plan Review Tool for your current approved HMP. If you don't have it, FEMA should be able to provide it. The Plan Review Tool includes a plan assessment with strengths and opportunities for improvement; this is your chance to take action on some of those improvements.

- When you're thinking about updating, it helps to assess the level of effort and what you want to change based on your previous plan. Also, for a scope of work, the planning narrative has to include a description of previous planning efforts, both FEMA and non-FEMA.
- Reviewing these efforts first can help you and your Planning Team understand priorities, needs, and gaps.
- Talk about how priorities have changed, because this can impact the path your planning process takes.
- This is your opportunity to describe how this grant will correct deficiencies, strengthen weak spots, and describe new priorities.
- Has your community completed related mitigation planning, through FEMA or other programs? this could mean Risk MAP, or a HUD CDGB-DR project, or other independent local plans and processes. Your HMP should work with those other planning efforts. Your narrative should document the connection between your planning grant and other planning efforts. Aligning efforts can decrease costs over time!
- Has there been a change in elected or appointed officials?
- What capabilities have improved (or declined)?
- Has your community reduced risk with completed mitigation actions through FEMA or other programs?

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## Visual 19: Gather Data, Plans, Reports, and Studies

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### Gather Data, Plans, Reports, and Studies

Mitigation plans must incorporate accurate, current, relevant information, usually from existing data, plans, reports, and studies. It is important to gather these resources (and ask your planning team members for any resources they know of) to support the planning process. Consider the following kinds of data:

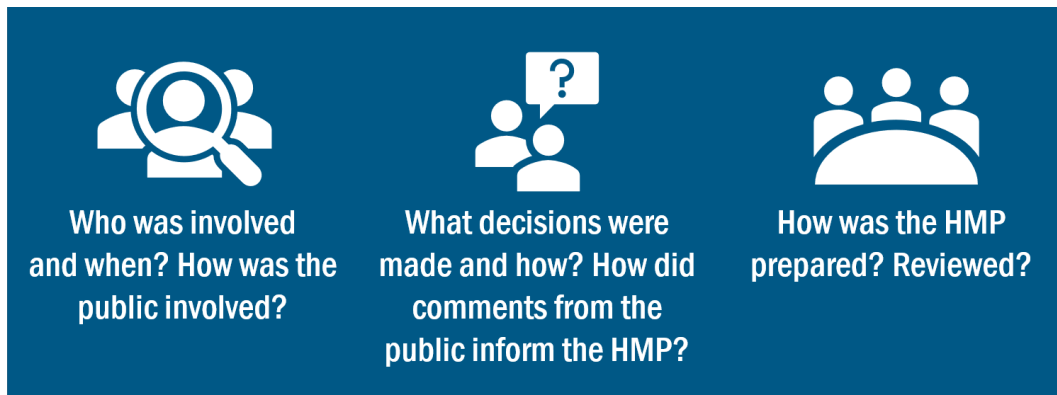
**Federal** – Federal agencies can give context about hazard events. If your community is a part of the National Flood Insurance Program, make sure you incorporate information on mapped floodplains and available flood hazard data. FEMA should be your first stop for flood hazard data. Other data on natural hazards may come from these agencies: Environmental Protection Agency, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Admin., Census, Dept. of Agriculture, U.S. Geological Survey, or the U.S. Forest Service.

**State** – State mitigation planning efforts can provide background information as you get started.

**Local, county, and nonprofit** – it can be helpful to review data in the plans of adjacent jurisdictions.

**Note: This is a required hazard mitigation plan element/activity.** Requirements: Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide (A4).

## Visual 20: Document the Planning Process \*



### Document the Planning Process

The importance of documenting the planning process cannot be overstated. It's important to think about who was involved, what decisions were made, when different outreach occurred, how the process was captured, and remember it is required. Documenting means providing the factual evidence for how the jurisdictions developed the HMP update including:

- List the Participating Jurisdiction(s) seeking approval.
- Identify who represented each jurisdiction including, at a minimum, the jurisdiction represented and the person's position or title and agency within the jurisdiction.
- Document how participants were involved. For example, the HMP may document meetings attended, data provided, or stakeholder and public involvement activities offered. Jurisdictions that adopt the HMP without documenting how they participated in the planning process will not be approved. Involved in the process means engaged as participants and given the chance to provide input to affect the HMP's content. This is more than simply being invited or only adopting the HMP.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include

- ✓ A1 through A4 on pages 15-17



This is a required hazard mitigation plan element/activity.

Note



## Visual 21: Participation and Engagement

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## Visual 22: Develop an Outreach Strategy

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- Give the public an opportunity to be involved in the plan
- Consider:
  - Advertising mitigation meetings in newsletters
  - Providing a booth at community events
  - Announcing the planning process at other community meetings
  - Using social media to inform and engage with community members

### Develop an Outreach Strategy

There are many ways to reach out to communities. Public engagement will be discussed in more detail in the next unit.

You know your community best. Use what has proven to work best for you.

## Visual 23: A Thorough Effort to Promote Participation and Engagement Will: \*

- Ensure everyone has a role in Hazard Mitigation Planning.
- Enable community partner stakeholders, the public, and participating jurisdictions to work together and better:
  - Understand risk.
  - Identify comprehensive solutions.
  - Follow through on implementation.



### Promote Participation and Engagement

It is critical to empower the public to influence the decision-making process.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include

- ✓ A1 through A4 on pages 14-17



This is a required hazard mitigation plan element/activity.

Note

## Visual 24: Why is Participation and Engagement of Community Partners Important?

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Community partners may be engaged in:

- Promoting smart growth principles.
- Identifying green infrastructure opportunities.
- Guiding private investment to safer locations and more resilient practices.



### Why is Participation and Engagement of Community Partners Important?

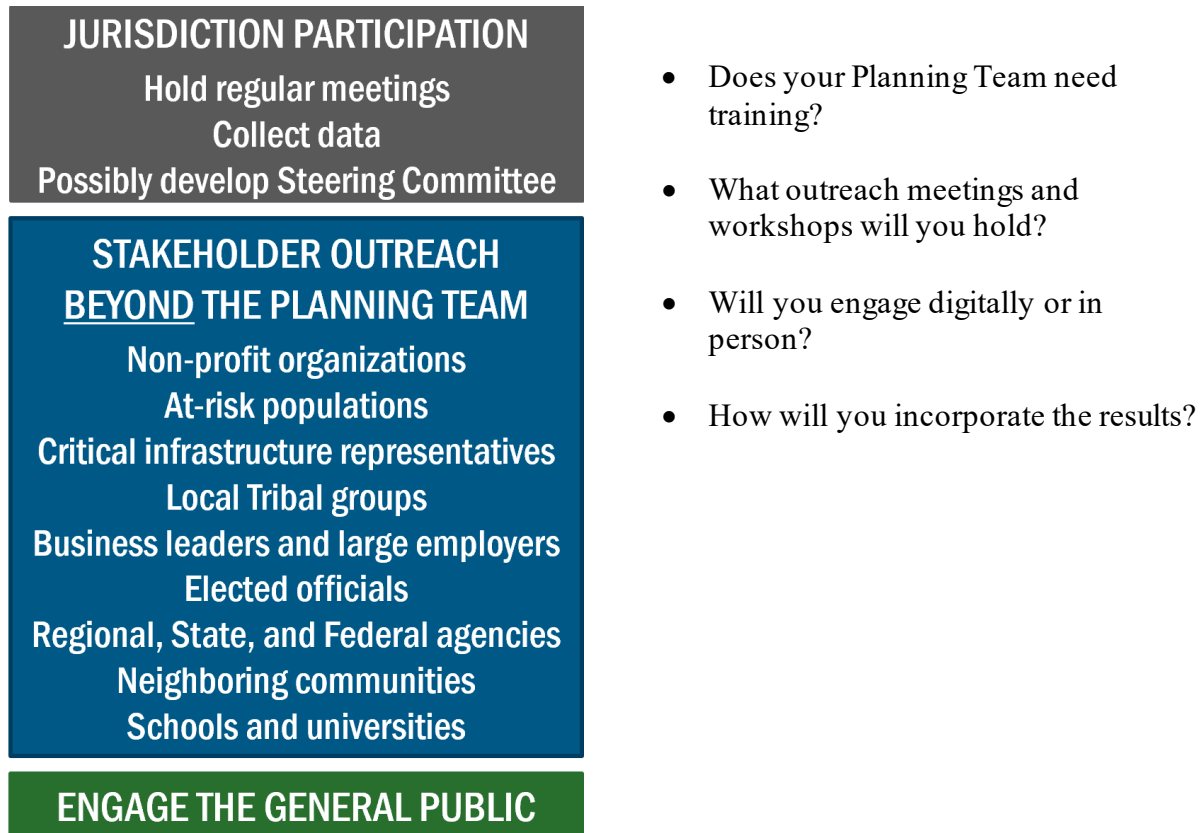
Community Partners may already be engaged in:

- Promoting smart growth principles, such as preserving open space in planned communities.
- Identifying green infrastructure opportunities.
- Guiding private investment to safer locations, more resilient practices.

Community engagement refers to the process by which agencies, organizations, and individuals build ongoing, permanent relationships for the purpose of applying a collective vision for the benefit of a community.

**Minimum requirement:** People need access to the planning process to provide comment (e.g., via a website, notice in newspaper, 30-day draft review).

## Visual 25: Participation and Intended Outreach



### Participation and Intended Outreach (continued)

First, a quick recap of issues related to building the Planning Team

- Establish a series of Planning Team meetings
- Ensure that there is an opportunity between meetings to collect information to inform the update of risk assessment, capability assessment, mitigation strategy, and maintenance sections of the HMP
- Sample meetings sets can be a Kickoff, Risk Assessment, Mitigation Strategy, and Draft Plan Review meetings or if you are short on time, an Input Meeting to gather information and an Output Meeting to share Draft Plan
- Determine if a Steering Committee would be helpful. This would be a team that is more focused on drive the mitigation planning process with a narrowed scope of work.

Make sure to reach out to critical infrastructure representatives, e.g. state dam safety agency, dam owners, in the planning process. Regional organizations and other state agencies, like the State Coastal Zone Program, may also prove very helpful, for instance in addressing effects of the changing climate.



This is an opportunity for integrating community planning efforts.

Note

## Visual 26: Multi-Jurisdictional Outreach

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### Multi-Jurisdictional Outreach

Multi-jurisdictional plans will have their own spin on the outreach process. It is important that stakeholders and the public in each participating community have the opportunity to participate.

Here are a couple of ways this could be accomplished:

- Implementing one overall outreach process that covers all participating jurisdictions
- Providing each community's representative the opportunity to conduct its own public outreach, based on knowing what works best in that community



## Visual 27: Promoting Participation

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- Send formal invitation from elected official or department head
- Follow up with a phone call
- Plan meetings in multiple convenient locations
- Provide refreshments (if able)



### Promoting Participation

Formalize the process and not only consider convenient locations but also at convenient times as well.

If you are able, consider providing refreshments; food is usually a successful way to have people attend meetings.



## Visual 28: Public Participation \*

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### When will the public be involved and/or review and comment on the planning process and drafts?



### Public Participation

When will the public be involved and/or review and comment on the planning process and drafts?

The general public needs to have an ongoing opportunity to participate in the planning process both during drafting and prior to approval, including the opportunity to comment and review the HMP. This means that you can't just post the plan online after it's done; you have to give opportunity for the public to influence the actual content of the plan. This can be sharing experiences with hazards, mitigation successes, or allowing them to review sections of the plan.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include: )

✓ A3



This is a required hazard mitigation plan element/activity.



Note

## Visual 29: Public Participation (continued)

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### When will the public be involved and/or review and comment on the planning process and drafts?

**Examples:**

	
Post the HMP update process, meetings, and draft materials online	In a newspaper, post a public notice about a Draft Plan Review Meeting and 30-day comment period

### Public Participation (continued)

Ongoing opportunities may be accomplished by:

- Posting information about the HMP update process, meetings, and draft materials to a community website or a planning project website created for the update.
- Posting a newspaper public notice to advertise the Draft Plan Review Meeting and a 30-day comment period.

## Visual 30: Public Participation (continued)

How will the public be involved?

- Conduct social media campaigns and other digital outreach.
- Attend community meetings and festivals to share information about the HMP.
- Post materials in libraries and other meeting places.



### Public Participation (continued)

How will the public be involved and provided the opportunity to review and comment on the planning process and drafts?

- Conduct social media campaigns and other digital outreach?
- Attend community meetings and festivals to share information about the HMP?

Ongoing opportunities may be accomplished by:

- Engaging social media.
- Attending community meetings and festivals to share information on the HMP update and hazards that impact your community.

It is also recommended that folks consider who is on their Planning Team and how that can help with meaningful engagement.

Consider accessibility of materials as well: should you translate materials? Which networks/areas might you be missing? Make sure you are engaging the whole community.



This information is beyond the basics.

Note



Tip

Find more outreach ideas in FEMA's [Flood Risk Communication Toolkit for Community Officials](https://www.fema.gov/sites/default/files/documents/fema_communication-toolkit_messaging-guide_oct-2020.pdf) (link accessible at [https://www.fema.gov/sites/default/files/documents/fema\\_communication-toolkit\\_messaging-guide\\_oct-2020.pdf](https://www.fema.gov/sites/default/files/documents/fema_communication-toolkit_messaging-guide_oct-2020.pdf)).

# Visual 31: Getting Meaningful Input

## Opportunities and Topics for Engagement


Early stages:	After the initial risk assessment:	Mitigation Strategy
Determine community concerns and assets	Review data and compare to lived experience	Generate ideas and support for mitigation projects
Generate buy-in for mitigation planning	Educate about hazard risks and vulnerabilities	

- Consider format, timing, and the Community Partners involved
- What provides the most benefit?

## Opportunities and Topics for Engagement

- Who can provide the most input and when in the process?
- What provides the most benefit?

Early stages:	After the initial risk assessment:	Mitigation Strategy
Determine community concerns and assets	Review data and compare to lived experience	Generate ideas and support for mitigation projects
Generate buy-in for mitigation planning	Educate about hazard risks and vulnerabilities	



This information is beyond the basics.

Note

## Visual 32: Opportunities for Outreach and Engagement

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- Planning Grant Received
- Plan Update Kickoff
- Community Capability Assessment
- Risk Assessment Development
- Mitigation Strategy Development
- Draft Plan
- Plan Adoption
- Implementation/Maintenance



### Opportunities for Outreach and Engagement

There are opportunities throughout the planning process when outreach and engagement of the public and stakeholders is recommended. Keeping transparent throughout the process helps to build public trust and engagement in mitigation.

## Visual 33: Inclusive Outreach Strategies

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- **Diverse populations**
  - Translate materials for non-English-speaking residents.
  - Post information in various meeting points, as well as online.
  - Engage existing community organizations as partners.
  - Meet in locations accessible by public transit, if applicable.
  
- **Persons with disabilities**
  - Meet in physically accessible locations.
  - Use microphones and sign language interpreters.

### Inclusive Outreach Strategies

When developing the planning process, it is important to make sure that you are including everyone, especially the most at-risk populations. These are those who stand to benefit from mitigation efforts the most, so it is critical that they are heard during the development of the plan.

You might have multiple outreach strategies for stakeholders:

- How they coordinate outreach efforts (e.g., between departments, agencies, etc.)?
- How they choose the outreach format (mail, tv, social media, etc.)?
- How they connect to their audience?
- How they expand their audience/ reach a wider group?
- How they do strategic outreach, for instance, to groups not otherwise connected to their outreach effort (e.g., elderly may not be as connected to social media)?


Do you have someone in charge of social media? They could help facilitate outreach and also provide guidance on your outreach strategy.

## Visual 34: Possible Outreach Intent

Task	Type	Why
Planning Grant Received	Press Release Social Media	Announce your efforts LOUDLY
Plan Update Kickoff	Public Workshop #1 Announce Art/Writing Contest	Educate people about the process Identify ways to become involved
Community Capability Assessment	Focus Group #1	Listen to specific needs expressed by organizations
Risk Assessment Development	Focus Group #2	Listen to specific needs expressed by populations
Mitigation Strategy Development	Public Workshop #2	Input on where to invest funding
Draft Plan	Public Workshop #3	Comments on the entire draft
Plan Adoption	Press Release	Celebrate success!
Implementation/Maintenance	Annual Events/Fairs Press Release	Celebrate planning project completion; continue to educate

### Possible Outreach Intent

What is possible with your HMP/talking about risk and opportunities to mitigate?



This information is beyond the basics.

Note

## Visual 35: Outreach Approach Tips

- Storytelling works better than fact sharing.
- Look for other existing community events and planning processes.
- Identify community leaders and champions.
- Plan in advance.



### Outreach Approach Tips (continued)

Additional considerations for inclusiveness:

- Weekends versus weekday events
- Refreshments
- Day care availability
- Cultural norms and traditions
- Access for people with disabilities: meet in wheelchair accessible building, always use microphones, hire sign language interpreters, etc.

Also, if there is a new development and you're looking for input from those new residents, consider what outreach might get to them, is it possible to hold a meeting near the development, are there times that might work better for them, etc.?



Note

This is an option for communities with limited capabilities.



## Visual 36: Outreach Approach Tips (continued)

- **Be deliberate**
  - How are you engaging?
  - With whom?
  - What are the anticipated outputs?
  
- **Be inclusive**
  - Use accessible locations and microphones
  - Hold afternoon and evening events
  - Consider multiple languages



This is an opportunity for integrating community planning efforts.

Note

## Visual 37: Activity: Engage your Stakeholders

---

### Directions:

- Work with your group.
- Choose your stakeholders.
- Create a schedule.
- Identify:
  - Your strategy.
  - Communication forms you will use for different populations.
  - Refer to Worksheet 3.1 – Sample Public Opinion Survey.



### Activity: Engage your Stakeholders

The purpose of this activity is to create an outreach strategy that will best engage the members of your community and identified stakeholders.

#### Directions:

- Work with your group.
- First, choose your stakeholders.
- Create a schedule. (Use Worksheet 2.2 Sample Schedule of Tasks as a resource.)
- Determine outreach methods by identifying:
  - Your strategy.
  - The communication forms you will use for different populations.
  - How you will coordinate your outreach effort.
  - Use Worksheet 3.1 Sample Public Opinion Survey as a resource.
- You have 30 minutes to complete the activity.
- Appoint a spokesperson to present your strategy to the class.

---

## Visual 38: Plans, Studies, and Data Incorporation

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### Plans, Studies, and Data Incorporation

Photo Source: Pixabay.

Mitigation plans are powerful when they leverage other plans, studies, and data as inputs into the planning process. This process of incorporation allows the planning team to identify existing data and information, shared objectives, and past and ongoing activities that can inform the mitigation plan.

When you're gathering data, think about how data efforts can strengthen your plan. Pull out your other key plans and planning tools when you're starting to update the HMP to make sure the data are accounted for in all documents, and any work previously done is either added or updated.

## Visual 39: Sources of Information

---

- Planning Team
  - Other local plans
  - Community members and partners
- Local Knowledge
  - Long-time residents
  - Libraries
- State Hazard Mitigation Plan
- FEMA and other Federal Agencies (e.g., USACE)



### Sources of Information

Other agencies may have ongoing initiatives or interests in mitigation efforts that could tie in with local problems (e.g., USACE). Local knowledge can also be a valuable asset. Members of the community who have lived there for long stretches of time can provide useful information on direct impacts from hazards. This type of information may also be found in local libraries.

## Visual 40: Incorporating Collected Data \*

---

- How are you incorporating plans, studies, reports, and data?
- What's new and different since your last update?
- Where are you getting your data?



### Incorporating Collected Data

Think through the data you have, the data you need, and how it helps your HMP. But don't just collect data to collect it.

- Elaborate on what's new and different.
- Think about where you are getting data - Will you generate new data or maps? How are you using Risk MAP or other FEMA datasets? Are there updated State datasets and tools available?
- Gather information that relates to or could relate to hazard mitigation. Knowing the HMP needs to address changes in development and local vulnerability can help guide information collection that improves risk assessment
- Review information to discover challenges and opportunities
- To be able to apply for the Rehabilitation of High Hazard Potential Dams grant program, the plan must describe the incorporation of existing plans, studies, reports, and technical information for eligible high hazard potential dams. We will cover eligible high hazard dams in Module 4, and all the planning requirements in Module 8, while also mentioning at other relevant places like in this Module on Planning Process, and Module 5, Developing a Mitigation Strategy.

Describe how information was incorporated into the HMP. Talk about how you used it in the mitigation plan. For example, did you use population projections from the Comprehensive or Master Plan? Flood risk data from a FEMA Risk MAP study?

For guidance on mitigation planning requirements to be eligible for the HHPD grant program, please see [Rehabilitation of High Hazard Potential Dams \(fema.gov\)](https://www.fema.gov/sites/default/files/2020-08/fema_hhpd_grant-guidance.pdf). The link is available at [https://www.fema.gov/sites/default/files/2020-08/fema\\_hhpd\\_grant-guidance.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_hhpd_grant-guidance.pdf)

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include \

✓ A4 on page 17



This is a required hazard mitigation plan element/activity.

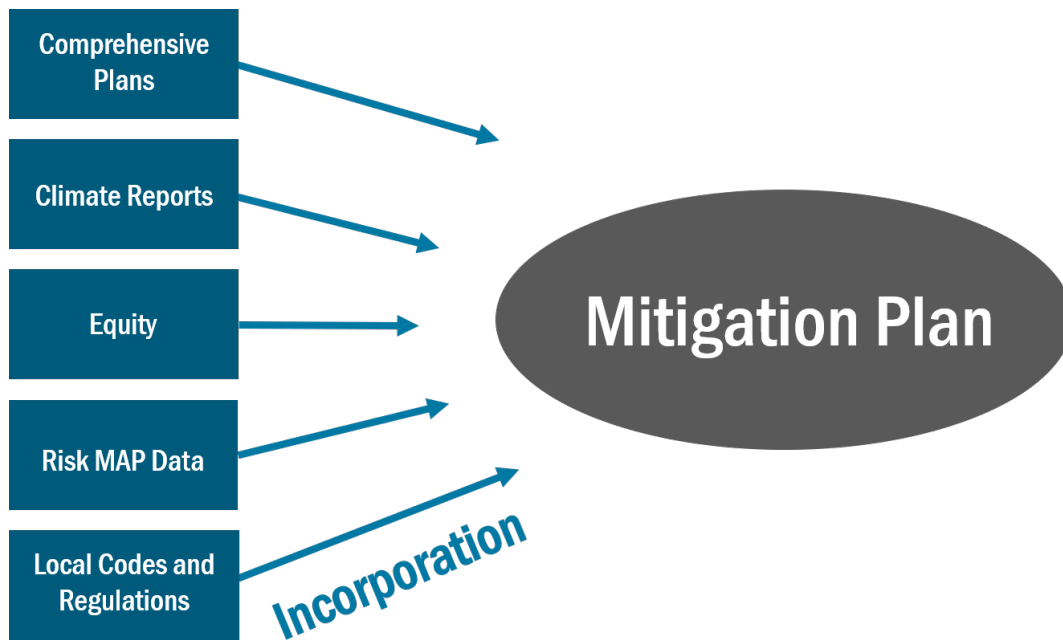
Note



Your HMP needs to address changes in development and local vulnerability, which can help guide the information you collect to improve risk assessments.

Tip

## Visual 41: Incorporation = Importing \*



### Incorporation = Importing

Think of incorporation as the “import” step.

Incorporating other plans, resources, and data in the mitigation plan also helps the plan to be consistent with these other community efforts. Plans and data from a variety of sources, be it local, State, or Federal, all have information that is worth considering. Having the most updated information allows for the plan to be as actionable as possible.



This is a required hazard mitigation plan element/activity.

Note

## Visual 42: Plan Integration Defined

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“The routine consideration and management of hazard risks in your community’s existing planning framework.”

*FEMA, 2015*



### Plan Integration

Plan Integration Defined: “The routine consideration and management of hazard risks in your community’s existing planning framework.” FEMA, 2015

Why incorporate data from those other plans now? Doing so helps you understand where and how you can **integrate** the mitigation plan back into other parts of your community planning and development processes later.

Plan integration is the routine consideration and management of hazard risks in your community’s existing planning framework. Integration is a two-way conversation between hazard mitigation planning and principles and other regulations, policies, and plans. This conversation is intended to break down some of the traditional silos seen with land use planning, development and growth policy, and emergency management planning.

Why talk about this now? Well, many of the places you “imported” from, are places you should consider integrating or exporting to in the mitigation strategy.



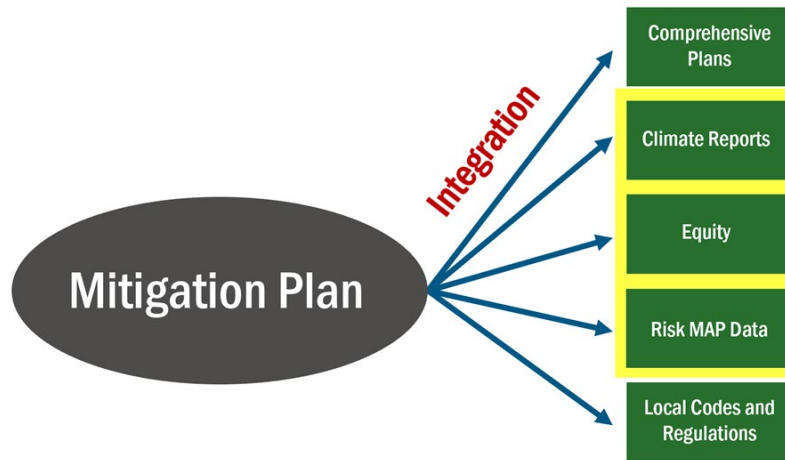
This is an opportunity for integrating community planning efforts.

Note



## Visual 43: Integration = Exporting

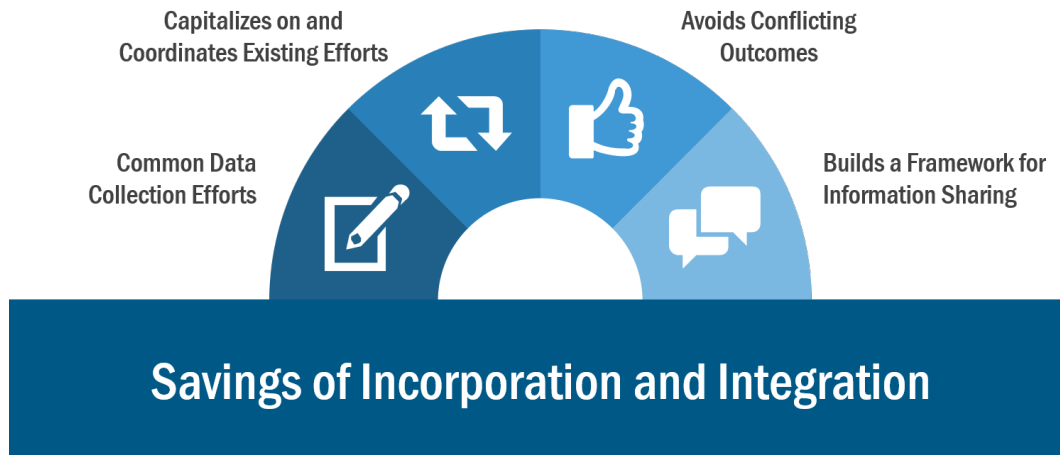
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### Integration = Exporting

In many ways, integration is the opposite of plan incorporation. Integration is the process of taking the mitigation plan and then exporting everything learned back out into the other existing plans, so they consider hazards, vulnerabilities, and community mitigation goals. Similar to how those plans informed the development of the mitigation plan, the mitigation plan can then assist in updating those other plans. The graphic is notional; some of the boxes on the right have a yellow border to depict that you may or may not have those kinds of plans, specifically in your community. By combining incorporation and integration, the goals of the community can remain consistent among all planning efforts.

## Visual 44: Benefits



### Benefits

Establishing an integration framework and agenda in your community can yield time and cost savings by aligning efforts and sharing resources. Incorporating plans, studies, reports, and technical information into the plan allows for a common data collection effort that capitalizes on and coordinates existing efforts, avoids conflicting outcomes, and builds an overall framework for information.

## Visual 45: Discussion Questions

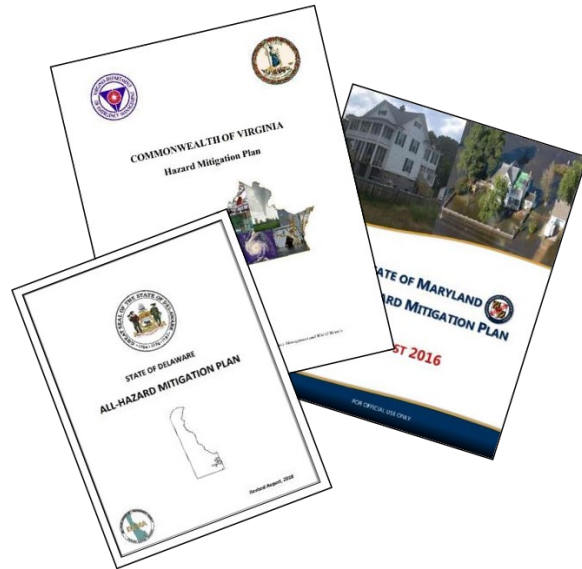
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- What plans, studies, reports and information does your community have that might be helpful for risk reduction?
- Are there any partners you plan to bring into the process who might also have data to share?

## Visual 46: Sources of Information

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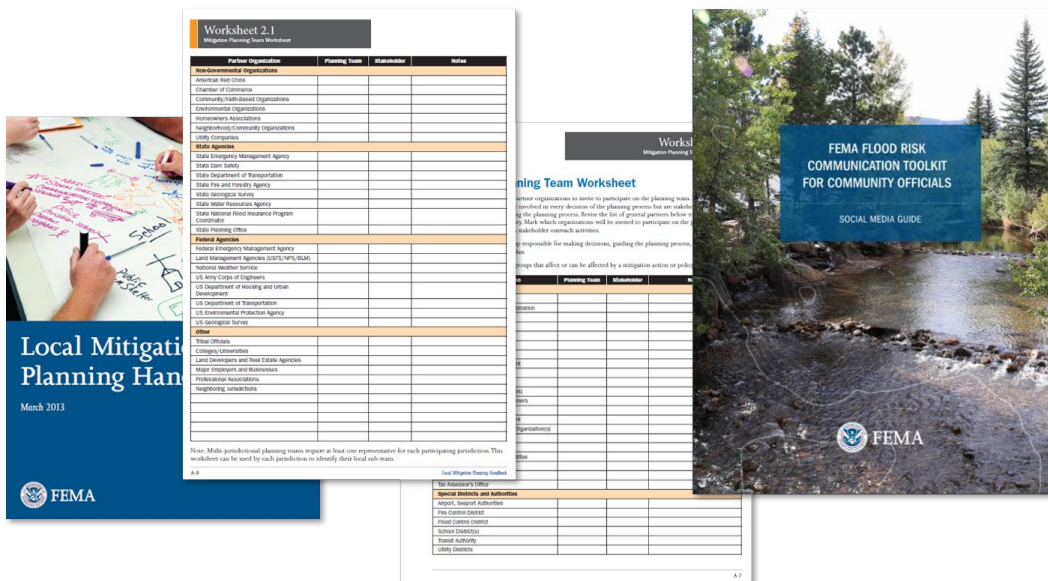
- Non-profit organizations (e.g., American Red Cross)
- Government agencies
- Colleges/universities



### Sources of Information

Perhaps a nearby college has expertise in engineering for mitigation projects, or a non-profit organization has implemented actions nearby.

# Visual 47: Resources and Tools



## Resources and Tools

FEMA’s [Local Mitigation Planning Handbook](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook\\_03-2013.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf)) and the Planning Team Worksheets.

### Task 1:

- Determine the Planning Area and Resources
- Worksheet 1.1 – Comparison of Multi-Hazard Mitigation and CRS Planning Requirements
- Worksheet 1.2 – Sample Memorandum of Agreement for a Multi-Jurisdictional Planning Team

### Task 2:

- Build the Planning Team
- Worksheet 2.1 – Mitigation Planning Team Worksheet
- Worksheet 2.2 – Sample Schedule of Tasks

### Task 3:

- Create an Outreach Strategy
- Worksheet 3.1 – Sample Public Opinion Survey

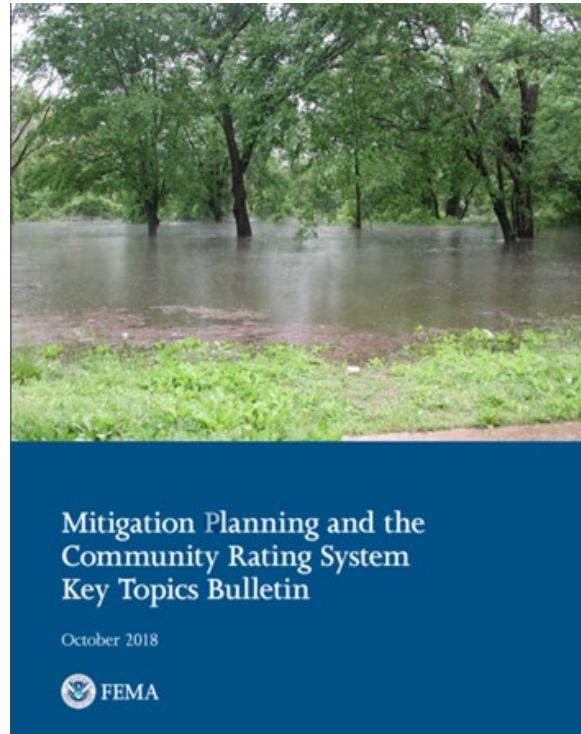
The [toolkit](https://www.fema.gov/sites/default/files/documents/fema_cx-toolkit-community-officials-start-guide.pdf) (link accessible at [https://www.fema.gov/sites/default/files/documents/fema\\_cx-toolkit-community-officials-start-guide.pdf](https://www.fema.gov/sites/default/files/documents/fema_cx-toolkit-community-officials-start-guide.pdf)) and video series provide guidance to community officials to more effectively communicate with the public about flood risk to help residents and

other Community Partners become more active in increasing resilience. Although the toolkit is focused on flood risk, general principles from this guidance can be applied to helping communicate risk regarding other hazards.

## Visual 48: Community Rating System Key Topics Bulletin

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- The Mitigation Planning and the Community Rating System Key Topics Bulletin makes it easier to align each program's process and requirements.
- It is organized around the elements of a local hazard mitigation plan, lining up the CRS Floodplain Management Planning steps with the local planning elements.



### Community Rating System Key Topics Bulletin

- This Bulletin makes it easier to align each program's process and requirements.
- It is organized around the elements of a local hazard mitigation plan, lining up the CRS Floodplain Management Planning steps with the local planning elements.

Refer to the [Mitigation Planning and the Community Rating System Key Topics Bulletin](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-planning-and-the-community-rating-system-key-topics-bulletin_10-1-2018.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-planning-and-the-community-rating-system-key-topics-bulletin\\_10-1-2018.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-planning-and-the-community-rating-system-key-topics-bulletin_10-1-2018.pdf)).

## Visual 49: Reminder: Document, Document, Document \*

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Documenting the planning process includes:

- Existing authorities, policies, programs, and resources
- Participation
- Methodologies and results
- Updates



By documenting progress now, you can inspire more action in the future.



This is a required hazard mitigation plan element/activity.

Note



## Visual 50: Examples

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## Visual 51: Longer-Term Engagement in Dangerville

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Dangerville asked Planning Team Members for commitment extending beyond HMP development.

- This helps team members stay involved during the Plan Maintenance and Implementation process.



### Longer-Term Engagement in Dangerville

- Dangerville asked Planning Team Members for commitment extending beyond HMP development.
- This helps team members stay involved during the Plan Maintenance and Implementation process.

## Visual 52: Dangerville's Stakeholders

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- Dangerville included School Board members on the Planning Team for past HMPs.
- This helped to identify school flooding as a problem that still persists.



### Dangerville's Stakeholders

- Dangerville included School Board members on the Planning Team for past HMPs.
- This helped to identify school flooding as a problem that still persists.

## Visual 53: Scenario 1: Hazard County

Hazard County faced difficulty engaging with Community Partners equally

- The Planning Team agreed to rotate locations for meetings, attend all meetings, and collect data
- Since some team members had more interest and availability, the team decided to create a Steering Committee
- All jurisdictions committed to submitting mitigation action worksheets, and the Steering Committee followed up on late submissions
- The Planning Team developed an outreach approach that the Steering Committee enacted to increase public involvement and HMP adoptions



### Scenario 1: Hazard County

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- The Planning Team agreed to rotate locations for meetings, attend all meetings, and collect data
- Since some team members had more interest and availability, the team decided to create a Steering Committee
- All jurisdictions committed to submitting mitigation action worksheets, and the Steering Committee followed up on late submissions
- The Planning Team developed an outreach approach that the Steering Committee enacted to increase public involvement and HMP adoptions



This is a planning consideration for multi-jurisdictional plans.

Note

## Visual 54: Scenario 2: Riskburg

---

**During the last HMP update, Riskburg’s Council voiced concern that the planning process did not incorporate all the necessary voices**

Riskburg decided to include a representative from the Chamber of Commerce and Economic Development Department to:

- Bolster outreach and engagement with local businesses
- Learn more about risks to local businesses
- More accurately calculate economic risks and impacts



### Scenario 2: Riskburg

**During the last HMP update, Riskburg’s Council voiced concern that the planning process did not incorporate all the necessary voices**

Riskburg decided to include a representative from the Chamber of Commerce and Economic Development Department to:

- Bolster outreach and engagement with local businesses
- Learn more about risks to local businesses
- More accurately calculate economic risks and impacts



This is an option for communities with limited capabilities and is beyond and basics.

Note



## Visual 55: Scenario 2: Riskburg (continued)

**During the last HMP update, Riskburg’s Council voiced concern that the planning process did not incorporate all the necessary voices**

Riskburg will also add a community planner to the team to more fully integrate the HMP into:

- Comprehensive plans
- Zoning
- Other land use regulations



### Scenario 2: Riskburg (continued)

**During the last HMP update, Riskburg’s Council voiced concern that the planning process did not incorporate all the necessary voices**

Riskburg will also add a community planner to the team to more fully integrate the HMP into:

- Comprehensive plans
- Zoning
- Other land use regulations



This is an option for communities with limited capabilities and is beyond the basics.

Note

## Visual 56: Scenario 2: Riskburg (continued)

---

- For the update, Riskburg prioritized getting better feedback from residents
- As part of their Community Partner engagement and public outreach, they reached out to agencies that serve at risk populations
- Riskburg held meetings in several locations, from the city center to somewhat isolated areas across the river
  - Meetings were held in fully accessible locations
- Riskburg paired their annual outreach to Repetitive Loss property owners with asking for feedback on the HMP



### Scenario 2: Riskburg (continued)

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- As part of their Community Partner engagement and public outreach, they reached out to agencies that serve at risk populations
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- Riskburg paired their annual outreach to Repetitive Loss property owners with asking for feedback on the HMP



This is an option for communities with limited capabilities and is beyond the basics.

Note



## Visual 57: Hazard County Integration

---

Hazard County's comprehensive plan identified an aging population and noted that these changing demographics were apparent in several neighborhoods.

- While assessing the risk of flooding during the HMP update, Hazard County found that areas with these aging communities overlapped areas with a high risk of flooding.
- Reviewing the comprehensive plan for high-risk areas that overlap those with potentially at-risk populations led Hazard County to prioritize these areas for flood mitigation actions.



### Hazard County Integration

Hazard County's comprehensive plan identified an aging population and noted that these changing demographics were apparent in several neighborhoods.

- While assessing the risk of flooding during the HMP update, Hazard County found that areas with these aging communities overlapped areas with a high risk of flooding.
- Reviewing the comprehensive plan for high-risk areas that overlap those with potentially at-risk populations led Hazard County to prioritize these areas for flood mitigation actions.



This information is beyond the basics, an opportunity for integrating community planning efforts, and is a planning consideration for multi-jurisdictional plans.

Note

## Visual 58: Questions

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### Questions?

This concludes this module. If you have any questions, pose them to the instructor.

## Visual 59: FEMA logo

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# Module 3: Risk Assessment: Identifying Community Assets and Hazards

## Visual 1: Module 3: Risk Assessment: Identifying Community Assets and Hazards

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### Risk Assessment **Identifying Community Assets and Hazards**

#### Risk Assessment: Identifying Community Assets and Hazards

This module addresses how to identify at-risk community assets and hazards as they relate to risk assessment.

This module helps address Elements B1-B2 of the mitigation planning requirements, according to the 2011 Local Plan Review Guide.

## Visual 2: Course Map

---

	Introduction
	Planning Process: Role and Responsibilities
	Planning Process: Organizing and Engaging Community Partners
<b>3</b>	<b>Risk Assessment: Identifying Community Assets and Hazards</b>
	Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk
	Developing a Mitigation Strategy
	Plan Maintenance and Updates
	Plan Implementation
	Mitigation Funding and Assistance
	Conclusion

### Course Map

This module will focus on identifying at-risk community assets and identifying hazards as they relate to risk assessment.

This module helps address Elements B1-B2 of the mitigation planning requirements, according to the 2011 Local Plan Review Guide.

## Visual 3: Module Learning Objectives

---

Differentiate between risk assessment terms.

- Recall types of community assets and methods of determining at-risk assets.
- List steps involved in identifying and profiling hazards.



### Module Learning Objectives

At the end of this module, the participant will be able to describe how to identify at-risk community assets and hazards as they relate to risk assessment.

- Recall types of community assets and methods of determining at-risk assets.
- List steps involved in identifying and profiling hazards.



## Visual 4: Risk Assessment Overview

---



### Risk Assessment Overview

Photo Source: Pixabay.

Risk assessments must provide sufficient information to enable your community to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

When addressing vulnerability to hazards, you will also need to provide a general description of designated land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

## Visual 5: What is a Risk Assessment? \*

---

A process that helps communities:

- Understand how natural events can impact them
- Communicate vulnerabilities
- Inform decision making

Risk assessment provides the basis for the mitigation strategy to reduce losses.



Image credit: Town of Marshfield, MA.

### What is a Risk Assessment?

The Planning Team conducts a risk assessment to determine the potential impacts of natural hazards on the community. The risk assessment provides the foundation for the rest of the mitigation planning process, which is focused on identifying and prioritizing actions the community can take to reduce risk of natural hazards that may affect the planning area defined during the planning process.

In addition to informing the mitigation strategy, the risk assessment can be used to establish land use and comprehensive planning priorities, and for decision making by elected officials, governmental departments, business enterprises, and jurisdictions that the community coordinates with. There are many approaches to risk assessments depending on available data, technology, and resources. Local risk assessments do not need to be created using sophisticated technology, but do need to be accurate, current, and relevant.

The risk assessment process helps answer the question: What will be affected by the identified hazards? This information will help focus later steps in the hazard mitigation planning process on specific assets the community cares about. For example:

- Identify public and private property that is exposed and may be vulnerable to impacts from identified hazards
- Determine potential impacts on identified properties including related effects on people and local economic activity
- Include any changes in community assets since the previous HMP
- Anticipate any potential issues for future development

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include: }

✓ B1-4 on page 19-20 }

✓ D1 on page 26



This is a required hazard mitigation plan element/activity.

Note

## Visual 6: Risk Assessment Terms

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### Risk Assessment Terms

**Hazard** - Source of harm or difficulty created by a meteorological, environmental, or geological event.

**Community Assets** - The people, places, properties, and systems that you want to protect.

**Vulnerability** - Characteristics of community assets that make them more or less likely to be damaged in a natural hazard event. Vulnerability depends on factors such as construction materials, building techniques, and location.

**Impact** - The effect of a hazard on the community and its assets.

**Risk** - The potential for damage or loss created by the interaction of natural hazards with community assets.

## Visual 7: Discussion Question: How Do You Already “Assess Risk”?

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Consider how you think about and manage risks you face every day:

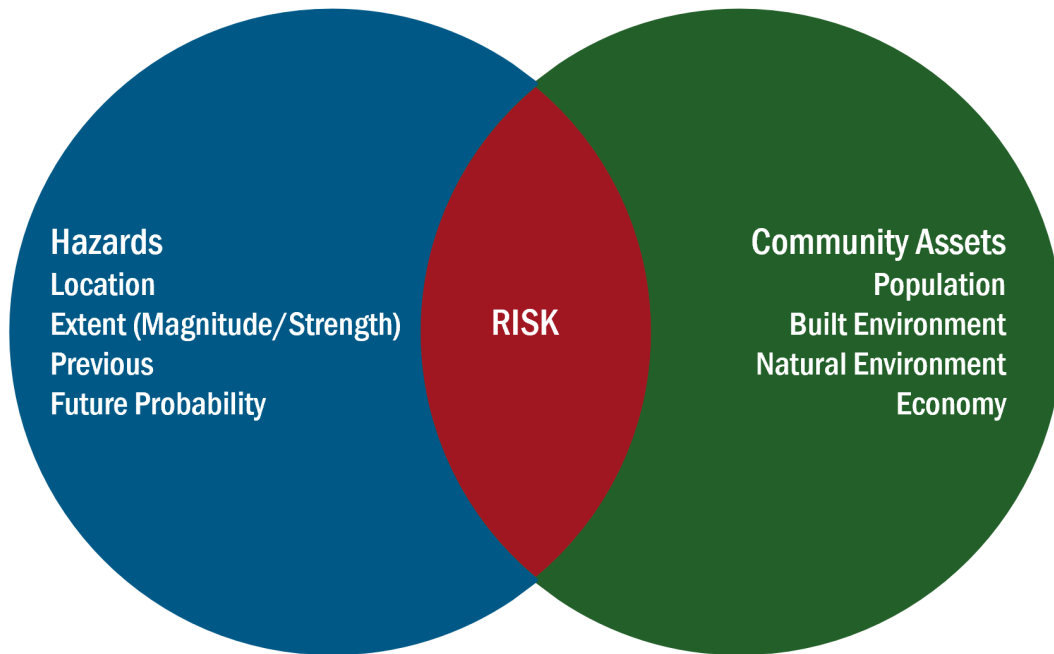
- Commuting to work
- Putting on a seatbelt
- Applying sunscreen



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## Visual 8: Hazards, Community Assets, and Risk

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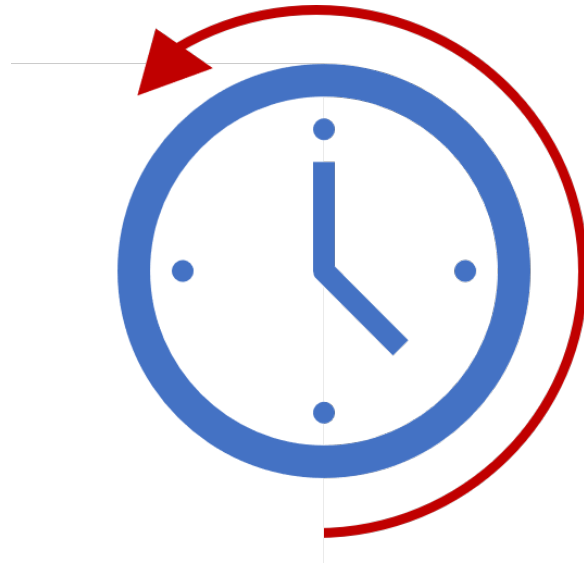
### Hazards, Community Assets, and Risk

To fully understand your risk, you need to understand the natural hazards as well as the community assets. We will discuss both.

## Visual 9: First, Look at the Current Approved Hazard Mitigation Plan

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- Did FEMA or the State make recommended changes in the Plan Review Tool?
- Are the community assets from the old plan the same?
  - Think about substantial development that has taken place in recent years.
- What hazards did you profile?
  - Are there any new ones that should be included this time?
- How did you assess risk? Did it work?
  - Consider population/demographic changes.
  - Consider climate changes.
- What will you do differently this time?



### First, Look at the Current Approved Hazard Mitigation Plan

Are you updating your HMP (as opposed to developing a new one)?

If you are updating, refer to the Local Mitigation Plan Review Tool for your current approved HMP. If you don't have it, FEMA should be able to provide it. The Plan Review Tool includes a plan assessment that includes strengths and opportunities for improvement; this is your chance to take action on some of those improvements.

- When you're thinking about updating, it helps to assess the level of effort and what you want to change based on your previous HMP. Also, for a scope of work, the planning narrative has to include a description of previous planning efforts, both FEMA and non-FEMA.
- Reviewing these efforts first can help you and your Planning Team understand priorities, needs, and gaps.

- Talk about how priorities have changed, because this can impact the path your planning process takes.
- This is your opportunity to describe how this grant will correct deficiencies, strengthen weak spots, and describe new priorities.
- Has your community completed related mitigation planning, through FEMA or other programs? This could mean Risk MAP, or a HUD Community Development Block Grant (CDGB-DR) project, or other independent local plans and processes. Your HMP should work with those other planning efforts. Your narrative should document the connection between your planning grant and other planning efforts. Aligning efforts can decrease costs over time!



## Visual 10: Identifying and Profiling Exposed Community Assets

---



## Visual 11: Types of Community Assets

- People\*
- Structures
- Natural Resources
- Critical Facilities and Infrastructure
- Economy\*

\*Exposure of these assets is directly related to the other asset types



### Types of Community Assets

In describing your community, think about who you want to protect.

People and economic activity (per [\*]) are typically “tied” to structures or other physical assets so their exposure is directly related to the exposure of their “physical asset,” i.e., homes, places of employment, businesses, etc. This could be aspects of the built or physical environment. It can also be cultural assets or historic places. When we think of “assets,” typically the first thing is monetary value, though these can be qualitative, as well.

As in previous facets of the planning process, in all of the following steps, it is important to focus on: *What has actually changed since the current HMP was approved and adopted?*

Changes in the hazard profiles (e.g., if new flood mapping is available) is one of the main sources of changes. However, there may have been marked changes in the community’s demographics over a five-year period due to new development sparking growth, or closure of a key employer leading to an economic downturn and outward migration.

Some of these changes may not be easily determined as the main source of demographic information, the US Census, is only updated on a 10-year cycle and the Planning Team may have

to compile information from other sources such as local tax records, school enrollment figures, etc.

## Visual 12: People

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- Residents
- Workers
- Types and locations of visiting populations
- Higher Risk Populations
  - Seniors
  - Infants and children
  - Individuals with disabilities
  - People with limited English
  - People with insecure housing
  - Lower-income individuals



### People (continued)

Not all people are equally at risk. Consider a variety of categories of social vulnerability. Examples of groups that could be considered vulnerable (depending on the type of hazard) include (in no particular order):

- People experiencing homelessness
- Infants and small children under 5 years of age
- Pregnant women
- People over 65 years of age
- People with limited mobility
- People with mental illness or disabilities
- People with cognitive disorders
- People with medical conditions or requiring medication for life-threatening illnesses
- People who are dependent on certain medical devices
- People who battle alcohol or drug addictions
- Blind/visually impaired and deaf/hearing impaired
- Socially isolated individuals
- People with minimal access to hazard information

## Visual 13: Structures

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- Include locations, types, values, and construction materials
- Include age of structure
- Consider infrastructure:
  - Existing
  - Planned for new development
    - Describe planned facilities capital improvements



### Structures

Plans should have an understanding of the number and type of structures in the planning area. Key components of the structure assets inventory include:

- Locations, types, values, and construction materials
- Age of structures (helps determine pre or post-FIRM, built according to building codes, at the end of its lifespan, and possibility for relocate/rebuild safer)
- Locations and types of planned new development/redevelopment
- Existing infrastructure – roads, bridges, etc.
- Infrastructure for new development
- Planned capital improvements - this is important because FEMA regulations require that the asset inventory consider not only the existing built environment, but also future development.

The community can determine how much detail about community assets to provide in the plan. You may not have all of this information, and that's okay.

## Visual 14: Natural Resources

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Areas where conservation of environmental functions:

- Reduce magnitude of hazards
- Help achieve other community objectives
- Protects critical habitat areas



### Natural Resources

Environmental assets and natural resources are important to community identity and quality of life and support the economy through agriculture, tourism, and recreation, and a variety of other ecosystem services, such as clean air and water. The natural environment also provides protective functions that reduce the impacts of hazards and contribute to resilience. For instance, wetlands and riparian areas help absorb and attenuate floodwaters, soils, and landscaping contribute to stormwater management, and vegetation in the upper watershed provides erosion control and reduces runoff. Natural resources assets to consider include:

- Areas where conservation of environmental functions serve to reduce magnitude of hazards (e.g., beaches, dunes, and wetlands)
- Areas where conservation reduces risk and achieves other community objectives (e.g., trails and parks that serve as economic drivers)
- Critical habitat areas to protect

## Visual 15: Critical Facilities and Infrastructure

---

- Plan should include:
  - Location, types, age, and value
  - Relation to one another
  
- Identification and profiles should also include:
  - Planned improvements
  - Infrastructure for new development



### Critical Facilities and Infrastructure

Critical facilities are specific assets of the built environment that provide services that are essential for life, safety, and economic viability. The continued operations of critical facilities during and following a disaster are key factors in the speed of recovery.

Consider where the critical facilities are located, how old they are, and the structure and contents value. In addition, the Planning Team may want to evaluate not only their structural integrity and content value, but also the ways in which one critical facility depends on another and the effects of an interruption of the service they provide to the community to identify vulnerabilities. Infrastructure systems are also essential for life safety and economic viability. Many critical facilities are dependent on infrastructure to function. For example, hospitals need electricity, water, and sewer to continue helping patients. As with critical facilities, the continued operations of infrastructure systems during and following a disaster are key factors in the severity of impacts and the speed of recovery.

## Visual 16: Economy

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- Major employers
- Primary economic sectors
- Key infrastructure that supports economic activity



### Economy

Economic assets may include:

- Major employers, both within the planning area and where many community members work (if applicable)
- Primary economic sectors. Consider if the economy in the planning area relies on a certain kind of economic sector, like agriculture, retail, tourism or others
- Key infrastructure that supports economic activity, like telecommunications networks

It can also be helpful to identify the economic assets whose losses or inoperability would have severe impacts on the community and its ability to recover from a disaster. These may include primary economic sectors in the community, major employers, and commercial centers. The Planning Team should also assess the dependencies between major economic assets and infrastructure.



## Visual 17: Community Lifelines

- Lifelines are another way to conceptualize critical assets.
- These are the most fundamental services in the community.
- When disrupted, decisive intervention is required to stabilize the incident.



### Community Lifelines (continued)

FEMA created Community Lifelines to reframe incident information, understand and communicate incident impacts using plain language, and promote unity of effort across the whole community to prioritize efforts to stabilize the lifelines during incident response. “Lifelines” are the critical assets and infrastructure that keep your community running.

While lifelines were developed to support response planning and operations, the concept can be applied across the entire preparedness and mitigation cycle. Efforts to protect lifelines, prevent and mitigate potential impacts to them, and build back stronger and smarter during recovery will drive overall resilience of the nation.

Using lifelines is not a requirement, but FEMA’s new Building Resilient Infrastructure and Communities (BRIC) Program uses the lifelines concept, and BRIC is a major funding source of mitigation projects.



This information is beyond the basics.

Note

## Visual 18: Identifying At-Risk Assets

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- **Geographic Information Systems (GIS)** is a way of analyzing and presenting geographic data such as land uses and risk areas.
- **If GIS is available:** Overlay mapping and hazard information that has been created with the locations of community assets.
- **If GIS is not available:** Use local knowledge of structure locations relative to known hazard locations, noting the hazard type and extent.



New Flood Maps Show Assets Near Floodplain

### Identifying At-Risk Assets

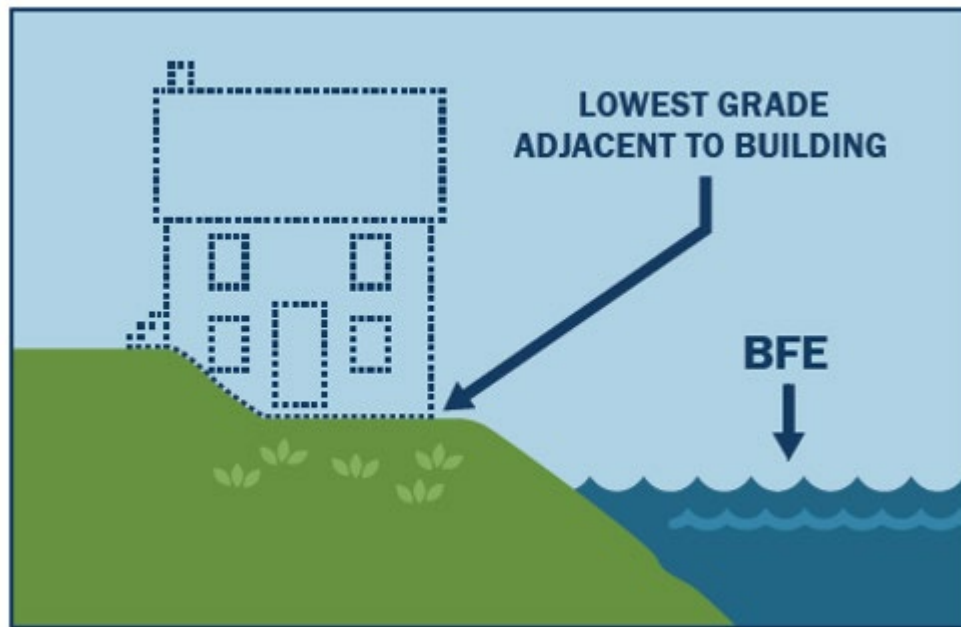
GIS allows a community to view their risks on a map. It takes special software and expertise but can be a very powerful tool.

This example shows the use of the Flood Risk Products but that is only because they are some of the most widely available risk products in the nation. This same principle can apply to every hazard.

More data leads to better decision making. But not every community has access to complete data or the resources to develop it.

## Visual 19: Identifying At-Risk Assets (continued)

- If you have a list of assets already, confirm that it's still valid.
- Consider assets that may have been added through new development or demographic change.



Park Visitor Center (Under Construction)

### Identifying At-Risk Assets (continued)

- Review and confirm/validate the list and types of community assets included in the Participating Jurisdiction's current approved HMP in terms of their continued exposure to adverse hazard impacts.
- Consider any additional community assets due to:
  - Changes in hazard profiles (per the previous step!) resulting in increased or reduced exposure.
  - Changes in the community assets due to mitigation actions, new development, shifting demographics, external influences.
- Note the hazard type and extent either for individual assets (if available) or adjacent areas, e.g., the anticipated Base Flood Elevation
- Consider using your Threat and Hazard Identification and Risk Assessment (THIRA) or other assessments that have been completed through other planning efforts.

- Note: BFE = Base Flood Elevation, and it refers to the expected height of floodwaters in a 1-percent-annual-chance flood event. Usually, BFE is expressed above sea level, rather than above ground level, because elevations are variable across the landscape.

## Visual 20: Identifying At-Risk Historic Assets

- Review the State Historic Preservation Office's (SHPO) inventory of historic assets.
- Compare with SHPO priorities, e.g., grant opportunities that help fund mitigation actions (for which those assets may be eligible).



### Identifying At-Risk Historic Assets

- Review the State Historic Preservation Office's (SHPO) inventory of historic assets.
- Compare with SHPO priorities, e.g., grant opportunities that help fund mitigation actions (for which those assets may be eligible).



This information is beyond the basics.

Note

## Visual 21: Activity: Identify Your Community's Exposed Assets

---

### Directions:

- Identify at least two of your own community's exposed risks in each of the categories below and write them in your Participant Manual Note Section.
  - Structures
  - Critical facilities/infrastructure
  - Natural Resources
  - People
  - Economy
  - Visual Content
- You have 5 minutes to complete the activity.

### Activity: Identify Your Community's Exposed Assets

#### **Directions:**

- Identify at least two of your own community's exposed risks in each of the categories below and write them in your Participant Manual Note Section.
- You have five minutes to complete the activity.

#### **Structures:**

#### **Critical Facilities/Infrastructure:**

#### **Natural Resources:**

#### **People:**

#### **Economy:**

## Visual 22: Debrief: Identify Your Community's Exposed Assets

Structures	<ul style="list-style-type: none"> <li>• Types of existing buildings</li> <li>• Cultural resources</li> <li>• Planned development</li> </ul>
Critical Facilities and Infrastructure	<ul style="list-style-type: none"> <li>• Critical facilities (hospitals, police stations, schools, etc.)</li> <li>• Infrastructure</li> </ul>
Natural Resources	<ul style="list-style-type: none"> <li>• Natural habitats</li> </ul>
People	<ul style="list-style-type: none"> <li>• Areas of high population density</li> <li>• Tourist populations</li> <li>• At-risk populations</li> </ul>
Economy	<ul style="list-style-type: none"> <li>• Major employers</li> <li>• Commercial centers</li> <li>• Primary economic sectors</li> </ul>

## Visual 23: Identifying and Profiling Hazards

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## Visual 24: Overview of Hazard Identification \*

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- Identify all hazards that may impact a community.
- Provide the best available information to show hazard impacts.
- Reflect any changes in hazards since the previous plan.

### Overview of Hazard Identification

“Best available information” is detailed, location-specific, and up to date.

Requirements: Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ B1 on pages 19-20
- ✓ B2 on page 20



Note

This is a required hazard mitigation plan element/activity.



Tip

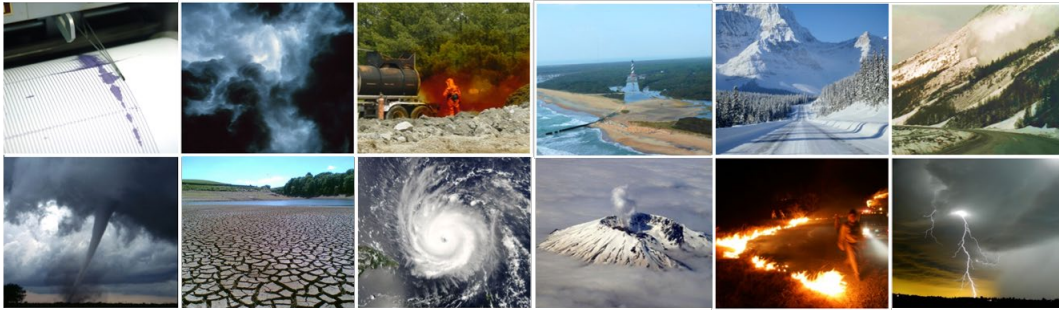
Check your State’s HMP for common hazards that you should consider profiling.

## Visual 25: Why is Identifying and Profiling Hazards Important?

---

The process helps answer:

- What kinds of hazards can affect your planning area?
- How likely is a given hazard event? If it does occur, how severe could it be?



### Why is Identifying and Profiling Hazards Important?

The success of all subsequent steps in the hazard mitigation planning process depends on clearly understanding the hazards faced by your community.

Review and confirm/validate the list of hazards that may occur per the current HMP.

Consider any additional hazards that have not been included before.

## Visual 26: Types of Hazards



### Tip

- The focus on the mitigation plan should be on natural hazards, though others can be included, as well.
- Risks and hazards may have changed since your last update, or the quality of data may have improved. These changes should be incorporated.

## Types of Hazards

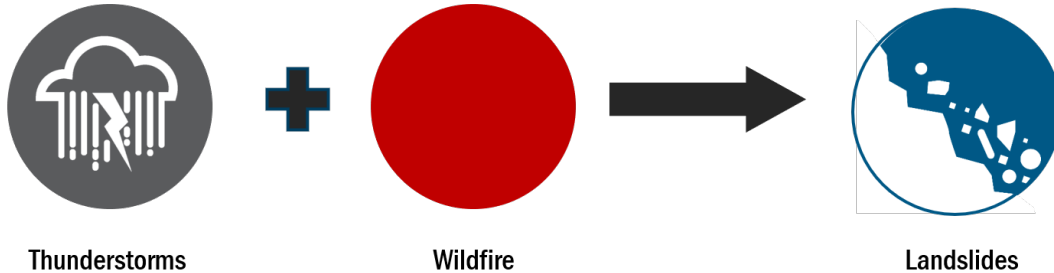
Some “technological” and “human-caused” hazards “behave” like natural hazards and could be included in the hazard mitigation planning process if considered relevant for a particular community even though FEMA does not require they be included in the plan, e.g., hazardous materials releases or land subsidence due to mining.

It can be important to also consider cascading hazards, like flash flooding or mudflows after a wildfire reduced the absorptive capacity of soil. Dams and levees, while manmade, can cause natural hazard impacts such as flooding when they fail.

Once you choose how you’ll delineate hazards, stick with it throughout. For example, if you’re grouping “wind events” make sure that grouping makes sense in the hazard profile all the way through figuring out appropriate mitigation actions.

## Visual 27: Secondary/Cascading Hazards

Some hazards can produce another, separate hazard.



### Secondary/Cascading Hazards

You should also think about secondary hazards. Secondary hazards can lead to cascading effects, and their impacts need to be considered as part of the risk assessment process.

- Underwater earthquakes can produce tsunamis.
- Earthquakes and floods can lead to fires and landslides.
- Hurricanes include flooding and wind hazards.
- Wildfires, when followed by rain, can produce mudslides and devastating flooding.
- Severe storms can include high winds, lightning, and heavy rains.



This information is beyond the basics.

Note

## Visual 28: Hazards Profiling Includes: \*

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- Has anything changed since the current HMP was adopted?
- What new data are available?

### Hazards Profiling Includes:

For each hazard affecting the planning area, the risk assessment must include a description of the following:

- Location
- Extent
- Previous Occurrences
- Probability of Future Events

Hazard descriptions explain which hazards are most significant and which locations of the planning area are most likely to be affected.

Plan updates will incorporate any additional hazards that have been identified and any new data that have become available, such as new flood studies.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

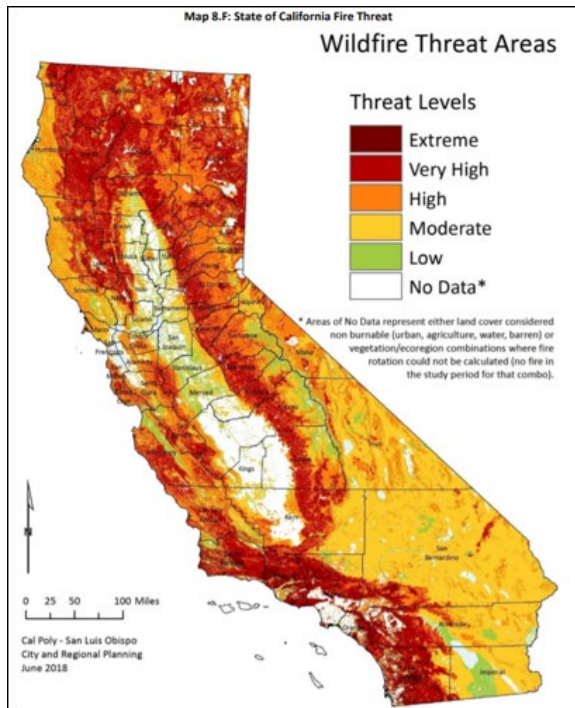
- ✓ B1 on pages 19-20
- ✓ B2 on page 20



This is a required hazard mitigation plan element/activity.

Note

## Visual 29: Location \*



- Clearly identify areas vulnerable to damage by each natural event.
- If possible, show locations using maps.
- Image (left): State of California Wildfire Threat Areas (2018 California State Hazard Mitigation Plan)

### Location

Location means the geographic areas in the planning area that are affected by the hazard. For many hazards, maps are the best way to illustrate location. However, location may be described in other formats. For example, if a geographically specific location cannot be identified for a hazard, such as tornadoes, the plan may state that the entire planning area is equally at risk of that hazard.

Maps are the best way to illustrate location for many hazards. The locations that could be affected by a hazard may be described in a narrative or shown on maps in the plan. It can sometimes be helpful to describe low- and high-risk areas but define what you mean if you use those terms.

**Location:** Location is the geographic areas within the planning area that are potentially affected by the hazard, such as a floodplain. Hazard areas may be further defined, such as high wildfire hazard areas versus low wildfire hazard areas. The entire planning area may be uniformly affected by some hazards, such as high winds, drought, or winter storm. Although maps are usually the best way to illustrate location for many hazards, location may be described in other formats, such as a narrative.

A multi-jurisdictional plan must provide location information for each hazard for each municipality. Maps must be legible and clear for each jurisdiction.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

✓ B1 on pages 19-20



This is a required hazard mitigation plan element/activity.

Note



## Visual 30: Extent \*

- Extent is the anticipated severity and/or magnitude of a hazard.
- Measure of a hazard event's strength
  - Value on an established scientific scale or measurement system
  - Other measures of magnitude, such as water depth or wind speed
- Speed of onset of a hazard event
- Event duration
- Check your State HMP for details



Enhanced Fujita Scale (EF-Scale)

### Extent

Describe how extensive a hazard occurrence may be in terms of magnitude/ strength. Capture the “worst-case scenario” for each hazard’s extent but also note less damaging but potentially more frequent occurrences. Extent: Extent is the strength or magnitude of the hazard.

**Extent** can be described in a combination of ways depending on the hazard, such as the value on an established scientific scale or measurement system, such as EF2 on the Enhanced Fujita Scale for tornadoes or 5.5 on the Richter Scale for earthquakes. Other measures of magnitude include water depth or wind speed. For most hazards, the longer the duration of an event, the greater the extent. Flooding that peaks and retreats in a matter of hours is typically less damaging than flooding of the same depth that remains in place for days.

Extent can be described using a map and/or narrative. Describing the extent of a hazard is not the same as describing its potential impacts on a community. Extent defines the characteristics of the hazard regardless of the people and property it affects, while impact refers to the effect of a hazard on the people and property in the community.

Hazards are not monolithic. Although the most extreme events may have dramatic results, more frequent events may have more impact over time.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ B1 on pages 19-20



This is a required hazard mitigation plan element/activity.

Note

## Visual 31: Previous Occurrences \*

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- Describe how each hazard has affected your community in the past
- Consider including:
  - Dates of events
  - Description of the damage that occurred
  - Duration of each event
  - Include Presidential Emergency and Disaster Declarations
  - Local knowledge from elders and libraries



### Previous Occurrences

The history of previous hazard events for each hazard. This information helps estimate the likelihood of future events and predict potential impacts. For some hazards, it may be helpful to compile past occurrences in tables. When data is available, describe the extent of the event and impacts, such as fatalities and injuries, building and infrastructure damages, and loss of services. For plan updates, it is essential that the plan include incidences that occurred over the past five years. It is good practice to state in your plan when there have not been instances in the last five years.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ B2 on page 20



This is a required hazard mitigation plan element/activity.

Note

## Visual 32: Probability of Future Events \*

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- When looking at vulnerability, consider how often hazards occur.
- Looking at probability, consider one of the following approaches:
  - Qualitative Approach
  - Regional Data Approach
  - Down-scaled Data Projections Approach
  - Historical Analysis Approach



### Probability of Future Events

Photo Source: Pixabay.

When looking at your community's vulnerability, it is important to consider how often hazard events will occur in the future, because this is a long-term strategy to reduce risk. Consider if events will happen on a regular, predictable basis, but have a lower impact. Are they more scattered but are more destructive? By gauging probability, your community can be prepared for all potential events.

Probability is the likelihood of the hazard occurring in the future and can be described in a variety of ways. Probability may be defined using historical frequencies or statistical probabilities. Statistical probabilities often refer to events of a specific size or strength. For example, the likelihood of a flood event of a given size is defined by the percent chance in a single year, such as the 1-percent annual chance of flood, also known as a 100-year flood. Hazard likelihood can also be compared using general descriptions or rankings. If general descriptors are used, then they must be defined in the HMP. For example, "highly likely" could be defined as occurring every 1-10 years, "likely" as occurring every 10-50 years, and "unlikely" as occurring at intervals greater than 50 years. Some hazards are most likely during a specific time of year, but others can occur at any time. For example, in the West, flooding might be more frequent in the spring because of snow melt or, in the East, in late summer or fall during the hurricane season. At the same time, there will be cases where the future is not necessarily changing or the degree to which change may occur is unknowable.

We'll look at four different ways to address the probability in a way that incorporates future climate and weather patterns:

1. Qualitative approach, using local knowledge and general descriptors
2. Regional data approach, looking at National or Regional data and reports
3. Down-scaled data projections approach looking at micro-level climate data
4. Historical analysis approach, which looks to the past to understand future probability

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ B2 on page 20



This is a required hazard mitigation plan element/activity.

Note

## Visual 33: Qualitative Approach to Profiling

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- Descriptions can be based on community knowledge.
- You can use general descriptors.



### Qualitative Approach to Profiling

A qualitative approach can be generalized, so long as each of the descriptors is defined in terms that are meaningful to the community. For example, “unlikely” could mean “not certain to occur,” or “highly likely” could be defined as “expected to occur every year.” Defining descriptors is important to keep consistency.

## Visual 34: Regional Data Approach to Profiling

If local data is limited

- Use National, State, Regional, or Local data to identify probability
- Look at climate trends affecting the Nation at large



### Regional Data Approach to Profiling

This approach uses data, reports, and models to quantify changes in frequency or probability. This is a very large-scale approach that offers general future conditions. When analyzing how climate change may affect your community, this approach takes a look at how it is affecting communities across the Nation, as well as in your Region. One example of this is the National Climate Assessment, a product that shows how the climate is changing and how it will affect the country as a whole.

- Characteristics of hazards are changing
- Timing of precipitation events
- Intensity of precipitation events
- Snow falling as rain
- Height of storm surge
- Changes in the number of very warm days

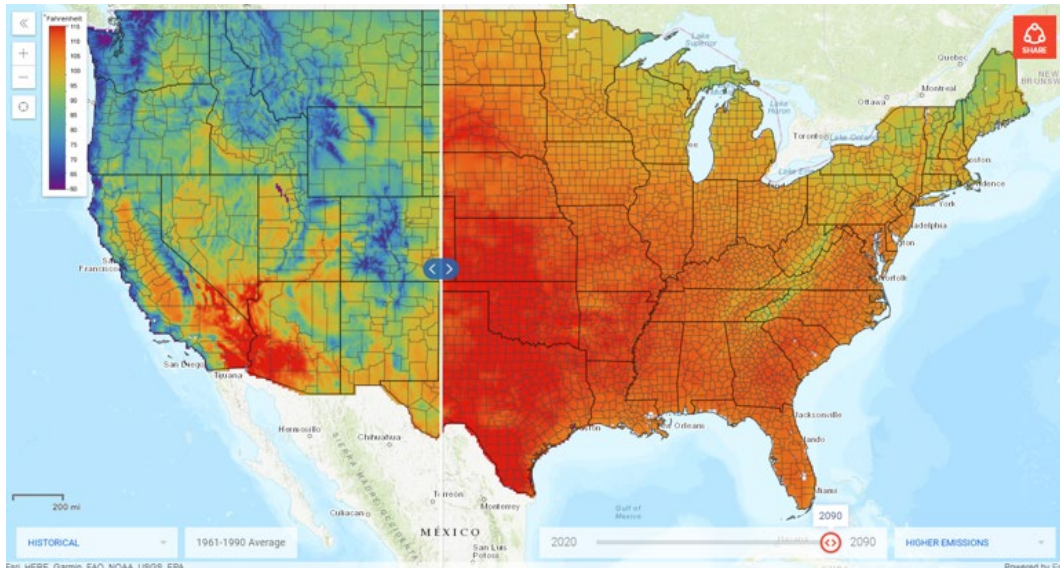


This is an option for communities with limited capabilities.

Note

## Visual 35: Down-Scaled Data Projections Approach to Profiling

- Uses more localized data to identify trends
- Allows your community to see how future conditions will change



### Down-Scaled Data Projections Approach to Profiling

Whereas the Regional Data approach offers data on a huge scale to discuss the probability of future events, this approach takes data from a much wider scale and applies it to the local level. For example, this map is from NOAA's Climate Explorer. The Explorer allows for a much more localized analysis of an area, providing visual data and maps for geographic areas small enough for them to be relevant on the local scale.

Like the Regional approach, this methodology uses models and forecasts to look at the Nation as a whole, but it also allows your community to see how future conditions will change over the coming decades.



Note

This is an option for communities with limited capabilities.



## Visual 36: Historical Analysis Approach to Profiling

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$$\frac{\text{Occurrence}}{\text{timeframe}} = \text{probability of future events}$$

$$\frac{\text{15 flooding event occurrences}}{\text{50 years with data recorded}} = \text{30\% chance of a future flood occurrence}$$

### Historical Analysis Approach to Profiling

The previous slide shows 15 occurrences of flooding that resulted in property damage over 50 years from 1962 through 2018.

This data record could be used to provide an estimate of the probability of future events:

15 occurrences / 50 years = 0.30 occurrences per year Based on this data record, the probability of a future flooding occurrence is about 30 percent chance in any given year.

It is important this example uses data from a relatively long period and as a result, provides a result the Planning Team can use with some confidence. However, it is also important to note there are potential limitations of this approach if the data record is not as extensive or is incomplete and inconsistent. Therefore, it may be appropriate to indicate the relative “confidence level” in the result.

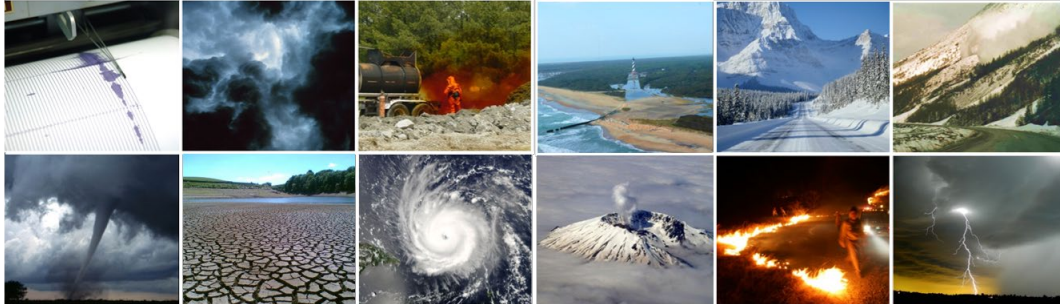
If you choose to use this approach, factor in changing conditions, including development in your community, or larger climate trends that can increase the number of events per year.

## Visual 37: Addressing Future Hazard Conditions

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Hazards change over time

- Changes in Climate
- Changes in the community
- Changes in the local area



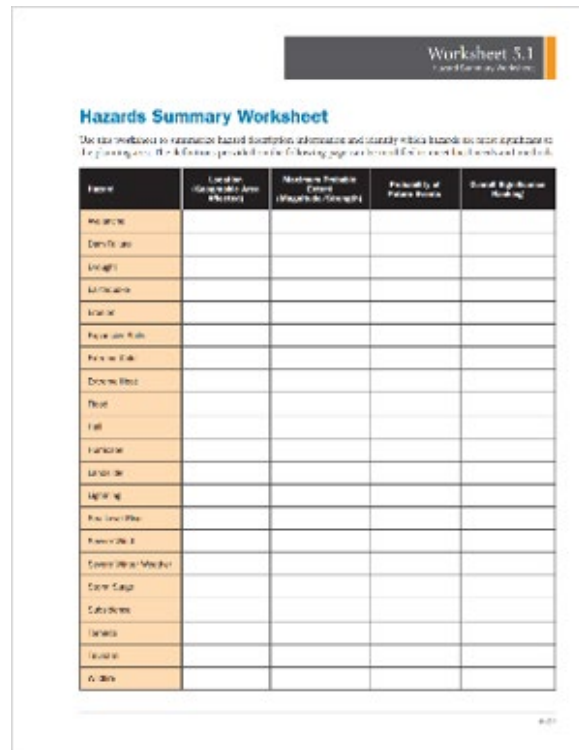
### Addressing Future Hazard Conditions

Hazards change over time. Changes in the community from declining or increasing populations, infrastructure expansion, or economic shifts can alter the hazards initially identified for the plan. It is important to update the plan on a regular basis or more often as needed.

# Visual 38: Activity: What Hazards Affect Your Community?

**Directions:**

- Use Worksheet 5.1 Hazards Summary Worksheet to assess the potential risks in your community.
- Identify how you would gather data on these risks.
- You have 15 minutes to complete the activity.
- Be prepared to share your answers with the class.



**Directions**

- Use Worksheet 5.1 Hazards Summary Worksheet to assess the potential risks in your community.
- Identify how you would gather data on these risks.
- You have 15 minutes to complete the activity.
- Be prepared to share your answers with the class.

One good place to start when deciding on hazards are State Hazard Mitigation Plans. These often have a comprehensive profile of all the hazards that can occur within their boundaries. Some of these may be commonly located in your community. Keep in mind, some hazards may not affect you, because of local geography or a lack of previous occurrences, or because they are minor and are not a priority.

## Visual 39: Reminder: Document, Document, Document \*

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Documenting the planning process includes:

- Existing authorities, policies, programs, and resources
- Participation
- Methodologies and results
- Updates



By documenting progress now, you can inspire more action in the future.



This is a required hazard mitigation plan element/activity.

Note

## Visual 40: Questions

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### Questions?

This concludes this module. If you have any questions, pose them to the instructor.

## Visual 41: FEMA logo

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# Module 4: Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk

## Visual 1: Module 4: Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk

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### Risk Assessment **Assessing Impacts, Vulnerabilities, and Risk**

#### Module 4: Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk

This module describes the steps involved in identifying vulnerabilities, the impacts of those vulnerabilities, and the process for assessing risk.



## Visual 2: Course Map

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	Introduction
	Planning Process: Role and Responsibilities
	Planning Process: Organizing and Engaging Community Partners
	Risk Assessment: Identifying Community Assets and Hazards
<b>4</b>	<b>Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk</b>
	Developing a Mitigation Strategy
	Plan Maintenance and Updates
	Plan Implementation
	Mitigation Funding and Assistance
	Conclusion

This module will focus on identifying at-risk community assets and identifying hazards as they relate to risk assessment.

This module helps address Element B3, B4 and D1 of the mitigation planning requirements, according to the 2011 Local Plan Review Guide

## Visual 3: Module Learning Objectives

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- Recall the steps and various methods for assessing risk, vulnerability, and impacts.
- Describe tools and resources to help with the risk assessment process.



### Module Learning Objectives

At the end of this module, the participant will be able to describe the steps involved in identifying vulnerabilities, the impacts of those vulnerabilities, and the process for assessing risk.

- Recall the steps and various methods for assessing risk, vulnerability, and impacts.
- Describe tools and resources to help with the risk assessment process.

## Visual 4: Assessing and Summarizing Impacts and Vulnerability

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Photo Source: Pixabay.

## Visual 5: Assess Impact and Vulnerability \*

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Look at the impacts for each hazard:

- Analyze your risk
- Assess potential impacts
- Estimate future potential losses
- Provide an overall summary of the community's assets, populations, and greatest vulnerabilities



### Assess Impact and Vulnerability

Assessing vulnerabilities and impacts will allow the community to make more informed decisions when identifying mitigation actions and prioritizing resources.

For each hazard:

- **Analyze your risk** - Take a look at the asset inventory developed and discuss which ones may be vulnerable, either because they are located within the known area of a hazard, like the Special Flood Hazard Area, or because some characteristic of an asset makes it more susceptible to an event, like an older structure that has not been well-maintained. Conversely, some assets may be less at-risk because they were built to a higher regulatory standard, they were recently renovated, etc.
- **Assess potential impacts** - Consider the consequence or effect of the hazard event on the community and its assets overall. Consider both short- and long-term impacts.
  - What is the consequence or effect of the potential hazard event on the community and its assets overall?
- **Estimate future losses to understand the economic impact of hazard events** - This can be helpful later when the Planning Team is deciding which mitigation strategies to pursue, because the Planning Team would ideally want the strategies to address the areas of highest potential loss.

And a general statement of vulnerabilities for each jurisdiction:

- Vulnerable assets and potential losses are more than a list of the total exposure of population, structures, and critical facilities in the planning area. An example of an overall summary is a list of key issues or problem statements that clearly describes the government's greatest vulnerabilities and that will be addressed in the mitigation strategy.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ B3 on page 20



This is a required hazard mitigation plan element/activity.  
This is a planning consideration for multi-jurisdictional plans.

Note

## Visual 6: Vulnerability and Impact

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### **Vulnerability**

A weakness or gap in protection to an exposed asset

### **Impact**

Cost (in lives, property, dollars, etc.) of an asset affected by a hazard



## Vulnerability and Impact

A **Vulnerability** is a weakness or gap in protection to an exposed asset.

An **Impact** is a cost (in lives, property, dollars, etc.) of an asset affected by a hazard.

## Visual 7: Impact vs. Extent

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- **Impact**
  - Refers to the effect of a hazard on the people and property in the community, for example:
    - Injuries and deaths
    - Percentage of property damaged
- **Extent**
  - The potential magnitude of a hazard no matter where it hits or what is in harm's way
  - This does not refer to the geographic location!

### Impact vs. Extent

Describing the extent of a hazard is NOT the same as describing potential impacts on a community.

Extent defines the hazard characteristics in terms of a specific measurement or scientific scale regardless of the people and property it affects. For example, this could be the Drought Palmer Severity Index, the Enhanced Fujita Scale, the Richter Scale, etc..

Impact means the consequence or effect of the hazard on the community and its assets. Assets are determined by the community and may include, for example, people, structures, facilities, systems, populations or other community assets, as defined by the community, that are susceptible to damage and loss from hazard events. Assets may also include cultural sites, capabilities, and/or activities that have value to the community. Impacts could be described by referencing historical disaster impacts and/or an estimate of potential future losses.

## Visual 8: Vulnerability and Impact Assessment

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- Evaluating vulnerability
- Assessing potential impacts (initial and secondary)
- If information is available:
  - Assessing relative impacts (e.g., high, moderate, low)
  - Estimating future losses



### Vulnerability and Impact Assessment

Photo Source: Pixabay.

Once data is collected, it is used to enable communities to compare hazard event impacts and decide future mitigation actions, it is important to remember that although an asset is exposed to a hazard, vulnerability and related impacts depend on the degree to which the asset can withstand the effects of the particular hazard.

It is also important to note that the “risk assessment” process from this point can vary widely based on available data and the capabilities of individual communities. Depending on the availability and reliability of a.) asset profile information and b.) hazard probability information, a relative vulnerability assessment (for some or all hazards) may be as far as a community is able to accurately assess its “risk.”



## Visual 9: Vulnerability and Impact: Example

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**Vulnerability:**

- Homes in the neighborhood
- People living in the neighborhood
- Road

**Impact:**

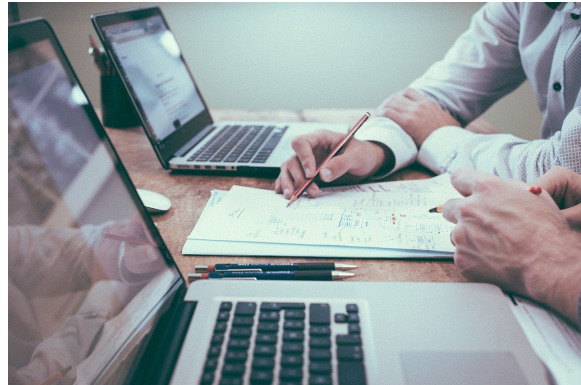
- Cost of repairing homes
- Cost of road reconstruction
- Lost economic activity in the area because the road was wiped out



A neighborhood and a road that connects people to a commercial corridor are located in an area with high risk of landslide.

## Visual 10: Plan Integration Effect on the Process

- More readily available, useful data
- Examples include:
  - Community land use changes already captured in the Comprehensive Plan
  - High risk areas already listed in the Emergency Operations Plan
  - Critical facility data inventories conducted by local fire official



### Plan Integration Effect on the Process

Photo Source: Pixabay.

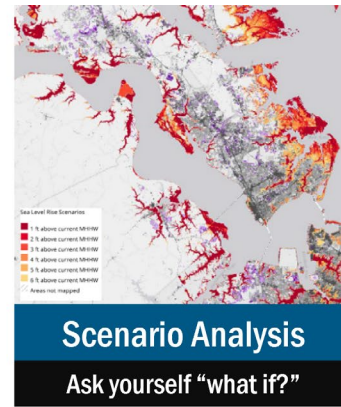
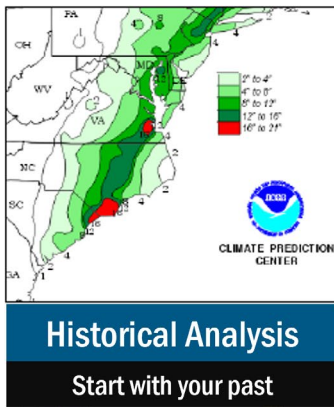
How can data from other planning efforts help make your HMP process easier and more productive? Many communities pull out their other key plans and planning tools when they're starting to update their HMP to make sure the impacts are accounted for in all documents, and any work previously done is either added or updated. Remember, you are not trying to reinvent the wheel. Use existing data and reports to make the planning process easier.



This is an opportunity for integrating community planning efforts.

Note

# Visual 11: Methods for Assessing Vulnerability and Impacts



## Visual 12: Historical Analysis: Start with the Past

---

Based on past events, what are potential future impacts and losses?

- Use for higher frequency events with available data on past impacts and losses (e.g., winter storms, stormwater flooding).
- Consider vulnerability of new development.



### Historical Analysis: Start with the Past

Historical Analysis is a technique that can be used separately or in conjunction with Exposure Analysis to attempt to quantify impacts and anticipated losses for comparative basis and the establishment of mitigation priorities. The basic premise is that whatever has happened before, can happen again.

While there is a good intuitive basis for using this approach, there are also limitations. Depending on factors such as the extent of new development or the magnitude of potential changes in hazard profiles due to climate change, the results may understate anticipated losses.

## Visual 13: Historical Analysis: Hazard Examples

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**Drought**



**Flooding**



**Severe Winter  
Weather**

## Visual 14: Exposure Analysis: Overlay Your Assets

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Consider:

- Number, type, value of assets
- Magnitude of hazard or event (e.g., high vs. moderate wildfire hazard areas)
- Possibility of future development in hazard-prone areas based on planning and zoning



### Exposure Analysis: Overlay Your Assets

This is essentially a way to build directly on the results of the previous step in the process, i.e., identifying and profiling assets. The main difference is assigning relative values for anticipated impacts based on the available information. For example, distinctions can be made between assets exposed to flooding based on:

- Location in the regulatory floodway = High Vulnerability and Anticipated Impact
- Location in the 0.1-percent annual occurrence (or "100-year") floodplain = Base Flood/Regulatory
- Location in the 0.2-percent annual occurrence (or "500-year") floodplain = Moderate
- Location outside mapped floodplains = Low

The total value of assets in the areas designated as High and Moderate could be estimated using U.S. Census tract or block information on real estate values or by using local tax assessor information if individual parcels can be identified (using GIS). This is a rough approximation of the impacts on vulnerable assets and probably overstates what would be anticipated in any particular flood event but may provide a way to compare different hazards (which usually have different levels and resolution of available data).



## Visual 15: Hazard Examples Suitable for Exposure Analysis

---



**Dam Failure**



**Flooding**



**Wildfire**

### Hazard Examples Suitable for Exposure Analysis

Also, technological hazards may include hazardous materials releases where assets can be mapped relative to an identifiable hazard extent.

## Visual 16: Scenario Analysis: Ask “What If..?”

---

Consider:

- Potential impacts if an event occurs, i.e., direct damage, casualties, down time, and others
- Quality and availability of data
  - Available tool(s)
  - Modeling tools like Hazus
  - Spreadsheet analysis



### Scenario Analysis: Ask “What If..?”

Consider a scenario analysis for low-frequency, high-consequence events (e.g., earthquake) using:

- Available modeling tools, such as Hazus (FEMA’s loss estimation software)
- Available damage curves, which can be adapted for spreadsheet analysis.

Consider who will be conducting the scenario analysis (e.g., your GIS staff may be able to easily run Hazus while your floodplain manager may be more comfortable conducting a spreadsheet analysis with damage curves).



## Visual 17: Hazard Examples Suitable for Scenario Analysis

---



**Dam Failure**



**Earthquake**



**Flooding**

### Hazard Examples Suitable for Scenario Analysis

Also, hazards such as tsunamis, hailstorms, high winds, or severe winter weather where an intensity of the storm can be assumed.

## Visual 18: Repetitive and Severe Repetitive Loss Properties \*

### Repetitive Loss (RL) Property

- Any insurable building for which two or more claims of more than \$1,000 were paid by the National Flood Insurance Program (NFIP) within any rolling 10-year period, since 1978
- May or may not be currently insured by the NFIP

### Severe Repetitive Loss Property

- When there are at least four losses, each over \$5000;  
**or**
- Two or more losses where the building payments are over the property value



## Repetitive and Severe Repetitive Loss Properties

Mitigation of Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties is a priority for FEMA because of the burden these properties place on the National Flood Insurance Program (NFIP).

Per the Biggert-Waters Flood Insurance Reform Act of 2012, RL structures are those with two claims over 10 years averaging at least 25 percent of the structure's value. SRL properties for single family residences are those with four or more claims, each for more than \$5,000 and cumulatively more than \$20,000.

Currently there are over 122,000 RL properties nationwide. HMA funding programs have and will continue to place a high priority on funding mitigation for these properties.

Your plan must describe the types and estimate the number of repetitive and severe repetitive loss properties for each participating jurisdiction.

A resource for Repetitive Loss information is the [Community Engagement Prioritization Tool](https://www.fema.gov/floodplain-management/manage-risk/community-engagement-prioritization-tool) (link is available at <https://www.fema.gov/floodplain-management/manage-risk/community-engagement-prioritization-tool>).

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ B4 on page 21



This is a required hazard mitigation plan element/activity.

Note

## Visual 19: Summarize Overall Vulnerability and Impacts \*

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- Summarize each jurisdiction’s overall vulnerability to each hazard.
- Include background data in an appendix.
- Focus on communicating analysis and findings to:
  - Emergency managers
  - Planners
  - Policy makers
  - Community members



### Summarize Overall Vulnerability and Impacts

Sometimes communities find it useful to create “relative hazard rankings.” The rankings can be used as part of outreach efforts and during prioritization of hazard mitigation actions. The process for determining hazard rankings can be relatively simple, e.g., consensus among the Planning Team members or via a scoring or point system where the main criteria are usually the monetary impacts.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include: }

- ✓ B3 on page 21



Note

This is a required hazard mitigation plan element/activity.

## Visual 20: Considerations for Updating the Risk Assessment \*

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- Increasing vulnerability from development in hazard-prone areas, climate change, etc.



- Decreasing vulnerability due to implementation of mitigation actions, adoption of improved codes and ordinances, etc.

### Considerations for Updating the Risk Assessment

Just as hazards change over time, so do vulnerabilities. Changes in the community from declining or increasing populations, infrastructure expansion, or economic shifts can alter the vulnerabilities initially identified.

Your updated risk assessment must reflect changes in vulnerability, whether those changes are positive (less vulnerability) or negative (more vulnerability). For example:

Increasing vulnerability due to climate change, new development in hazard-prone areas, etc.

Decreasing vulnerability due to implementation of mitigation actions that have reduced risk, adoption of improved codes, and ordinances to protect future development, etc.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ D1 on page 26



This is a required hazard mitigation plan element/activity.

Note

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## Visual 21: Addressing High Hazard Potential Dams

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To qualify for funding from the Rehabilitation of High Hazard Potential Dam grant program, plans must include the following information:

- Incremental Risk
- Non-Breach Risk
- Residual Risk

### Addressing High Hazard Potential Dams

**All Dam Risk** includes the incremental risk, non-breach risk, and residual risk associated with each eligible high hazard potential dam, as well as the reason(s) the State has determined the dam is an eligible high hazard potential dam. For the mitigation plan, all dam risk can be presented as a **summary description**. Detailed analyses are not required. All dam risk includes the following:

- **Incremental Risk:** The risk (likelihood and consequences) to the pool area and downstream floodplain occupants that can be attributed to the presence of the dam should the dam breach before or after overtopping, or undergo component malfunction or misoperation, where the consequences considered are over and above those that would occur without dam breach. The consequences typically are due to downstream inundation, but loss of the pool can result in significant consequences in the pool area upstream of the dam.
- **Non-Breach Risk:** The risk in the reservoir pool area and affected downstream floodplain due to ‘normal’ dam operation of the dam (e.g., large spillway flows within the design capacity that exceed channel capacity) or “overtopping of the dam without breaching” scenarios.
- **Residual Risk (USACE ER 1110-2-1156):** The risk that remains after all mitigation actions and risk reduction actions have been completed. With respect to dams, FEMA defines residual risk as “risk remaining at any time” (FEMA, 2015, p A-2). It is the risk that remains after decisions related to a specific dam safety issue are made and prudent actions have been taken to address the risk. It is the remote risk associated with a condition that was judged to not be a credible dam safety issue.

## Visual 22: Eligible High Hazard Dams

---

To be **eligible for HHPD funding**, a dam must:

- Be located in a state or territory with a dam safety program.
- Be classified as “high hazard potential” by the state/territory dam safety agency in the state or territory in which the dam is located.
- Have an Emergency Action Plan (EAP) approved state or territory dam safety program or is in conformance with state or territory law and pending approval by the relevant state or territory dam safety agency.
- Be located in a jurisdiction with a FEMA-approved hazard mitigation plan that includes dam risk.
- Fail to meet minimum state/territory dam safety standards and pose an unacceptable risk to the public.

### Eligible High Hazard Dams

To be **eligible for HHPD funding**, a dam must:

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- Have an Emergency Action Plan (EAP) approved state or territory dam safety program or is in conformance with state or territory law and pending approval by the relevant state or territory dam safety agency.
- Be located in a jurisdiction with a FEMA-approved hazard mitigation plan that includes dam risk.
- Fail to meet minimum state/territory dam safety standards and pose an unacceptable risk to the public.

The following dams **are not eligible** for HHPD funding:

- Federally owned dams
- A licensed hydroelectric dam under a hydropower project with an authorized installed capacity of greater than 1.5 megawatts
- Dams built under the authority of the Secretary of Agriculture

For guidance on mitigation planning requirements to be eligible for the HHPD grant program, please see [Rehabilitation of High Hazard Potential Dams \(fema.gov\)](https://www.fema.gov/sites/default/files/2020-08/fema_hhpd_grant-guidance.pdf). The link is available at [https://www.fema.gov/sites/default/files/2020-08/fema\\_hhpd\\_grant-guidance.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_hhpd_grant-guidance.pdf).

## Visual 23: Discussion: Exploring Impacts to Population

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- Who are the groups that might be most vulnerable to hazards?
- Consider the following:
  - Children and seniors
  - Those living below the poverty line
  - Critical economic drivers, such as local businesses, colleges, and tourist sites
  - Sensitive environmental areas



### Discussion: Exploring Impacts to Population

Photo Source: Pixabay.

For societally and economically vulnerable populations, consider those who may live below the poverty line, or those whose primary language is not English. In terms of lifelines, these might be electricity, food, or water. These may be separate, though related, to the critical facilities.



## Visual 24: Assessing Risk

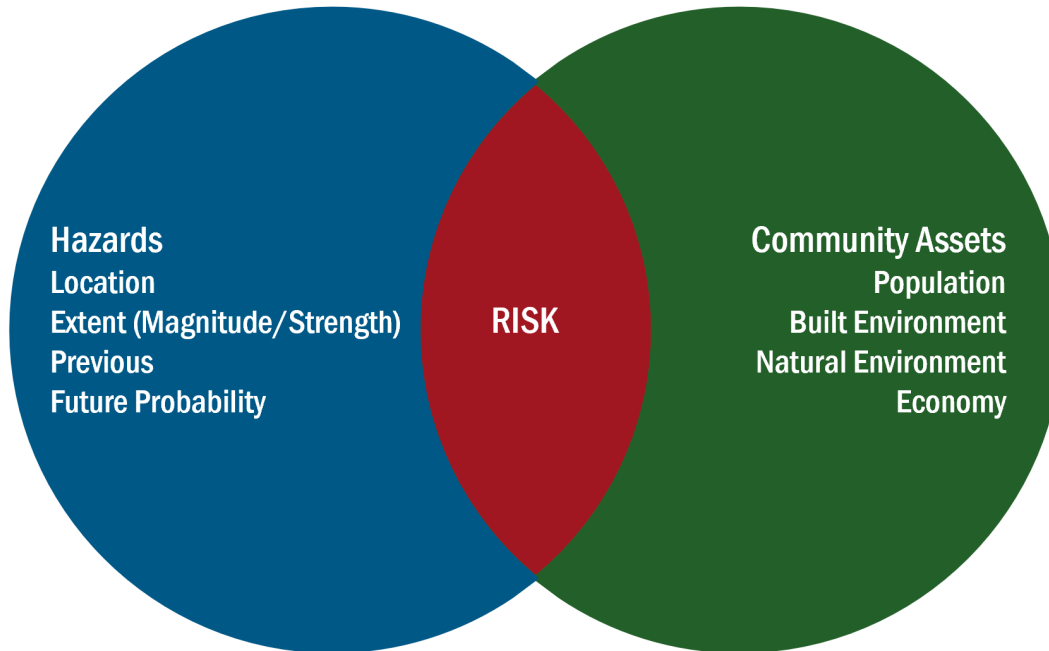
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Photo Source: Getty Images. This photo was purchased for use by FEMA

## Visual 25: Hazards, Community Assets, and Risk

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### Hazards, Community Assets, and Risk

Risk, for the purposes of hazard mitigation planning, is the potential for damage or loss created by the interaction of natural hazards with community assets. Hazards are natural processes that people and communities have little control over. Damage and impacts occur when people, property, and other community assets are exposed to natural hazards. That's what makes a hazard a disaster.

Impacts are the consequences or effects of the hazard on the community and its assets. The type and severity of impacts are based on the vulnerability of the asset, as well as the community's ability to mitigate, prepare, respond, and recover from events.

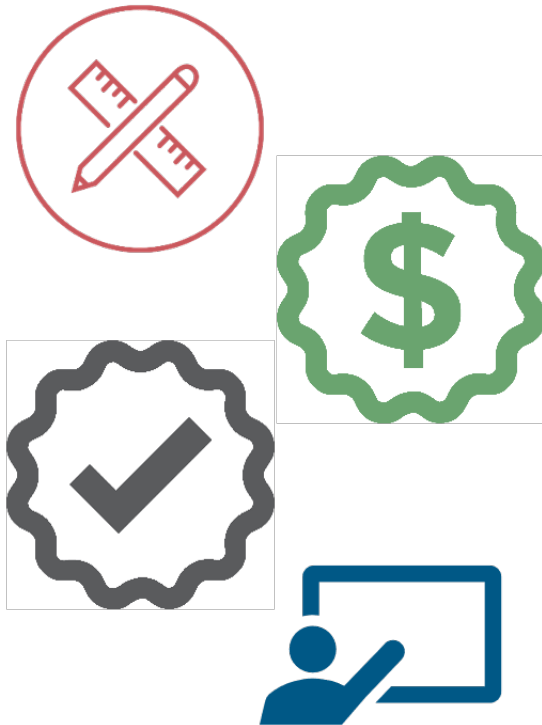
#### Multi-Jurisdiction Considerations (if applicable)

- Describe unique or varied hazards within communities.
- Assess assets and risks for each jurisdiction. Assets, vulnerabilities, and overall risk are unique to each community. For multi-jurisdictional planning efforts, the risk assessment must result in an evaluation of potential impacts and issues of concern for each participating jurisdiction to use in developing mitigation actions specific to each jurisdiction.

## Visual 26: Process for Assessing Risk \*

A thorough process will:

- Produce estimates of average annualized losses for community assets
- Provide an approximation of potential benefits (e.g., losses avoided) - for benefit-cost analysis (BCA), political review, etc.



### Process for Assessing Risk

How is this different from the previous step, assessing vulnerability and impacts?

As noted in that part of this presentation, the “risk assessment” process can vary widely based on available data and the capabilities of individual communities. Depending on the availability and reliability of a.) asset profile information and b.) hazard probability information, a relative vulnerability assessment (for some or all hazards) may be as far as a community is able to accurately assess its “risk.” However, if adequate information is available, then continuing to “monetize” your risk will improve your community’s ability to:

- Provide actionable information for communities and their constituent property owners and residents
- Make relative risk determinations to inform the prioritizing of mitigation actions

This should be evident from your community’s planning project scope of work.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include: ]

- ✓ B3 on page 20



This is a required hazard mitigation plan element/activity.

Note

## Visual 27: Develop Problem Statements

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Use the information from the Capability and Risk Assessments to develop problem statements

- Clear and concise
- Easily understood
- Identify key issues or problems
- Relate to specific community assets or hazards



### Develop Problem Statements

Problem statements can be used to summarize the risk assessment and be a bridge to the mitigation strategy, where the planning team selects activities that help address the risks. For instance, analysis of impacts and losses allows the planning team to identify which critical facilities are located in the identified hazard areas, the neighborhood that has experienced the most flood damage in the past, or which hazard-prone areas are zoned for future development. This type of information about the issues of greatest concern can be summarized as problem statements.

## Visual 28: Formulate Problem Statements

---

Each problem statement summarizes a particular vulnerability

- Location
- Cause/Contributing Factors
- Significance of Impacts
- Who is Impacted



### Formulate Problem Statements

Photo Source: Pixabay.

Each problem statement summarizes a particular vulnerability or problem that is supported by the findings of the risk assessment. A problem statement does not include a lot of technical information, but clearly communicates one issue. The problem statement should answer:

- Location of problem
- Cause and contributing factors creating the problem
- Significance of impacts
- Who is impacted, if applicable.

While problem statements are not required, they can help focus the plan and provide a clear way to solve the issue in the mitigation strategy.

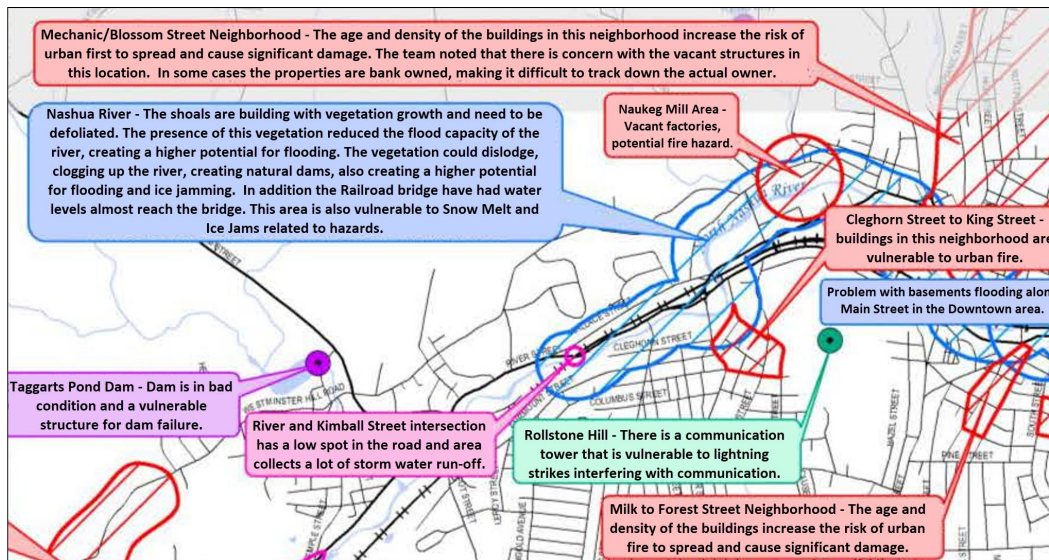
## Visual 29: Example Problem Statements

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- The Town of Newton recently annexed the South Woods area located in the wildland-urban interface. The Town's land use and building codes do not address wildfire hazard areas. Future development in South Woods will increase vulnerability to wildfires.
- The North Creek Sewage Treatment Plant is located in the 100-year floodplain and has been damaged in past events.



## Visual 30: Problem Statement Map



### Problem Statement Map

Another method of showing problem statements by utilizing maps. Placing statements directly on a map can show where common issues are located.

For example:

- Mechanic/Blossom Street Neighborhood – The age and density of the buildings in this neighborhood increase the risk of urban fire to spread and cause significant damage. The team noted that there is concern with the vacant structures in this location. In some cases the properties are bank owned, making it difficult to track down the actual owner.
- Nashua River – The shoals are building with vegetation growth and need to be defoliated. The presence of this vegetation reduced the flood capacity of the river, creating a higher potential for flooding. The vegetation could dislodge, clogging up the river, creating natural dams, also creating a higher potential for flooding and ice jamming. In addition the Railroad bridge have had water levels almost reach the bridge. This area is also vulnerable to Snow Melt and Ice Jams related to hazards.
- Naukeg Mill Area – Vacant factories, potential fire hazard.
- Cleghorn to King Street – buildings in this neighborhood are vulnerable to urban fire.
- Problem with basements flooding along Main Street in the Downtown area.
- Taggarts Pond Dam – Dam is in bad condition and a vulnerable structure for dam failure.
- River and Kimball Street intersection has a low spot in the road and area collects a lot of storm water run-off.
- Rollstone Hill – There is a communication tower that is vulnerable to lightning strikes interfering with communication.



- Milk Street to Forest Street Neighborhood – The age and density of the buildings increase the risk of urban fire to spread and cause significant damage.

## Visual 31: Resources

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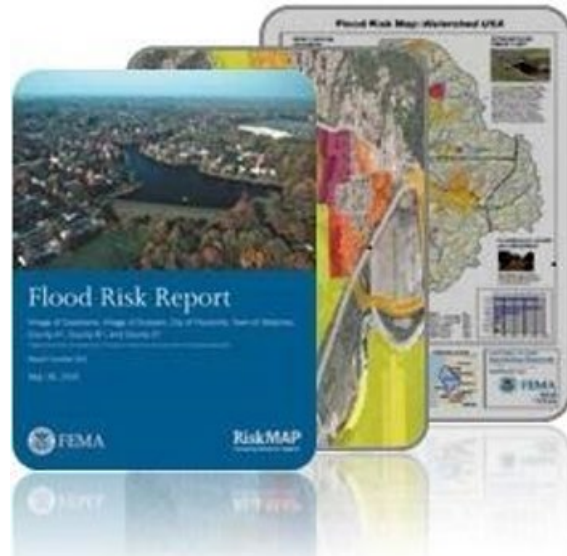
## Visual 32: Flood Risk Products

### Flood Risk Assessment

- Provide a deep and user-friendly analysis of floods
- Help visualize local flood risk

### These tools include

- Flood Risk Map
- Flood Risk Report
- Flood Risk Database



## Flood Risk Products

Flood Risk Products provide flood hazard information on regulatory flood hazard products. These give a deeper, but still user-friendly analysis of flood risks within a Risk MAP Flood Risk Project. FRPs can help community members and leaders gain a better visual understanding of the risks that floods bring.

Flood Risk Maps depict flood risk data for a project area and are typically used to illustrate an overall picture of flood risk for the area.

Flood Risk Reports provide a community with specific risk information taken from the Flood Risk Database. These also identify useful tools and reference materials.

The Flood Risk Database stores all flood risk data, including information shown in the Flood Risk Report and on the Flood Risk Map. The FRD provides a wealth of data that may be used to analyze, communicate, and visualize flood risk for a variety of uses.



This information is beyond the basics.

Note

## Visual 33: Flood Risk Products (continued)

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### Areas of Mitigation Interest

- Dams
- At-Risk Essentials Facilities
- Other Flood Risk Areas
- Past Claims Hot Spot



### Flood Risk Products (continued)

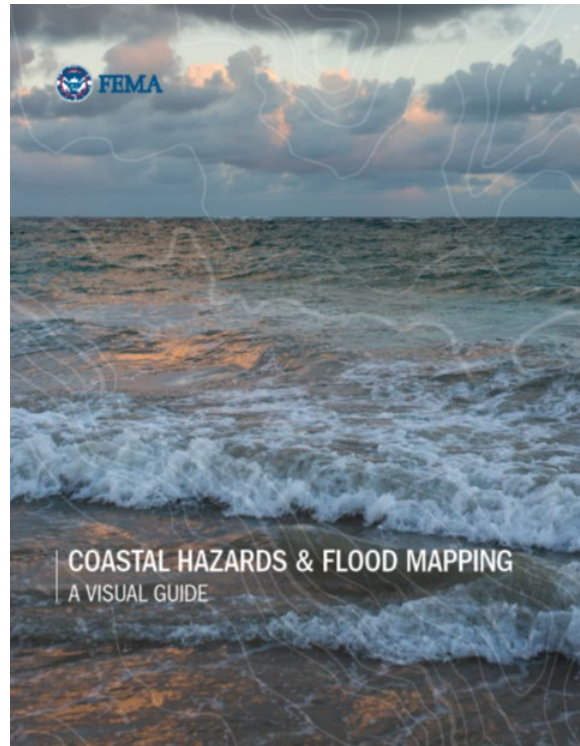
The Flood Risk Products may include suggested Areas of Mitigation Interest, which can kickstart conversations about priorities and where to start.

## Visual 34: Flood Risk Products (continued)

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### Coastal Hazards & Flood Mapping: A Visual Guide

- A visual glossary of common coastal terms



### Flood Risk Products (continued)

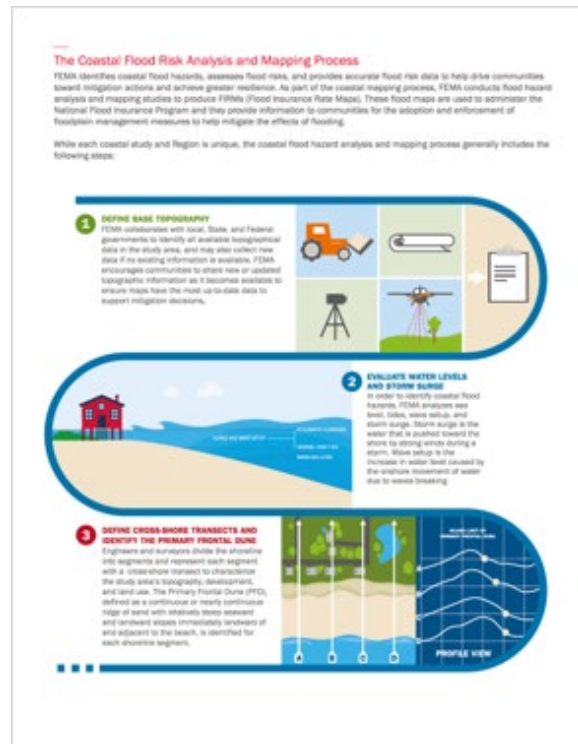
When a coastal storm approaches, community leaders and members of the media may use technical terms to describe storm-related risks. This visual guide explains these terms and how they relate to information shown on flood maps.

[Coastal Hazards and Flood Mapping](https://www.fema.gov/sites/default/files/documents/fema_coastal-glossary.pdf) (link accessible at [https://www.fema.gov/sites/default/files/documents/fema\\_coastal-glossary.pdf](https://www.fema.gov/sites/default/files/documents/fema_coastal-glossary.pdf))

## Visual 35: Flood Risk Products (continued)

### Coastal Flood Risk Analysis and Mapping Process

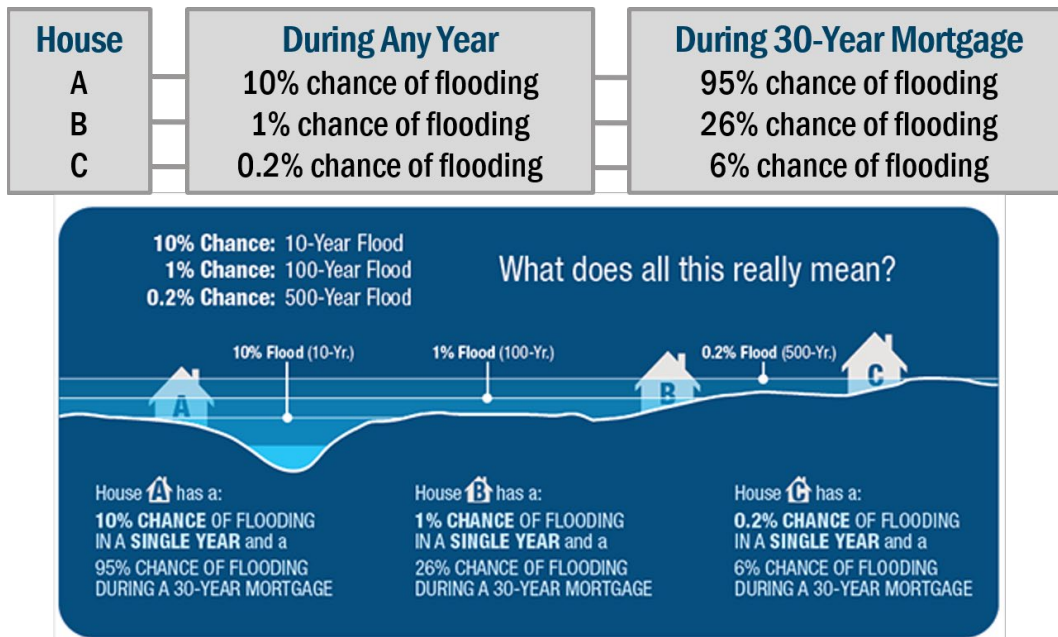
- While each coastal study and Region is unique, the coastal flood hazard analysis and mapping process generally include the steps found in this guide.



### Flood Risk Products (continued)

FEMA identifies coastal flood hazards, assesses flood risks, and provides accurate flood risk data to help drive communities toward mitigation actions and achieve greater resilience. As part of the coastal mapping process, FEMA conducts flood hazard analysis and mapping studies to produce Flood Insurance Rate Maps (FIRMs). These flood maps are used to administer the National Flood Insurance Program and they provide information to communities for the adoption and enforcement of floodplain management measures to help mitigate the effects of flooding.

# Visual 36: Available Tools: Flood Insurance Rate Map (FIRM)



## Available Tools: Flood Insurance Rate Map (FIRM)

The FIRM is the official map of a community that FEMA uses to delineate special hazard areas, which then determines the risk premium zones.

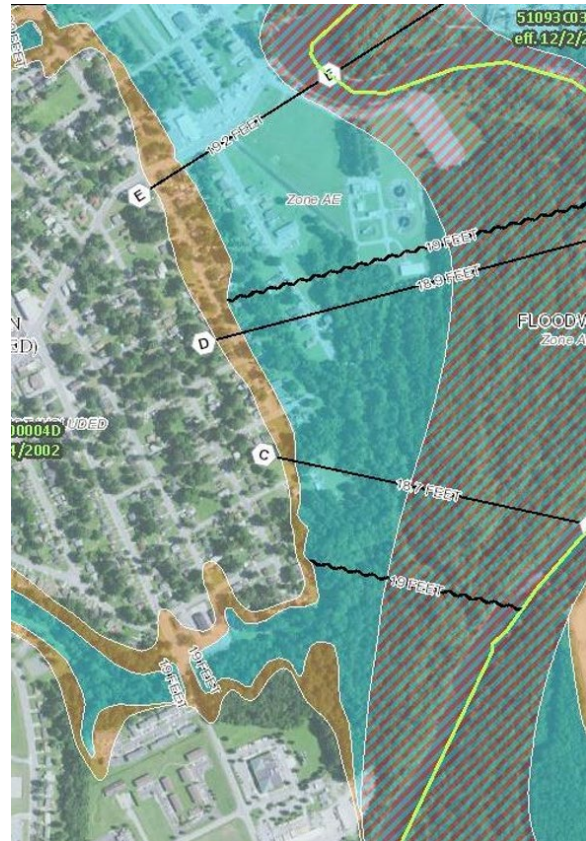


## Visual 37: Available Tools: FIRM (continued)

FIRMs indicate flooding location and extent:

- 1%- and 0.2%-annual-chance flood zones
- Flood elevations in certain flood zones

**This is a valuable resource for assessing your community's vulnerability to flood risk.**



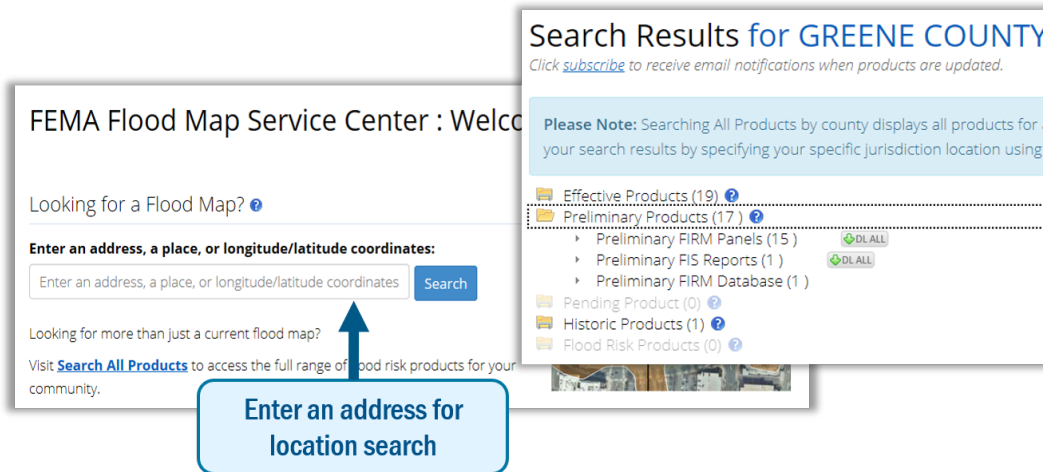
### Available Tools: FIRM (continued)

The FIRM is a highly valuable resource for your community, as it can help to provide an accurate visualization of specific structures, even homes, that are within areas vulnerable to flooding. Because it is searchable by address, it is easily accessible to many.



## Visual 38: Available Tools: Map Service Center

The **Error! Hyperlink reference not valid.** (MSC) (link accessible at <https://msc.fema.gov/portal/home>) is the official public source for flood hazard information.

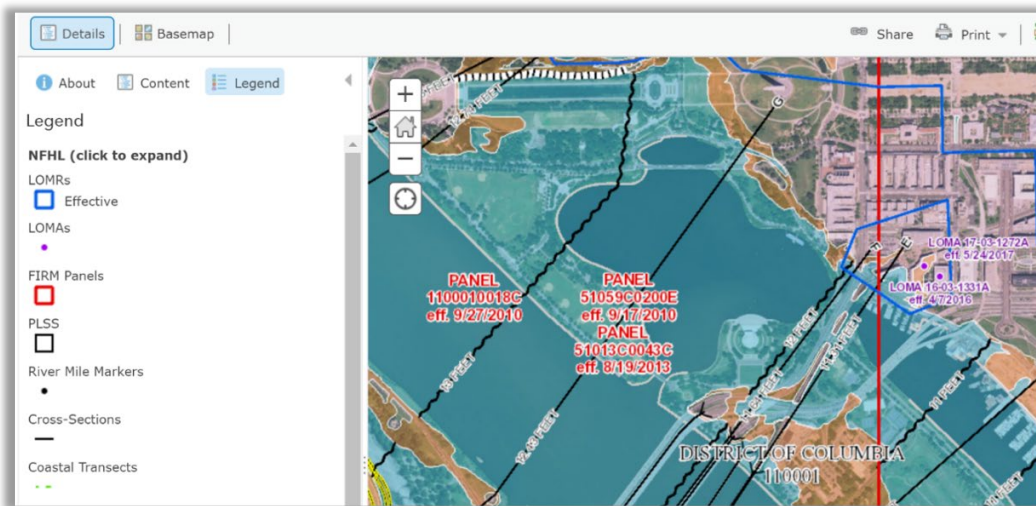


### Available Tools: Map Service Center

The [FEMA Flood Map Service Center](https://msc.fema.gov/portal/home) (MSC) (link accessible at <https://msc.fema.gov/portal/home>) is the official public source for flood hazard information produced in support of the National Flood Insurance Program (NFIP). Use the MSC to find your official flood map, access a range of other flood hazard products, and take advantage of tools for better understanding flood risk.

## Visual 39: Available Tools: National Flood Hazard Layer

Visit National Flood Hazard Layer (NFHL) for multiple options to view and download the data.



### Available Tools: National Flood Hazard Layer

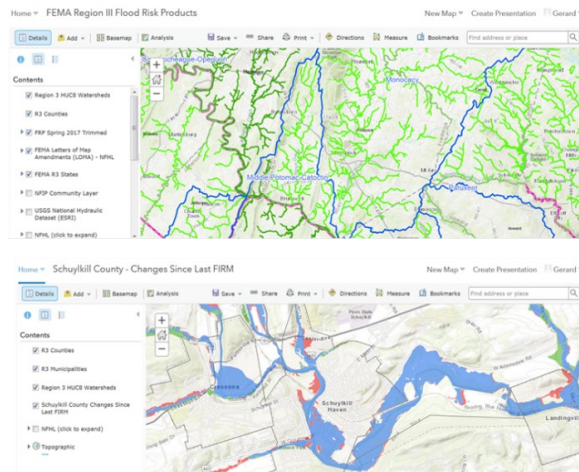
The [National Flood Hazard Layer](https://www.fema.gov/flood-maps/national-flood-hazard-layer) (NFHL) (link accessible at <https://www.fema.gov/flood-maps/national-flood-hazard-layer>) is a digital database that contains flood hazard mapping data from FEMA's National Flood Insurance Program (NFIP). This map data is derived from Flood Insurance Rate Map (FIRM) databases and Letters of Map Revision (LOMRs).

The NFHL is for community officials and members looking to view effective regulatory flood hazard information in a Geographic Information Systems (GIS) application.

## Visual 40: Available Tools: Flood Risk Products

- **Flood Risk Report**
  - **Flood Risk Map**
  - **Flood Risk Database**
    - Changes Since Last FIRM
    - Flood Risk Assessment
    - Areas of Mitigation Interest
    - Flood Depth and Analysis Grids
- More information can be found at FEMA's Flood

[Map Service Center](https://www.fema.gov/risk-map-flood-risk-products) (link accessible at <https://www.fema.gov/risk-map-flood-risk-products>)



## Visual 41: Available Tools: National Risk Index (NRI)

The NRI is an online mapping application from FEMA that identifies communities most at risk to natural hazards.



### Available Tools: National Risk Index (NRI)

The NRI is an online mapping application from FEMA that identifies communities most at risk to natural hazards. For communities with limited local data and mapping capabilities, the NRI might be the best available information. For others, the NRI provides a starting point to build on with more specific local data.

The NRI:

- Helps communities identify what hazards they are at risk of and the community's current level of resilience.
- Provides an efficient, standardized risk assessment methodology.
- Incorporates physical and social vulnerability data to identify communities more at risk. Visit the [NRI website](https://FEMA.gov/NRI) (link accessible at <https://FEMA.gov/NRI>) to learn more and access the NRI.

## Visual 42: Available Tools: Hazus

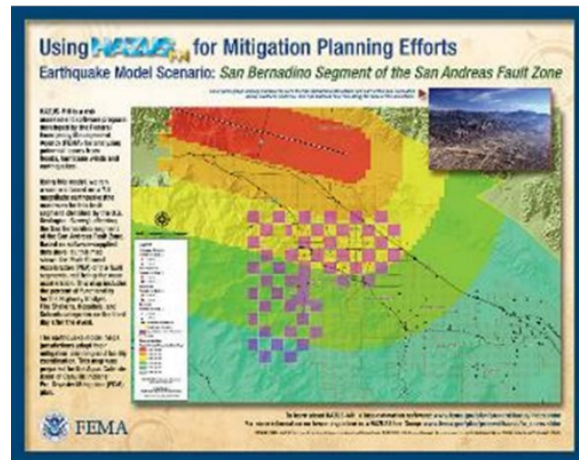
Nationally applicable standardized methodology for flood, tsunami, earthquake, and hurricane wind

Uses GIS technology to:

- Estimate physical, economic, and social impacts
- Illustrate high-risk locations
- Visualize spatial relationships between populations and other more permanently fixed geographic assets or resources

# HAZUS

MULTI-HAZARD LOSS ESTIMATION



### Available Tools: Hazus

Hazus is a standardized methodology that contains models for estimating losses from earthquakes, flood, hurricanes, and tsunamis. Hazus uses GIS technology to estimate physical, economic, and social impacts of disasters and can graphically illustrate the limits identified with high-risk locations. Hazus is based on the United States Census, making it nationally applicable.

## Visual 43: Available Tools: Hazus New Products

### Flood Assessment Structure Tool (FAST)

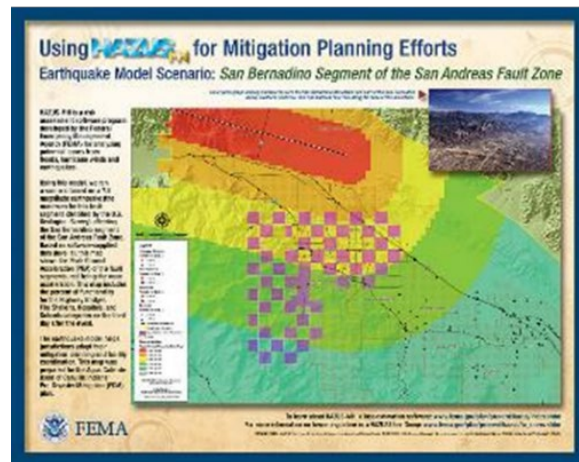
- FAST is an open source tool that rapidly analyzes building-level flood risk using the Hazus Flood Model methodology

### Hazus Export Tool

- Hazus Export is an open source tool for quick and easy extraction of Hazus results for visualizing risk assessment results.

### New Inventory Data

- New baseline statewide risk assessment databases for U.S. Territories with updated nationwide infrastructure are now available for download.



## Available Tools: Hazus

The Hazus team has created several new tools that can be used for improving the Risk Assessment.

- [Flood Assessment Structure Tool \(FAST\)](https://www.fema.gov/sites/default/files/2020-09/hazus_fast-factsheet.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-09/hazus\\_fast-factsheet.pdf](https://www.fema.gov/sites/default/files/2020-09/hazus_fast-factsheet.pdf)) is an open source tool that rapidly analyzes building-level flood risk using the [Hazus Flood Model methodology](https://msc.fema.gov/portal/resources/Hazus) (link accessible at <https://msc.fema.gov/portal/resources/Hazus>).
- [Hazus Export Tool](https://www.fema.gov/sites/default/files/documents/fema_hazus-export-tool-factsheet.pdf) (link accessible at [https://www.fema.gov/sites/default/files/documents/fema\\_hazus-export-tool-factsheet.pdf](https://www.fema.gov/sites/default/files/documents/fema_hazus-export-tool-factsheet.pdf)) is an open source tool for quick and easy extraction of Hazus results for visualizing risk assessment results.
- New Inventory Data is new baseline statewide risk assessment databases for U.S. Territories with updated nationwide infrastructure are now available for download.




## Visual 44: Available Tools: Recipe Cards

How-To Guides for GIS-capable communities:

- Identifying At-Risk Roadways and Evacuation Routes
- Defining Flooding Probability for Structures
- Identifying Flood Risk “Hot Spots” for Mitigation Action
- Prioritizing Mitigation Actions for Critical Facilities

### Defining Flooding Probability Risk for Structures










The objective of this analysis is to identify structures that are at the greatest risk of flooding from any type of event during a 30-year time period. The Flood Risk Products include a 30-year-percent-chance grid to identify the risk of flooding during a 30-year period, which is the common term of a mortgage.

The outcomes of this analysis can help local officials communicate with homeowners about their flood risk and encourage participation in the National Flood Insurance Program. If the analysis is presented visually through maps, homeowners and flood risk reduction partners will be able to see the probability of flooding to better identify the areas of higher risk.


A similar analysis can also be performed using the 1% annual-chance grid. The instructions for the analysis is similar, but the output using the 1% annual-chance grid will better illustrate the impact of this type of flooding event, which aligns with the Special Flood Hazard Area, on all structures in the community.

**INSTRUCTIONS**

- 1  Identify GIS data, including building footprints of structures and parcel owner and attribute information in the community and FEMA Depth and Analysis Grids.
- 2  Use ArcMap "Zonal Statistics as Table" tool to calculate the maximum, minimum, average, or range of the amount or probability of flooding for each building.
- 3  Join the output table to the spatial building footprint layer by using the "Join attributes from a Table" function and selecting the FID as the field the join is based on.
- 4  Export the joined layer as a "File and Personal Geodatabase feature classes" to the geodatabase. Allow for this new layer to remain in your working map.
- 5  Perform a spatial join to attach the building footprints to the existing owner information in the parcel layer. By doing so, all this information will become visible in one attribute table.
- 6  Analyze the findings to determine the structures at greatest risk for frequent or damaging floods and develop a communication plan for ensuring the owners of these structures are aware of their full risk.



Note: The outcomes of this analysis can be used to communicate the risk of damage from flooding through visual or written means during meetings, in public awareness campaigns, or through direct mail or contact.



### Available Tools: Hazus

The Recipe Cards provide a quick and easily understandable way for GIS-capable communities to use the data that they already have at their disposal to further improve their mitigation plans.

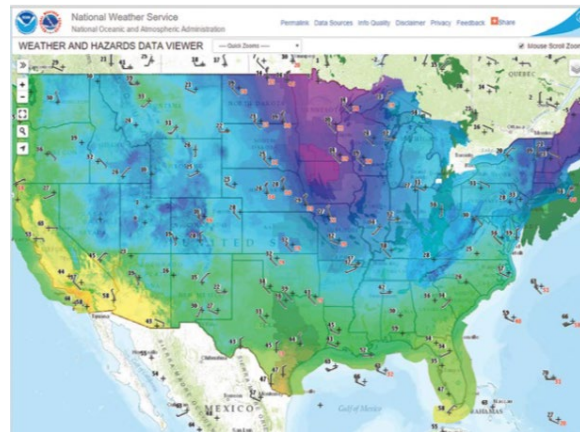
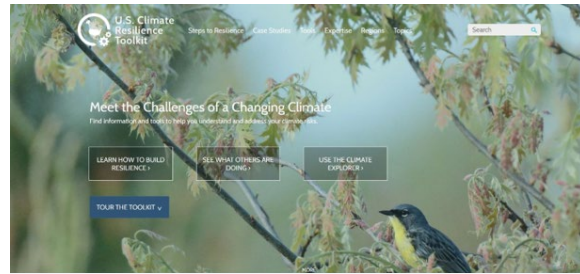
## Visual 45: Available Tools: NOAA

### U.S. Climate Resilience Toolkit

- Offers a variety of tools that help model future climate conditions to aid policymakers in decision making.

### Digital Coast

- Developed to meet the unique needs of the coastal management community.
- The website provides not only coastal data, but also the tools, training, and information needed to make these data truly useful.



## Available Tools: Hazus

The National Oceanic and Atmospheric Administration (NOAA) resources include the following:

- [U.S. Climate Resilience Toolkit](https://toolkit.climate.gov/) (link accessible at <https://toolkit.climate.gov/>) offers a variety of tools that help model future climate conditions to aid policymakers in decision making.
- [Digital Coast](https://coast.noaa.gov/digitalcoast/) (link accessible at <https://coast.noaa.gov/digitalcoast/>) was developed to meet the unique needs of the coastal management community. The website provides not only coastal data, but also the tools, training, and information needed to make these data truly useful.



## Visual 46: Available Tools: NOAA (continued)

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### Additional NOAA Resources Include:

- NOAA Technical Report NOS CO-OPS 086 - Patterns and Projections of High Tide Flooding
- NOAA Technical Report NOS CO-OPS 083 - Global and Regional SLR Scenarios for the U.S.
- NOAA Technical Report NOS CO-OPS 067 - Extreme Water Levels of the United States
- CO-OPS API For Data Retrieval
- USACE Sea-Level Change Curve Calculator
- NOAA Sea Level Rise Viewer
- NOAA National Integrated Drought Information System



### Available Tools: NOAA (continued)

- Additional NOAA Resources Include:
  - [NOAA Technical Report NOS CO-OPS 086 - Patterns and Projections of High Tide Flooding](https://tidesandcurrents.noaa.gov/publications/techrpt86_PaP_of_HTFlooding.pdf)  
(link accessible at [https://tidesandcurrents.noaa.gov/publications/techrpt86\\_PaP\\_of\\_HTFlooding.pdf](https://tidesandcurrents.noaa.gov/publications/techrpt86_PaP_of_HTFlooding.pdf))
  - [NOAA Technical Report NOS CO-OPS 083 - Global and Regional SLR Scenarios for the U.S.](https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf)  
(link accessible at [https://tidesandcurrents.noaa.gov/publications/techrpt83\\_Global\\_and\\_Regional\\_SLR\\_Scenarios\\_for\\_the\\_US\\_final.pdf](https://tidesandcurrents.noaa.gov/publications/techrpt83_Global_and_Regional_SLR_Scenarios_for_the_US_final.pdf))
  - [NOAA Technical Report NOS CO-OPS 067 - Extreme Water Levels of the United States](https://tidesandcurrents.noaa.gov/publications/NOAA_Technical_Report_NOS_COOPS_067a.pdf)  
(link accessible at [https://tidesandcurrents.noaa.gov/publications/NOAA\\_Technical\\_Report\\_NOS\\_COOPS\\_067a.pdf](https://tidesandcurrents.noaa.gov/publications/NOAA_Technical_Report_NOS_COOPS_067a.pdf))
  - [CO-OPS API For Data Retrieval](https://api.tidesandcurrents.noaa.gov/api/prod/) (link accessible at <https://api.tidesandcurrents.noaa.gov/api/prod/>)
  - [USACE Sea-Level Change Curve Calculator](https://cwbi-app.sec.usace.army.mil/rccslc/slcc_calc.htm) (link accessible at [https://cwbi-app.sec.usace.army.mil/rccslc/slcc\\_calc.htm](https://cwbi-app.sec.usace.army.mil/rccslc/slcc_calc.htm))

[NOAA Sea Level Rise Viewer](https://coast.noaa.gov/digitalcoast/tools/slr.html) (link accessible at <https://coast.noaa.gov/digitalcoast/tools/slr.html>)

- [NOAA National Integrated Drought Information System](https://www.drought.gov/) (link accessible at <https://www.drought.gov/>)

## Visual 47: Local Context

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Discuss special resources applicable to your Region for risk assessments.

## Visual 48: Reminder: Document, Document, Document \*

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Documenting the planning process includes:

- Existing authorities, policies, programs, and resources
- Participation
- Methodologies and results
- Updates



By documenting progress now, you can inspire more action in the future.



This is a required hazard mitigation plan element/activity.

Note

## Visual 49: Examples

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## Visual 50: Riskburg's Assets

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- Riskburg maintains an Excel spreadsheet with assets, applicable hazards, and anticipated impacts.
- Riskburg's college intern will input damage curve data by hazard type and location.
- Riskburg also tracks possible development (for instance, when they relocate their bus station away from a large chemical facility) and includes that as a separate tab in the Excel spreadsheet.



This is an option for communities with limited capabilities and Beyond the Basics

Note

## Visual 51: Riskburg's Vulnerabilities

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- Riskburg used the National Flood Hazard Layer to identify residences that flood frequently.
- Riskburg hired an intern from a nearby college to walk neighborhoods with frequently flooded homes to confirm structure and location.
- Riskburg now has a list of residences that can be considered for flood mitigation actions.



This is an option for communities with limited capabilities and Beyond the Basics.

Note



## Visual 52: Scenario 1: Riskburg

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- The Riskburg Emergency Managers know the two neighborhoods that always flood.
- They compare flood levels for each flood event with the high water marks painted on nearby telephone poles.
- Riskburg tracks every flood event and shares the data with the county.



This is an option for communities with limited capabilities.

Note

## Visual 53: Scenario 2: Hazard County

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- Hazard County looked at the probability of asset exposure, combined with possible losses, weighted by the risk of each hazard, and came up with average annualized losses by community.
- Hazard County used this information to prepare for meetings with Community Partners and consider options for mitigation actions, funding sources, and next steps.



This is an option for communities with limited capabilities and Beyond the Basics.

Note



## Visual 54: Scenario 2: Hazard County (continued)

- The Hazard County Multi-Jurisdictional Hazard Mitigation Planning Team (HCHMPT) included representatives from each community in Hazard County AND multiple sectors.
- When the Planning Team started to review assets, team members were able to share updates on cultural assets to keep the economic hub strong.
- Representatives included:
  - Land Use, Water Resources, Natural Resources, Public Health, Housing, Economic Development, Utility Infrastructure, Transportation, Agriculture, Arts and Culture, Vulnerable Populations, and Education



This is an option for communities with limited capabilities and Beyond the Basics.

Note

## Visual 55: Scenario 2: Hazard County (continued)

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- The county GIS department mapped a list of cultural and economic assets developed by the HCHMPT.
- The county reviewed the location of these assets and their proximity to tornado and high wind, high hazard areas.
- The county then prioritized these assets for potential mitigation actions based on proximity and exposure to the high hazard areas.



This is an option for communities with limited capabilities and Beyond the Basics.

Note

## Visual 56: Dangerville Summarized Community Asset Information

Asset	Responsible Entity	Address/Location
Nursing Home	Department of Aging	123 Main Street
Community Center	Department of Parks and Recreation	25 River Street
Hospital	Dangerville Health Inc.	55 State Street
Town Hall	Municipal Government	12 River Street
Fire Station	Fire Department	37 State Street
Dangerville Cropland	Department of Agriculture	19 River Street
Dangerville State Forest	State Department of Parks	Forest Street
Bat Habitat	State Department of Parks	Southeast corner of State Forest

## Visual 57: Dangerville Risk Assessment Reflects Vulnerability and Impacts

Hazard	Location	Probability	Extent	Impact	Rank
Tornado	Entire planning area	5% chance per year	EF2	Damage > \$35 million	1
Hail	Entire planning area	75% chance per year	Up to 1" diameter	Damage \$50,000 to \$100,000	2
Subsidence	Northwest corner of planning area	Very low; there is no history of subsidence	Minimal	Damage <\$500	3

## Visual 58: Dangerville Identified Applicable Hazards

Dam Failure	<input checked="" type="checkbox"/>	Land Subsidence	<input checked="" type="checkbox"/>
Drought	<input checked="" type="checkbox"/>	Radon Exposure	<input checked="" type="checkbox"/>
Earthquake	<input checked="" type="checkbox"/>	Tornado	<input checked="" type="checkbox"/>
Flooding	<input checked="" type="checkbox"/>	<i>Wildfire</i>	<input checked="" type="checkbox"/>
Hailstorm	<input checked="" type="checkbox"/>	Winter Storm	<input checked="" type="checkbox"/>

Note: Dangerville added “wildfire” as a hazard for this plan update process.

## Visual 59: Dangerville Compiled All Previous Flooding Occurrences

Date of Flood	Property Damage	Date of Flood	Property Damage
August 19, 2018	\$2,500,000	September 12, 2003	\$25,000
August 28, 2017	\$1,000	July 30, 2000	\$2,000
July 23, 2015	\$1,000	July 14, 1999	\$60,000
October 14, 2015	\$15,000	September 6, 1998	\$175,000
October 9, 2011	\$20,000	July 31, 1976	\$50,000
October 6, 2009	\$500,000	September 18, 1972	\$1,250
October 3, 2008	\$25,000	July 29, 1969	\$1,000
July 10, 2005	\$25,000	August 2, 1963	\$5,000

## Visual 60: Dangerville Summarized Overall Vulnerability and Impacts

Hazard	Location	Probability	Vulnerable Assets	Vulnerable Structures	Vulnerable Population	Impact
Flood	Along River, State, and Main Streets	25% chance per year	Nursing Home, Town Hall, Fire Station, Dangerville Cropland, Dangerville State Forest	18%	31%	\$61.7 M property damage

## Visual 61: Dangerville Assessed Vulnerability and Impacts

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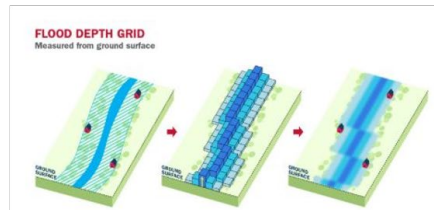
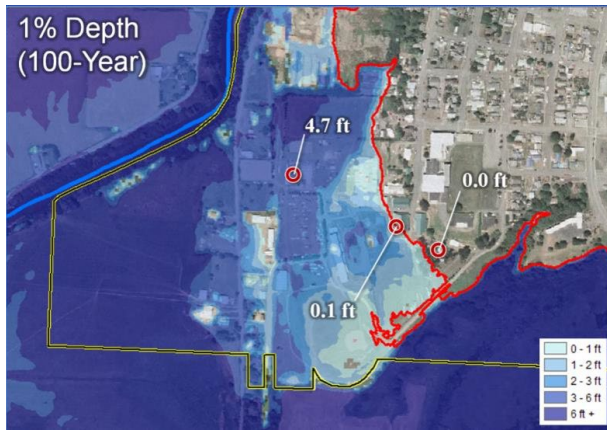
### Using Scenario Analysis - Flood

Hazard	Location	Extent
Flood	Along River, State, and Main Streets	18" depth

Dangerville decided to use scenario analysis to expand on the results of their hazard profiling efforts and estimate the impacts of flooding based on 1%- and 0.2%-annual chance floodplain scenarios.



# Visual 62: Dangerville Used Flood Depth Grids to Identify Flood Extent



# Visual 63: Dangerville Assessed Vulnerability and Impacts

Using Scenario Analysis - Flood



## Visual 64: Dangerville Assessed Vulnerability and Impacts

### Using Scenario Analysis – Flood

Date Asset	Estimated Asset Value	1% Annual Chance Flood	1% Annual Chance Flood
Nursing Home	\$5.5M	<input type="checkbox"/> ✓	✓
Community Center	\$500K		
Hospital	\$35.7M		
Town Hall	\$1.1M		✓
Fire Station	\$750K	✓	
Dangerville Cropland	\$1.8M	✓	
Dangerville State Forest	N/A	✓	
Bat Habitat	N/A	✓	

## Visual 65: Dangerville Assessed Vulnerability and Impacts

Using Scenario Analysis – Flood (continued)

Hazard	VulnerableStructures (#)	VulnerableStructures (%)	Estimated Losses	VulnerablePopulation (%)
Flood(1% Annual Chance)	318	10%	\$40.6 M	19%
Flood(0.2% Annual Chance)	193	8%	\$21.1 M	12%

## Visual 66: Dangerville Worked with a Local University to Identify Community Assets Exposed to Flooding



## Visual 67: Dangerville also used Risk Assessment Information to Build a List of Problem Statements

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- Cropland is routinely flooded by urban runoff.
- The nursing home's basement floods every spring during heavy storm events.
- The State Forest has had development encroaching on it recently and is losing its ability to retain stormwater.

## Visual 68: Questions

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### Questions?

This concludes this module. If you have any questions, pose them to the instructor.

## Visual 69: FEMA logo

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# Module 5: Developing a Mitigation Strategy

## Visual 1: Module 5: Developing a Mitigation Strategy

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Developing a Mitigation Strategy

### Module 5 : Developing a Mitigation Strategy

This module addresses the process for developing a mitigation strategy that reflects the results of the risk assessment and capabilities of the community.

This module helps address Element C1-C6, D2, D3 of the mitigation planning requirements, according to the 2011 Local Plan Review Guide.

## Visual 2: Course Map

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	Introduction
	Planning Process: Role and Responsibilities
	Planning Process: Organizing and Engaging Community Partners
	Risk Assessment: Identifying Community Assets and Hazards
	Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk
<b>5</b>	<b>▶ Developing a Mitigation Strategy</b>
	Plan Maintenance and Updates
	Plan Implementation
	Mitigation Funding and Assistance
	Conclusion

### Course Map

In this module, you will learn how to assess capabilities, prioritize mitigation actions, and develop a mitigation strategy.

## Visual 3: Module Learning Objectives

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- Identify considerations for selecting and prioritizing mitigation actions.
- Recall the benefits of plan integration.



### Module Learning Objectives

At the end of this module, the participant will be able to describe the process for developing a mitigation strategy that reflects the results of the risk assessment and capabilities of the community.

- Identify considerations for selecting and prioritizing mitigation actions.
- Recall the benefits of plan integration.

## Visual 4: Mitigation Strategy Overview

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### Mitigation Strategy Overview

Let's dive into mitigation strategy.

## Visual 5: Mitigation Strategy Overview (continued)

---

- Reflect local capabilities
- Align goals with what the community needs and wants
- Identify and evaluate a comprehensive list of actions to address identified problems
- Set up the community for successful implementation and long-term resilience



### Mitigation Strategy Overview (continued)

The Mitigation Strategy builds on community resources and Risk Assessment results to create actionable projects that help to reduce risk. This is accomplished by first taking stock of your community’s capabilities, then by thinking of the broad, overarching goals that you want to accomplish. An Action Plan is then created that shows the timeline, who is responsible for that action, and how it will be funded in order to best prioritize how each action is to be prioritized.

- The Capability Assessment asks the community to take into account the many regulations, planning abilities, and personnel that they have to implement mitigation projects.
- The Mitigation Goal and Actions, which are the core of the strategy, take into account the vulnerabilities that the community has identified through the Risk Assessment. It then provides specific actions that can be taken to reduce the loss of life and property due to natural hazards.
- The Action Plan then takes those actions and turns them into a blueprint of what you want to achieve during the plan’s lifespan, prioritizing them based on their needs.

The Mitigation Strategy is the combination of every piece of the mitigation plan. By engaging the public, communities, and stakeholders, the priorities for the plan are determined. They decide which hazards are profiled in the Risk Assessment. Community assets are analyzed for how vulnerable they are. Then, by looking at community capabilities, this determines what mitigation actions would prove to be most effective.

## Visual 6: Review the Current HMP

- Did FEMA or the State make recommendations for improvement in the Plan Review Tool?
- What process did you use to identify and evaluate alternatives? Did it work well?
- What would you like to do differently this time?

**APPENDIX A:  
LOCAL MITIGATION PLAN REVIEW TOOL**

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The *Regulation Checklist* provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The *Plan Assessment* identifies the plan's strengths as well as documents areas for future improvement.
- The *Multi-Jurisdiction Summary Sheet* is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction:	Title of Plan:	Date of Plan:
Local Point of Contact:		Address:
Title:		
Agency:		
Phone Number:	E-Mail:	
State Reviewer:	Title:	Date:
FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region (Insert #)		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

Local Mitigation Plan Review Tool A-1

## Review the Current HMP

When you are thinking about updating, it helps to assess the level of effort and what you want to change based on your previous HMP. Also, for a scope of work, the planning narrative must include a description of previous planning efforts, both FEMA and non-FEMA.

- Reviewing these efforts first can help you and your Planning Team understand priorities, needs, and gaps.
- Talk about how priorities have changed because this can impact the path your planning process takes.
- This is your opportunity to describe how this update will correct deficiencies, strengthen weak spots, and describe new priorities.
- Has your community completed related mitigation planning, through FEMA or other programs? This could mean Risk MAP, or a HUD CDGB-DR project, or other independent local plans and processes. Your HMP should work with those other planning efforts. Your narrative should document the connection between your planning grant and other planning efforts. Aligning efforts can decrease costs over time!

## Visual 7: Types of Community Capabilities

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### Assessing Capabilities

Now let's address assessing capabilities.



## Visual 8: What is a Capability Assessment? \*

Every community has a unique set of capabilities to make them stronger and safer

- For plan updates, review the previous capabilities section



### What is a Capability Assessment?

Every community has a unique set of capabilities to accomplish mitigation. Reviewing capabilities helps you identify what resources are currently available to reduce losses and where there are gaps that you could fill through the planning process. The capability assessment is most beneficial when developing and reviewing mitigation strategies. The assessment can help you understand how the strategies should be prioritized or implemented. Identify, evaluate, and document all current capabilities including those that may not already have been considered.

Capabilities will differ from community to community for a variety of reasons including size of the community; available resources, i.e., tax base; complexity of hazards issues needing attention; etc. Therefore, the level of effort to assess capabilities should be similarly scalable. However, the intent is still to identify and improve broad-based support for hazard mitigation.

Describe existing and potential pre- and post-disaster authorities, policies, programs, and resources available to accomplish hazard mitigation. Include an evaluation of local laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard-prone areas. Make sure to clearly identify what capabilities are specific to the county, community, or otherwise.

The primary types of local capabilities to review in mitigation planning, as well as assure representation on the Planning Team, are:

- Planning and Regulatory
- Administrative and Financial
- Technical
- Education and Outreach

The Planning Team may also identify additional types of capabilities relevant to mitigation planning and/or emergency management. Mitigation capabilities may be similar in pre- and post-

disaster contexts, but a community's focus will be different. If the community has any post-disaster capabilities that come into play, those must be described as well.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ C1 on page 23
- ✓ C2 on page 23



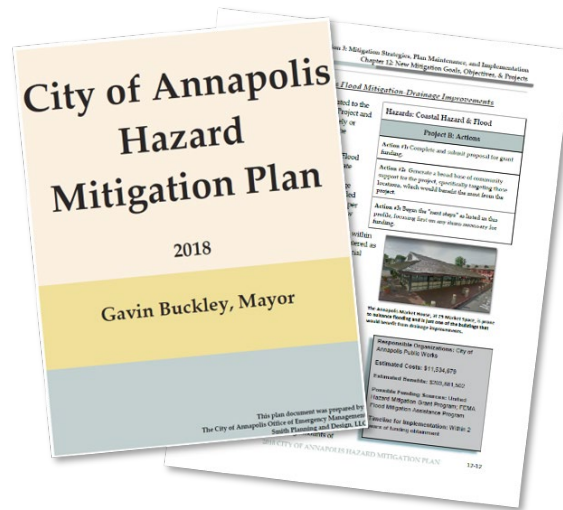
This is a required hazard mitigation plan element/activity.

Note

## Visual 9: Planning and Regulatory Capabilities

Examples of policies, processes, and programs that guide development:

- Comprehensive plans, other land use and development plans and standards
- Transportation plans
- Long-term and pre-disaster recovery plans
- Floodplain management plans
- Community wildfire prevention plans
- Land use administration and procedures
- Building codes and ordinances
- Environmental review process



### Planning and Regulatory Capabilities

Planning and regulatory capabilities help provide a legal basis for mitigation planning. By having land use plans, building codes, ordinances, and plans in place, these help to set guidelines for the mitigation planning efforts. These can also help to provide the basis for preventing development in hazard-prone areas, or by requiring resilient infrastructure where able.

Ask the following questions to identify your planning and regulatory capabilities:

- What kinds of plans have you completed?
- Are there any laws or ordinances (e.g., not building in the floodplain, crop rotation, environmental protections, historic or cultural preservation) that mitigate hazards or support keeping people safe?
- What guidelines does your community have for development or non-development in high-hazard areas?
- How do you protect your critical facilities such as police stations, fire stations, schools, and hospitals from natural hazards?

## Visual 10: Administrative Capabilities

---

Staff and skills for planning and mitigation such as:

- Engineers
- Planners
- GIS analysts
- Code enforcement staff
- Emergency managers
- Natural resource managers
- Grant writers and managers



### Administrative Capabilities

Administrative and technical capabilities refer to the staff, their skills, and tools the community has for mitigation planning and implementing specific mitigation actions. It also refers to the ability to access and coordinate these resources effectively. Think about the types of personnel available to you and the public and private sector resources that may be accessed to implement mitigation activities in your community, and their level of knowledge and technical expertise. Administrative and technical capabilities include staff and skills for planning and mitigation such as:

- Engineers
- Planners
- GIS analysts
- Building inspectors
- Emergency managers
- Grant writers

The planning team can identify resources available through other entities, such as counties, special districts or other Federal agencies which may be able to provide technical assistance to communities with limited resources.

Questions to consider when looking at these capabilities:

- Which staff are available to support the mitigation actions?
- Does the staff available have the capability and training to implement mitigation?
- Is there a need for outside expertise and resources to implement actions?
- Does your community have the physical resources available that could be used during implementation of mitigation actions (e.g., a bulldozer, backhoe, or heavy construction equipment)?

## Visual 11: Financial Capabilities

---

Staff, skills, and resources related to securing and administering funding for mitigation such as:

- Grant writers
- Grant administrators
- Capital projects

Include current and potential funding sources.



### Financial Capabilities

Financial capabilities are the resources that a community has access to or is eligible to use to fund mitigation actions. Some mitigation actions, such as outreach efforts, require little to no cost other than staff time and existing budgets. Other actions, such as the acquisition of flood-prone properties, could require a substantial commitment from external funding sources.

Resources available to fund mitigation actions such as:

- Operating budgets
- Grants resources
- Capital projects

The plan needs to describe the community's existing funding sources for hazard mitigation actions and/or projects, including a general discussion of how the community has used: (1) Non-FEMA (local, private, or other Federal) funds for hazard mitigation projects; and (2) FEMA mitigation funding, including the Hazard Mitigation Assistance (HMA) Programs (like the Building Resilient Infrastructure and Communities [BRIC] program, Public Assistance Categories C-G (PA C-G), and Fire Management Assistance Grants (FMAG). Further, when developing actions FEMA PA C-G, 406, and the Hazard Mitigation Grant Program (HMGP) should **not** be listed as the only potential funding source. All these funding sources are reliant on a Presidential disaster declaration. Communities will never know when the next disaster will occur, whether those sources of funding will be available, and what funding levels will be available.

The plan and mitigation strategies should **not** be developed with FEMA identified as the sole source of funding (stress this). In addition, make it clear that it is not the sole responsibility of the owner of this plan to secure sources from FEMA, but it is a shared effort across local agencies.

## Visual 12: Funding Sources

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Potential non-FEMA funding sources include (but are not limited to):

- Federal departments and programs
  - Environmental Protection Agency
  - Housing and Urban Development
  - U.S. Army Corps of Engineers
  - National Oceanic and Atmospheric Administration
  - U.S. Department of Agriculture
- Local resources
  - Operating budgets
  - Capital projects
  - Grants resources
- State programs
  - State environmental, conservation/recreation, emergency management programs
  - State-administered federal programs: Community Development Block Grants, Clean Water Loan Funds, etc.
- Non-profits and foundations

### Funding Sources

Potential non-FEMA HMA funding sources for mitigation actions are shown above. This is not an exhaustive list and other sources may be available.

Remember to think about both FEMA and non-FEMA sources of funding, such as:

- Department of Agriculture
- Department of Energy
- Department of Health & Human Services
- Department of Labor Department of Transportation
- Small Business Administration
- U.S. Army Corps of Engineers
- Non-profit and foundation grants

## Visual 13: Education and Outreach Capabilities

Communicating risk and supporting mitigation:

- Hazard awareness campaigns
  - Firewise
  - Storm Ready
  - Severe Weather Awareness Week
  - Tsunami Ready
  - School programs
  - Public events (e.g., county fairs)
- Social media
- Community newsletters
- Local news



### Education and Outreach Capabilities

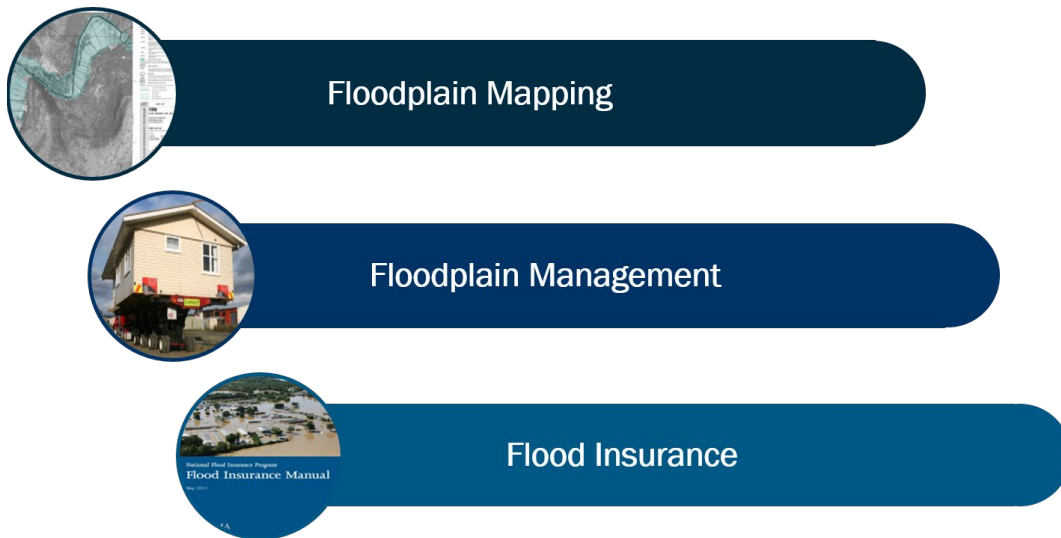
Education and outreach capabilities and programs may include methods already in place that could be used to implement mitigation actions and communicate hazard-related information.

Examples include fire safety programs that fire departments deliver to participants at local schools; participation in community programs, such as Firewise or Storm Ready; and activities conducted as part of hazard awareness campaigns, such as Tornado or Flood Awareness Month.

Firewise, Storm Ready, Tsunami Ready, and other programs provide technical assistance to help communities and individuals prepare for and mitigate specific hazards.

Some communities have individuals designated as public information or communications leads to handle outreach initiatives.

## Visual 14: National Flood Insurance Program (NFIP)



### National Flood Insurance Program (NFIP)

The NFIP is a program created by Congress that enables members of participating communities to purchase insurance protection from the government against losses from flooding. Jurisdictions that participate in the NFIP are required to conduct actions for mitigating floods; these actions fall into three types (aka the three “pillars” of the NFIP):

- Floodplain Mapping
- Floodplain Management
- Flood Insurance

These areas represent capabilities a community which participates in the NFIP has and is growing.



## Visual 15: Mitigation Plans and the NFIP \*

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- For each jurisdiction adopting the plan, describe their participation in the NFIP
- Describe how will they remain in good standing with the program:
  - Enforcing floodplain regulations
  - Community assistance and monitoring
  - Identifying and mapping floodplains
  - Risk MAP projects



### Mitigation Plans and the NFIP

The plan needs to identify the status of each community's participation in the NFIP. Are they still active participants? Have they been suspended? Do they not participate at all? For those that do not participate, the plan can meet this requirement by explaining why.

It is important to note that the plan cannot simply state that they will continue compliance. Try to be specific with how you are maintaining compliance with the program.



This is a required hazard mitigation plan element/activity.

Note

## Visual 16: Adopting Higher Regulator Standards \*

- Freeboard
- Community-Identified Flood Hazard Areas
- Non-Conversion Agreement
- Flood Protection Setback
- Historic Structures
- Prohibition
  - Development in Special Flood Hazard Areas
  - Manufactured Homes in Special Flood Hazard Areas
  - Fill in Special Flood Hazard Areas



### Common Higher Standards

A mitigation action could be to adopt higher standards for floodplain management. Consider what risks you are trying to address in the HMP and what opportunities there might be for ordinance updates.

- Freeboard
  - Requiring additional room above the expected base flood elevation (e.g., “all residential structures must be built with the first inhabited floor at 2 feet above the BFE”) in case floodwaters rise higher than the 1-percent-annual-chance level
- Community-Identified Flood Hazard Areas
  - Higher regulations in flood hazard areas that the community identifies
- Non-Conversion Agreement
  - The owner of a property will not alter or convert it for a specified amount of time
- Flood Protection Setback
  - No development X feet from the waterway or flood risk area
- Historic Structures
  - Requirements to protect historic structure that don't jeopardize status (i.e., does not interfere with its standing on the National Inventory or a state or local equivalent)
- Prohibition
  - A community may go above and beyond FEMA's requirements and prohibit
    - Development in Special Flood Hazard Areas
    - Manufactured Homes

- Fill



This is information beyond the basics.

Note

## Visual 17: Community Rating System (CRS)

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The CRS is a voluntary program that recognizes and encourages communities that exceed the minimum NFIP requirements.



1. Reduce flood damage to insurable property.



2. Strengthen and support the insurance aspects of the NFIP.



3. Encourage a comprehensive approach to floodplain management.

### Community Rating System (CRS)

The NFIP's CRS credits communities that put in efforts beyond the minimum standard.

1. Reduce flood damage to insurable property.
2. Strengthen and support the insurance aspects of the NFIP.
3. Encourage a comprehensive approach to floodplain management.

One key benefit is that flood insurance premiums for property owners can be reduced, depending on the class. These can range from 5% to 45%, depending on the CRS class of the community, which is determined by how many credits they have earned through participating in certain activities.

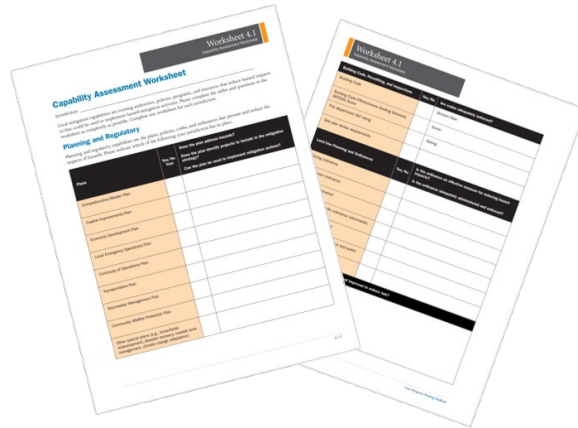
Flood insurance premium rates are discounted to reward community actions that meet the three goals of the CRS, shown here.

## Visual 18: Activity: Identifying Community Capabilities and Limitations

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### Directions:

- Work in your groups
- Use Worksheet 4.1 Capability Assessment Worksheet to share some capabilities for mitigation in your communities
- Share limitations that might prevent project completions
- Be ready to share the differences among your group



### Activity: Identifying Community Capabilities and Limitations

#### Directions (for face-to-face or virtual sessions):

- Work in your groups (use virtual break-out rooms, if virtual delivery).
- Review the federal funding handout provided by your instructor.
- Use Worksheet 4.1 Capability Assessment Worksheet to share some of the capabilities for mitigation in your communities.
- Identify limitations you have that might prevent project completions.
- You have 15 minutes to complete the activity.
- Appoint a spokesperson to share the differences you find among your group.

## Visual 19: Developing Mitigation Goals

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## Visual 20: What are Plan Goals? \*

- Goals are general guidelines and broad policy statements that explain what you want to achieve
  - Link risk and capability assessment results and related mitigation actions
  - Provide a blueprint to reduce/avoid long-term vulnerabilities to identified hazards
- For plan updates, review and validate the goals in the current plan
  - Change or add goals based on any changes in priority



### What are Plan Goals?

Whether you are updating goals or developing new ones, here are some considerations for developing goals:

**Risk Assessment Findings** – Review the findings of the Risk Assessment, especially the problem statements. Group the problem statements by themes, such as hazard, assets at risk, or location. Several problem statements or groups may lead to a single mitigation goal.

**Outreach Findings** – Consider themes that stood out during Planning Team meetings and outreach activities. For instance, the need for improved education and awareness about hazards may be a common theme.

**Community Goals** – Review existing plans and other policy documents to ensure hazard mitigation goals are consistent with the goals of other community plans, such as the comprehensive plan, and other objectives established by the governing body.

**State Hazard Mitigation Goals** – The State HMP documents the State’s goals for reducing risk and allocating resources, so it may be strategic to align your plan’s goals with the State HMP’s goals.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ C3 on page 24



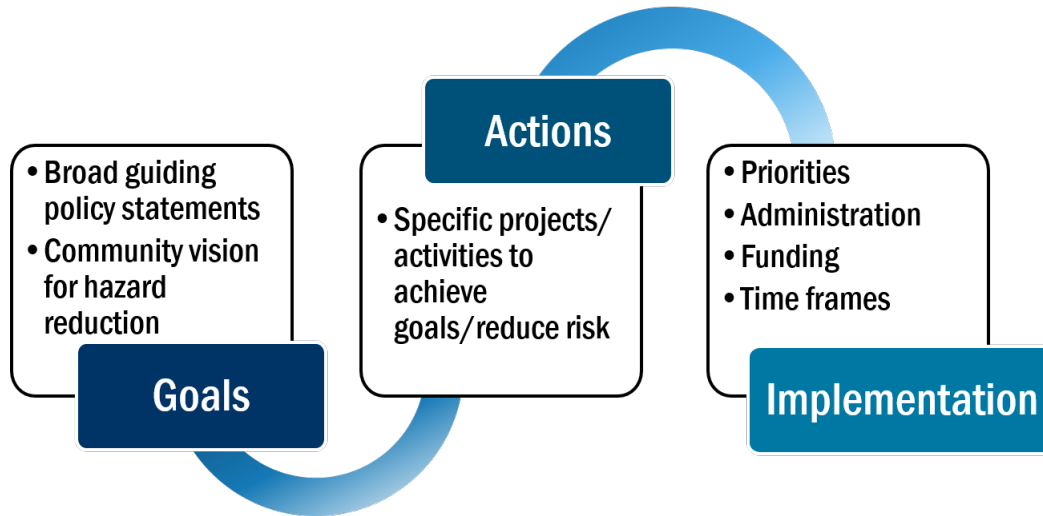
This is a required hazard mitigation plan element/activity.

Note



## Visual 21: Why is Developing Goals Important?

Goals help guide the remaining steps in the planning process



### Why is Developing Goals Important?

#### Goals:

Broad, long-term, policy-type statements

- Example 1 – Reduce losses due to flooding
- Example 2 – Prevent damage to structures and infrastructure

#### Actions:

Specific projects and activities that achieve the goals the Planning Team, elected officials, and community all agree on.

- Example 1 - Amend the flood damage prevention ordinance to require elevation of the first floor at least 1 foot above the base flood elevation
- Example 2 - Retrofit a historic school for earthquake safety

#### Implementation:

- Includes the priorities for the community to implement actions and reduce risk
- Provides a plan for the implementation of these priorities. Administration: who, how, and when? You may not need to identify a specific person but specify a department or role within a department.

## Visual 22: Updating Goals and Priorities \*

Planning goals and priorities may shift over time

- In response to changes in community characteristics and risks
- To take advantage of available resources



### Updating Goals and Priorities

The five years between mitigation plans can be a long time for many communities. There may be new focuses by the community and its leaders that lead to changes in which mitigation actions are taken up, or there may be new additional funding streams that have been introduced, so be sure to account for any of these potential changes from one plan to the next.

You may choose to update your goals to include the goal of reducing risk to high-hazard-potential-dams.

Reviewing priorities for implementation should be a standard agenda item for periodic plan maintenance meetings to capture any potential changes.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ D3 on p. 27



Note

This is a required hazard mitigation plan element/activity.

## Visual 23: Examples of Plan Goals

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- Minimize and prevent damage to public and private buildings and infrastructure.
- Increase cooperation and coordination amongst private entities, local, State, and Federal agencies.
- Increase education, outreach, and awareness.
- Protect natural and cultural resources.



### Examples of Plan Goals

Photo Source: Pixabay.

Plan goals should be broad statements on what it is you hope to accomplish with the mitigation actions. These should be based on the priorities and consensus of your Planning Team.

## Visual 24: Identifying and Evaluating Mitigation Actions

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Photo Source: Getty Images. This photo was purchased for use by FEMA

## Visual 25: Identify Mitigation Actions \*

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- Mitigation actions should address specific problems identified in the Risk Assessment
  - Start from your Problem Statements
  - All hazards identified need to have actions to address them
- Consider actions that reduce risk to:
  - Life and human safety
  - Existing buildings and infrastructure
  - New development and redevelopment



### Identify Mitigation Actions

Photo Source: Pixabay.

Intent of mitigation actions: To ensure the hazard mitigation actions are based on identified vulnerabilities and that they are focused on reducing or avoiding future losses. This is the heart of the mitigation plan and is essential for risk reduction.

Given the goals, consider mitigation actions that address each problem statement identified. Note that mitigation actions must be considered for every hazard described in the plan. You may decide not to prioritize and implement actions for every hazard, but you do need to consider options that could reduce the impacts of each hazard.

Keep in mind that mitigation actions must be considered for existing structures (e.g., relocation out of a flood zone) and for new or planned structures (e.g., adopting updated building codes). It is important to think about both existing and new structures because your plan is a long-term strategy to reduce disaster losses. There are mitigation options that alter existing buildings to make them safer, but safe buildings are those built to current building standards and outside hazard-prone areas.

In the end, though, choose the best solutions based on your capabilities. You can use ideas from the planning team, stakeholders, and the public. It is important to choose actions that are compatible with existing capabilities, but it is also important to consider actions that are possible with access to funding.

Communities must also consider actions that reduce risk to future development. The planning team should evaluate the effects of current growth plans and regulations (i.e., comprehensive plans, zoning and subdivisions ordinances, building codes, and capital improvement programs) on community safety and consider how these could be updated to reduce the community's vulnerability.

Enable communities to determine which actions will yield the best value and most effective results within their existing (staff and budget) or projected capabilities (local funding supplemented by grants, etc.)

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

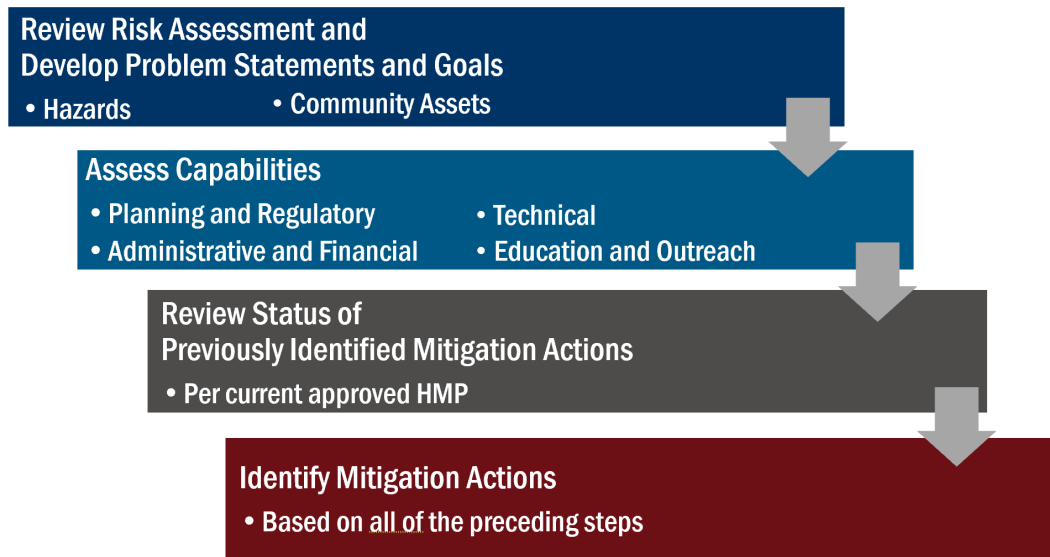
- ✓ C4 on page 24



This is a required hazard mitigation plan element/activity.

Note

## Visual 26: Identify Mitigation Actions (continued)



### Identify Mitigation Actions (continued)

By this point, two of these steps have already been completed:

**Assessing Capabilities:** The mitigation strategy must be based on existing local authorities, policies, programs, and resources, and the ability to expand on and improve these existing tools. Capabilities can be assessed to identify gaps that need to be addressed and strengths that can be enhanced through new mitigation actions. For instance, are there gaps in design or enforcement of existing regulations that can be addressed through additional personnel or a change in procedure or policy? Could an existing education program be improved to cover the most significant hazards and better target non-English speakers? Are there additional studies, reports, or plans that are needed to understand risk? The local community should assess their capabilities to ensure that mitigation actions identified are realistic and attainable, and to determine if other sources of assistance are needed.

**Developing Problem Statements and Goals:** Note: This is a key point to re-emphasize and a basic tenet of the initial DMA 2000 HMP initiative, i.e., the Mitigation Strategy should reflect the results of the Risk Assessment. When identifying alternative mitigation actions, review the Risk Assessment and related problem statements, including both hazards and community assets. For each problem statement, you should consider different types of mitigation actions for addressing the problem. You may end up with multiple ideas that are categorized under one type (e.g., education and awareness or local plans and regulations) and no ideas under another type. The intent is to think broadly, or comprehensively, when identifying potential actions, and to consider future development.

The third and fourth steps shown here are the subject of the next few slides.

## Visual 27: Status of Previously Identified Mitigation Actions \*

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What is the Status of Previously Identified Mitigation Actions?

- Do any previous actions address current problems?
- If an action hasn't been completed, why not? What were the barriers, and are they still applicable?
- What actions are no longer applicable to the new planning process and can be removed?
- Celebrate the success of completed or ongoing actions!

Reviewing your plan annually can help determine the status of mitigation actions.



### Status of Previously Identified Mitigation Actions

The status report will need to include an explanation for why mitigation actions identified in the current approved HMP have not been completed. Summarize the status of actions from the previous plan in the update. Note if they have been completed, are ongoing efforts, have been revised, or if they were removed.

For actions where an obstacle was encountered (and assuming the mitigation action is still relevant), the mitigation strategy will need to include how that obstacle will be overcome or circumvented during implementation of the updated HMP. For example, if the obstacle was a lack of local capability to implement the identified action, the Mitigation Strategy can either include a new alternative mitigation action that can be accomplished with existing local capabilities or, for actions where there is no practical alternative, identify how local capabilities will be improved or enhanced.

And of course, celebrate your successes! Mitigation actions that were completed and successfully reduced losses are something that should be noted in the plan. Talk about how these projects were implemented from start to finish, who was involved, and why they were successful.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ D2 on page 27





This is a required hazard mitigation plan element/activity.

Note

## Visual 28: Types of Mitigation Actions

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### Local Plans and Regulations

- Government authorities, policies, or codes that influence the way land and buildings are developed and maintained



### Structure and Infrastructure

- Projects modifying existing infrastructure to remove it from a hazard area or construction of new structures to reduce impacts of hazards



### Natural Systems Protection

- Actions that minimize damage and losses and also preserve or restore the functions of natural systems



### Education and Awareness Programs

- Sustained programs to educate the public and decision makers about hazard risks and community mitigation programs

## Types of Mitigation Actions

Types of mitigation actions may include:

- Local Plans and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs

**Remember, mitigation is about providing long-term solutions, while preparedness focuses on the short term.**

## Visual 29: Mitigation Goals and Actions

Description	Goals	Actions
Defined	Broad, long-term, policy-type statements	Specific projects and activities that help achieve goals
Ex1	Reduce losses due to flooding	Promote elevation of buildings at least 1 foot above historic flood levels
Ex2	Prevent damage to structures and infrastructure	Retrofit historic school for earthquake safety

### Mitigation Goals and Actions

#### Goals

Broad, long-term, policy-type statements

- Example 1 – Reduce losses due to flooding
- Example 2 – Prevent damage to structures and infrastructure

#### Actions

Specific projects and activities that help achieve goals

- Example 1 – Promote elevation of buildings at least 1 foot above historic flood levels
- Example 2 - Retrofit historic school for earthquake safety

## Visual 30: Consider a Variety of Actions/Alternatives

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- For each high-risk hazard and/or problem statement, identify multiple alternative mitigation actions
- Think “outside the box;” address root causes, not just symptoms
  - Not every mitigation action needs to be “brick and mortar”
- Identify “multi-jurisdictional” mitigation actions requiring partnerships with other agencies
  - This can help solve common issues



### Consider a Variety of Actions/Alternatives

Even if a previously identified mitigation action can / will address a current problem statement, it may be worthwhile to consider alternatives during the plan update process to reflect any changes in conditions, local capabilities, funding availability, etc.

Think “outside the box.” Address root causes, not just symptoms. For example, is a flooding problem really solved by increasing a culvert size or is a better solution possible by addressing the source of stormwater flows?

Not every project needs to be an expensive structural project.

Identify “multi-jurisdictional” mitigation actions, i.e., where partnerships with other agencies or levels of government may be necessary. For example, if flooding is occurring on a State highway but has impacts on local communities, a cooperative effort will be required.

Ultimately, actions should be achievable given each community’s current or potential limitations.

## Visual 31: Identify Actions to Continue NFIP Compliance \*

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- How will each community continue to comply with the NFIP’s standards? There are many ways of describing this:
  - Describe each community’s adoption and enforcement of floodplain management
  - Describe how staff implement permitting or building inspections
  - Talk about flood insurance coverage
  - There may be education and outreach activities in your community that could be discussed
- The floodplain administrator is often the primary source for this information

### Identify Actions to Continue NFIP Compliance

The plan must describe each jurisdiction’s participation in the NFIP, and for participating jurisdictions, the floodplain administrator is often the primary source for this information. The description could include the following:

**Planning and Regulatory:** Describe the community’s adoption and enforcement of floodplain management regulations, including when the community joined the NFIP, when the Flood Insurance Rate Map (FIRM) became effective, and whether the floodplain ordinance meets or exceeds minimum requirements. Provide a summary of the community’s compliance history, including when the most recent Community Assistance Visit (CAV) was completed, if there is a need for a CAV, and if there are any outstanding compliance issues. Identify how many permits were issued under Floodplain Management Ordinance.

**Administrative and Technical:** Describe community staff dedicated to managing the NFIP, such as a dedicated floodplain administrator or staff for whom the NFIP is an auxiliary duty. Are they a Certified Floodplain Manager (CFM)? Also, describe the tasks completed by staff in support of the NFIP, such as permit review and building inspections.

**Financial:** Summarize the flood insurance coverage, number of policies, and claims history, including repetitive loss properties in the community. Repetitive loss properties are NFIP-insured structures that have been repetitively damaged by flooding. Include the types and numbers of repetitive loss properties in the community. The Planning Team may need to contact the State NFIP Coordinator for this information.

**Education and Outreach:** Describe any education or outreach activities that relate to the NFIP, such as flood-safe building practices or availability of flood insurance.

**Requirements: Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include**

✓ C2



This is a required hazard mitigation plan element/activity.

Note

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## Visual 32: Activity: Identifying Mitigation Actions

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### Directions:

- Share some vulnerabilities that your communities face.
- Select one of these by consensus.
- Use Worksheet 6.1 Mitigation Action Evaluation Worksheet to identify mitigation actions that fall into the following categories:
  - Local Plans and Regulations
  - Natural Systems Protection
  - Structure and Infrastructure Projects
  - Education and Awareness Programs
- Select three (3) mitigation actions that would help address the vulnerability you selected.
- Be prepared to share your results with the class.

### Activity: Identifying Mitigation Actions

#### Directions:

- Work in your group.
- Share vulnerabilities your communities face.
- Select one vulnerability for this activity.
- Use Worksheet 6.1 Mitigation Action Evaluation Worksheet to identify mitigation actions that fall into the following categories:
  - Local Plans and Regulations
  - Natural Systems Protection
  - Structure and Infrastructure Projects
  - Education and Awareness Programs
- Select three mitigation actions from the list that would help address the vulnerability you selected.
- You have 20 minutes to complete the activity.
- Select a spokesperson to present your findings to the class.

## Visual 33: Preparing the Action Plan

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## Visual 34: Making the Actions Happen \*

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The action plan provides a blueprint of what you want to achieve over the next 5 years.



Who is responsible?



What is the timeline?



How will it be funded?

### Making the Actions Happen

Thinking about details is important because mitigation actions or projects will probably be led by different departments, require different levels of effort, and draw from different staff and resources.

It is essential to engage appropriate parties as part of the implementation plan. If implementation of a particular preferred mitigation action requires the participation of individuals or organizations that have not been involved in the planning process so far, it is not too late to engage these parties to ensure the implementation plan is acceptable to all.

In many cases, it may not be possible to identify more than the first step in the process of implementing a particular mitigation action. For example, it may be necessary to conduct a detailed engineering study of a stormwater-related problem to determine the optimum measures to take as part of a mitigation action to relieve the problem identified in the Risk Assessment. However, as part of the plan implementation process, the individuals and organizations responsible for implementing the HMP will be meeting regularly and can act on the results of these initial steps and identify how to proceed.

For each mitigation action, answer the following questions:

- Who is responsible for working on completing this action? This should include the lead position, department, or agency for each action. You do not need to name a specific person, so long as it is clear who will be responsible for carrying the action to implementation.
- How soon can you start working on it? What is the timeline for the action, and can it start right away? Can the action be achieved in a year or will it take 5 years to complete?
- How will you pay for it? Is it anticipated that community funds will pay for the action or should you apply for a grant? You should consider all potential funding sources, not just those available from FEMA.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

✓ C5 on page 25



This is a required hazard mitigation plan element/activity.

Note

## Visual 35: Analyze Mitigation Actions \*

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- Consider your plan goals and hazards
- Determine if actions are appropriate for local capabilities
  - Weigh the pros and cons
  - Document preferred actions



### Analyze Mitigation Actions

The evaluation process is intended to help the Planning Team weigh the pros and cons of different action alternatives to determine which ones will be the most effective, i.e., preferred alternative(s). The process should consider both plan goals and hazards addressed.

However, the decision-making process is not necessarily straightforward; it is highly specific to each community.

After careful evaluation, the Planning Team will have a list of actions that are acceptable and practical for addressing the problems identified in the risk assessment.

However, in some cases, multiple alternatives that address a particular problem statement may be carried forward in the Mitigation Strategy with associated priorities. This would be appropriate when it is unknown during the planning process if a particular capability will be available (e.g., grant funding) that would make a more attractive alternative viable.

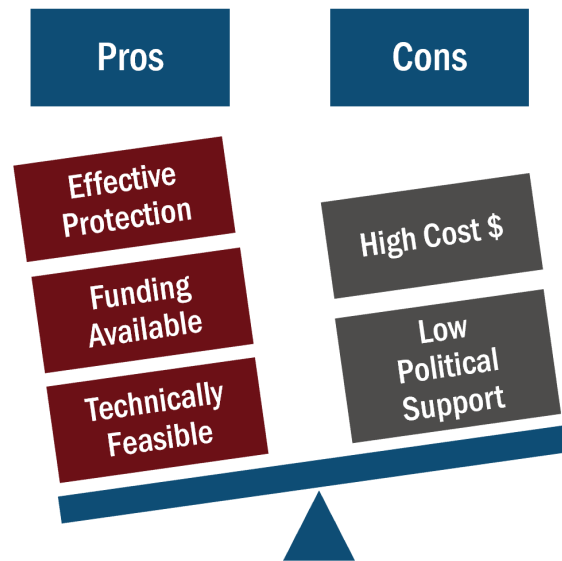


This is a required hazard mitigation plan element/activity.

Note

## Visual 36: Considerations for Deciding to Put an Action in the Plan

- Anticipated Effectiveness
- Technical Feasibility
- Administrative Capabilities
- Political Will / Local Champion
- Legal Authority
- Environmental Constraints
- Social Considerations
- Other Community Objectives, as stated in Community Plans
- Benefits versus Costs



### Evaluate Mitigation Actions

The Planning Team needs to agree upon the other criteria that will be used to analyze the mitigation actions. In addition to anticipating overall effectiveness, some suggestions for criteria and examples of questions the Planning Team can use include the following:

- **Technical** – Is the mitigation action overly complicated from an engineering perspective? Is it a long-term solution? Eliminate actions that, from a technical standpoint, will not meet the goals.
- **Administrative** – Does the community have the personnel and administrative capabilities to implement the action and maintain it, or will outside help be necessary?
- **Political Will / Local Champion** – Is there overall public support for the mitigation action? Is there the political will to support it? Is there a strong advocate for the action or project among local departments and agencies that will support the action’s implementation?
- **Legal** – Does the community have the authority to implement the action? If not, this may still be a valid mitigation action but will require coordination, i.e., a multi-jurisdictional mitigation action.
- **Environmental** – What are the potential environmental impacts of the action? Will it comply with environmental regulations?
- **Social** – Will the proposed action adversely affect one segment of the population? Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?

- **Other Community Objectives** – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation?
- **Benefits versus Costs** – This is covered on the next slide.

## Visual 37: Benefit Cost Review \*

- Are costs reasonable compared to probable benefits?
- Consider quantitative (\$) and qualitative analyses.
- Benefit-Cost Analysis using FEMA's BCA unit is not required for an HMP, but is for HMA grants.



### Benefit Cost Review

Not all the identified mitigation actions will be included in the final Mitigation Strategy because of technical feasibility, political acceptance, lack of funding, and other constraints. However, the Planning Team will need to evaluate the benefits and costs of mitigation actions to determine which ones are preferred for the community to pursue implementation.

- Are costs reasonable compared to the problem and probable benefits, aka losses avoided?  
*Note: Estimate benefits and costs using planning level assessment over the useful life of the project*
- Consider quantitative (\$) and qualitative analyses. Qualitative benefits, such as quality of life and natural and beneficial functions of ecosystems can also be included in the review.
- The one criterion that must be part of the evaluation and prioritization process is a benefit-cost review. The Planning Team must consider the benefits that would result from a mitigation action versus the cost. This does not mean a full benefit-cost analysis, such as the FEMA Benefit-Cost Analysis (BCA) Toolkit, but a planning-level assessment of whether the costs are reasonable compared to the probable benefits. Cost estimates do not have to be exact but can be based on experience and judgment. Benefits include losses avoided, such as the number and value of structures and infrastructure protected by the action and the population protected from injury and loss of life.

The goal is to have a ratio for benefits to costs of at least 1 (i.e., the benefits are at least as high as the cost of the action). It is important to note that some criteria are difficult to quantify. For example, protection of a community icon may technically cost more than the anticipated losses, but the community may still elect to pursue the project. However, they should be aware that it is unlikely they will be able to get funding assistance via HMA for a BCA ratio of less than 1.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ C5 on page 25



This is a required hazard mitigation plan element/activity.

Note

## Visual 38: Prioritizing Mitigation Actions

Prioritization schemes can include:

- A numerical ranking
- A high, medium, or low designation
- Chronologically by anticipated date of implementation, i.e., short-term versus long-term
- Other methods per community preference



Image credit: Franklin County, PA.

### Prioritizing Mitigation Actions

There are different approaches used by communities to set priorities for implementation. In some cases, all the identified mitigation actions are ranked in sequential order by the Planning Team with an assumption that in the absence of an extraordinary occurrence (e.g., project eligibility criteria of a future grant opportunity), this is the order the community will use to pursue the actions. In other cases, communities assign relative values (i.e., “high,” “moderate,” or “low”) to the identified mitigation actions reflecting the relative importance or significance of the project but not necessarily reflecting the order in which actions will be implemented. For example, a community may proceed with a lower priority action that does not require extensive effort prior to one that requires future grant funding or a more extensive commitment of local resources. In any event, revisiting priorities and determining next steps should be a main topic during regular meetings related to implementation of the updated HMP.

- Numerical rankings can be established based on total anticipated losses or amount of exposed assets
- High, medium, or low designations can be per the consensus of the Planning Team

To be eligible to apply for Rehabilitation of High Hazard Potential Dams grants, the plan must prioritize mitigation actions to reduce vulnerabilities from eligible high hazard potential dams.

**For guidance on mitigation planning requirements to be eligible for the HHPD grant program,** please see [Rehabilitation of High Hazard Potential Dams \(fema.gov\)](https://www.fema.gov/sites/default/files/2020-08/fema_hhpd_grant-guidance.pdf). The link is available at [https://www.fema.gov/sites/default/files/2020-08/fema\\_hhpd\\_grant-guidance.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_hhpd_grant-guidance.pdf)

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ C5



## Visual 39: Charting the Implementation Plan

Action No.	Description	Priority	Responsible Agency	Potential Funding	Time Frame
1	Floodproof pump stations	Medium	Public Works Department	FEMA HMA	2-4 years
2	Inspect schools for seismic retrofit	High	School Board Facilities Management	Staff time	1-3 years
3	Implement wildfire vegetation management program	Medium	Natural Resources Department	Staff time	1-3 years

### Charting the Implementation Plan

The Implementation Plan identifies how specific mitigation actions will be implemented, including who is responsible for which actions, what funding mechanisms and other resources are available or will be pursued, when the actions will be completed, and how they are prioritized. The Capability Assessment can be helpful in reviewing which agencies are responsible for certain functions in the community and the financial resources available.

The more information you have about how to implement these mitigation actions, the more prepared you will be when the grant funding cycle opens, or funding becomes available. Implementation steps may include a project scope of work, participating or partner agencies, cost estimate, environmental and historic preservation impacts, cost effectiveness, and local council approval to pursue funding.

You will need to consider how to present the final Implementation Plan in a format that can be easily used and referenced by community members and officials. The Implementation Plan is the primary tool that will be used to obtain funding, assign priorities, guide the decision-making process, and track mitigation progress and accomplishments in future plan updates. A matrix, like the example above, can be a good format for summarizing information on the recommended actions. You also may consider including this information along with the mission and goals in the front of the plan in the form of an executive summary, so users can quickly understand how the community plans to reduce risk to hazards and strengthen disaster resiliency. When communicating the Implementation Plan, it is important to:

- Identify responsible agencies.** The community must determine who is most appropriate to lead each action. If coordinating with different entities will be necessary, this is a good time for them to provide input on the steps and time frames necessary to carry out the actions.

- **Identify potential funding.** Resources include funding, technical assistance, and materials. Estimating the cost of an action will help the Planning Team target the most appropriate resources. Sources of local funding may include the general operating budget, capital improvement budgets, staff time, special assessment districts, and more. The Planning Team should also consider opportunities for private sector funding and partnerships, as well as resources that may be provided by academic institutions.
- **Estimate time frame.** Funding cycles will likely affect when you can begin implementing an action. The time frame can detail when the action will be started, interim steps, and when it should be fully implemented.

Other items that you may consider describing in the Implementation Plan are goals addressed, partner agencies, steps for implementation, and estimated budget. An action implementation worksheet can be a good approach for formatting the information collected for each action and its implementation.

## Visual 40: Activity: Building the Action Plan

### Directions:

- Work in your same group
- Complete Worksheet 6.2 Mitigation Action Implementation Worksheet for each of the actions you identified
- Be prepared to report your results to the class

Worksheet 6.2  
Mitigation Action Implementation Worksheet

Complete a mitigation action implementation worksheet for each identified mitigation action.

Jurisdiction:	
Mitigation Action/Project Title:	
Background/Issue:	
Areas for Mitigation:	
Responsible Agency:	
Partners:	
Potential Funding:	
Cost Estimate:	
Benefits (Excess Avoided):	
Timeline:	
Priority:	
Worksheet Completed by: (Name/Department)	

6.21

### Activity: Building the Action Plan

#### Directions:

- Remain in your same groups from the last activity.
- Complete the Worksheet 6.2 Mitigation Action Implementation Worksheet for the actions you identified in the previous activity.
- You have 15 minutes to complete the activity.
- Select a spokesperson to present their findings to the class.

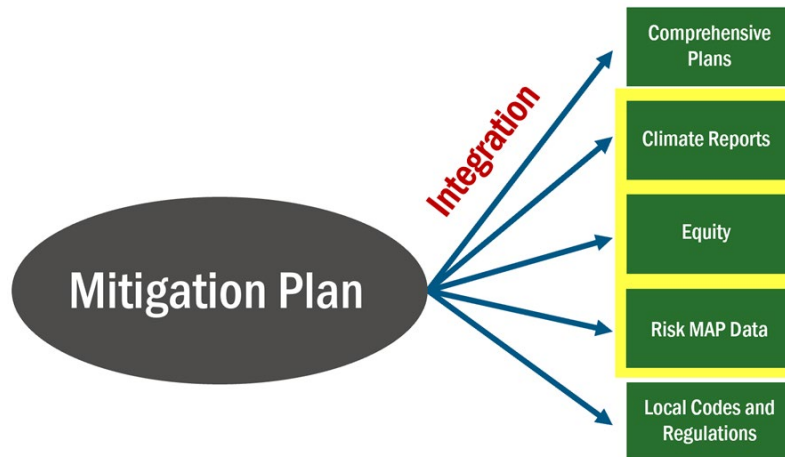
## Visual 41: Integrating Mitigation

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## Visual 42: Plan Integration \*

“Exporting” the plan



### Plan Integration

Part of the mitigation strategy is “exporting” the data, goals, priorities, and actions from the mitigation plan into other planning mechanisms and community development decisions. This might mean:

- Bringing the data, impact, and vulnerability analysis into other plans to decide where it is safest to grow or invest in economic development
- Using the mitigation plan’s goals, objectives, and priorities in other community plans to elevate the importance of risk reduction.
- Including the high-priority mitigation actions in other planning mechanisms to elevate their importance and gain broader buy-in for risk reduction strategies.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include

✓ C6

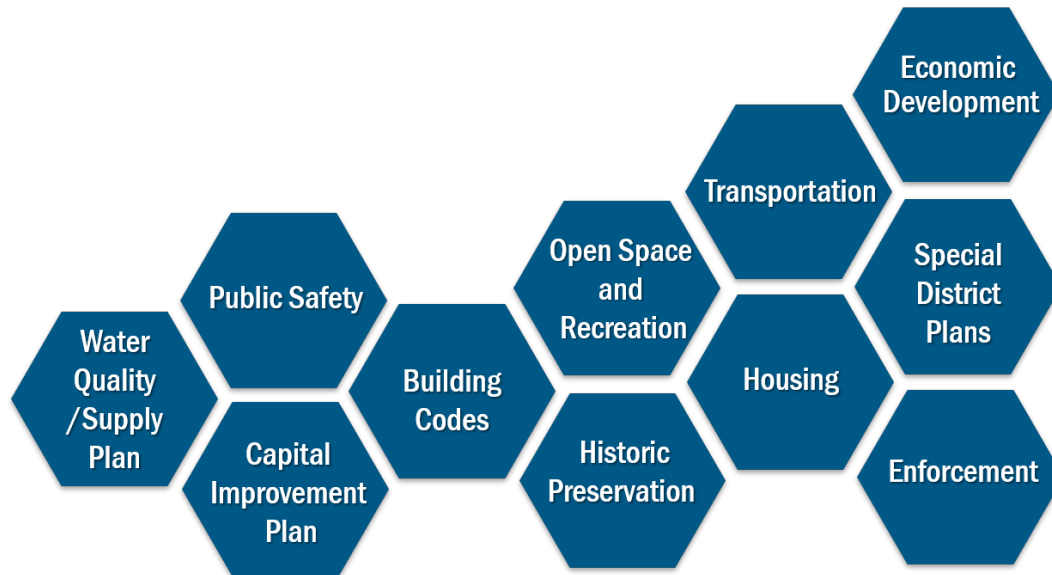


This is a required hazard mitigation plan element/activity.

Note

## Visual 43: Integrating Mitigation\*

- Align community goals, objectives, and prime concerns
- Eliminate duplication of efforts
- Build relationships



### Integrating Mitigation

Communities are included in a lot of different plans and the data collected for these plans, and solutions derived as a result, often overlap with hazard mitigation. It is possible to not only integrate these plans into the mitigation plans, but also the reverse, strengthening the shared goals of both.

How can other planning efforts help make your HMP more effective? Many Participating Jurisdictions review their other key plans and planning tools when they're starting to update their HMP to make sure impacts and solutions are accounted for in all documents, and any work previously done is either added or updated.

For example, has your community completed related mitigation planning, through FEMA or other programs? This could mean Risk MAP, or a HUD CDGB-DR project, or other independent local plans and processes. Your HMP should work with those other planning efforts. Your narrative should document the connection between your planning grant and other planning efforts. Aligning efforts can decrease costs over time!

You can also consider connections with other levels of governments, e.g., how does this HMP update connect to the State HMP, etc. Remember that data collection does not have to be redundant; aligning HMP with other processes can create efficiencies in data collection/analysis.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include

✓ C6 on page 25



This is a required hazard mitigation plan element/activity.  
This is an opportunity for integrating community planning efforts.

Note

## Visual 44: Why Integration is Important



### Why Integration is Important

Integrating the mitigation plan into other community planning efforts supports risk reduction through opportunities to address hazard mitigation in a way that achieves multiple community objectives.

Plan integration can also increase collaboration and coordination that:

- Identifies and highlights mitigation actions and/or opportunities
- Fosters interdisciplinary idea sharing
- Maximizes resources and avoids duplication of efforts

Thinking practically, incorporating the mitigation goals, objectives, actions, and data into other plans allows you to leverage resources and increase political acceptance of mitigation when it's "baked in" across multiple plans and community development decisions.



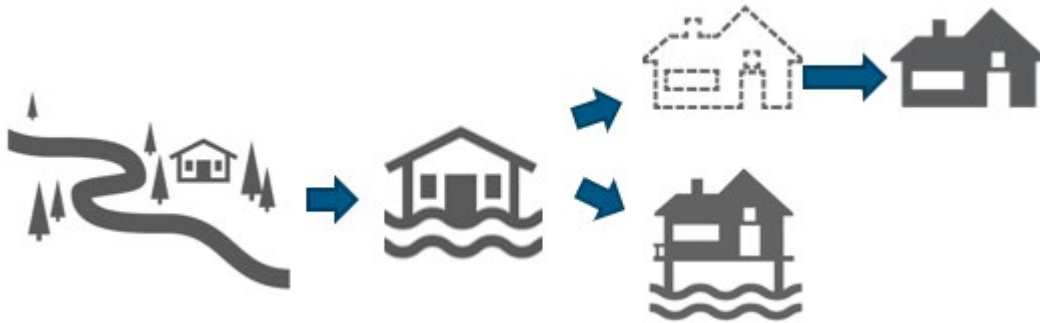
This is an opportunity for integrating community planning efforts.

Note



## Visual 45: Integrating into Long-Range Visions

- If the community’s long-range vision is to **enhance green space**, then acquiring flood-prone properties may be consistent with the vision
- However, if the community’s long-range vision is to **maintain existing character**, then elevating flood-prone structures may be more consistent with the vision



### Integrating into Long-Range Visions

It is important to look at the big picture of where risk is in the community, as well as the detailed level of risk structure by structure.



This is an opportunity for integrating community planning efforts.

Note

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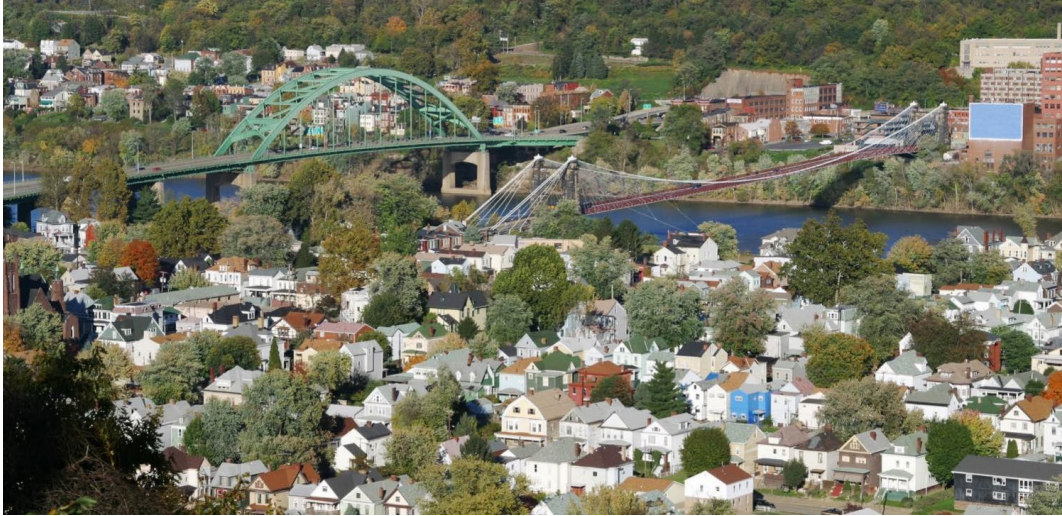
## Visual 46: Discussion: Integrating Your Plan

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- What types of plans do you have in place right now?
  - Emergency Operations Plans
  - Comprehensive Plans
  - Economic Development Plans
  - Land Use Plans
  - Community Wildfire Protection Plans (CWPP)
  - Climate Adaptation Plans
  - Resilience Plans
- How can you build mitigation into these existing plans?

## Visual 47: Resources

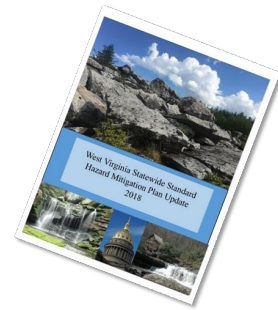
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## Visual 48: Sources of Information

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- Planning Team members
- Stakeholders and Community Partners
- Local Plans and Ordinances
- State HMP
- FEMA and other Federal Agencies (e.g., U.S. Army Corps of Engineers)



## Visual 49: Sources of Information (continued)

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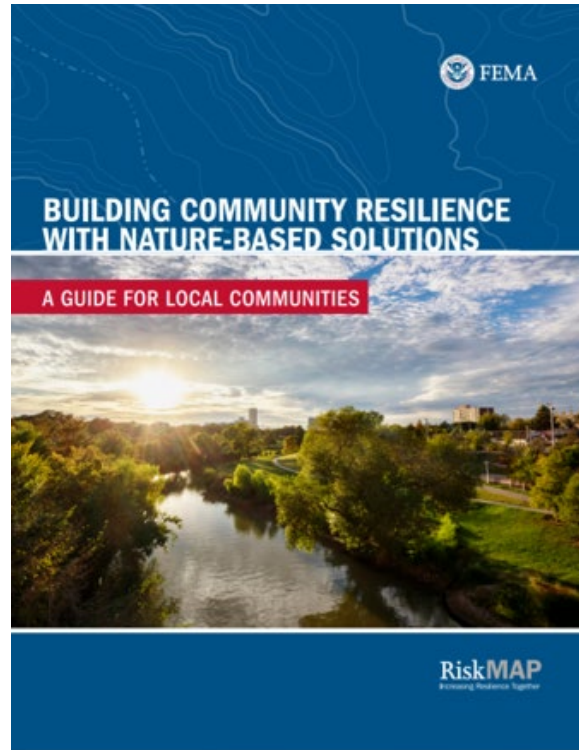
- Non-profit organizations
- State agencies
- Colleges/universities
- Historical Associations
- Nature Conservancy
- Tribal and community elders through storytelling



## Visual 50: Sources of Information (continued)

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Building Community Resilience with Nature-Based Solutions



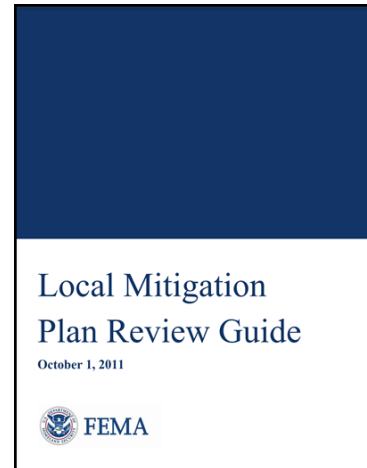
### Sources of Information (continued)

[Building Community Resilience with Nature-Based Solutions](https://www.fema.gov/sites/default/files/2020-08/fema_RiskMAP_nature-based-solutions-guide_2020.pdf): A Guide for Local Officials (link accessible at [https://www.fema.gov/sites/default/files/2020-08/fema\\_RiskMAP\\_nature-based-solutions-guide\\_2020.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_RiskMAP_nature-based-solutions-guide_2020.pdf)) will help communities identify and engage the staff and resources that can play a role in building resilience with nature-based solutions. The guide provides background information on nature-based solutions; presents the business case; and provides practical advice for planning and implementation.

## Visual 51: Resources and Tools \*

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Section 4: Regulation Checklist of the Local Mitigation Plan Review Guide spells out what must be included in the HMP to gain FEMA approval.



### Resources and Tools

The [Review Guide](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)) identifies “what” must be included but does not prescribe “how” to do so.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ C1 through C6 on pages 22-25
- ✓ D2 and D3 on page 27

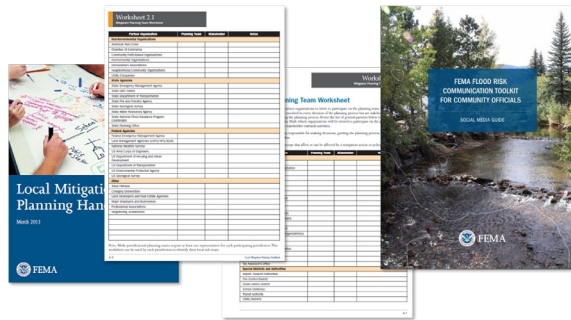


This is a required hazard mitigation plan element/activity.

Note

## Visual 52: Resources and Tools

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### Resources and Tools

FEMA's [Local Mitigation Planning Handbook](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook\\_03-2013.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf))

Task 4: Review Community Capabilities

Worksheet 4.1 – Capability Assessment Worksheet

Worksheet 4.2 – Safe Growth Audit Worksheet 4.3 – National Flood Insurance Program

Worksheet Task 6: Develop a Mitigation Strategy

Worksheet 6.1 – Mitigation Action Evaluation Worksheet

Worksheet 6.2 – Mitigation Action Implementation Worksheet

The [toolkit](https://www.fema.gov/sites/default/files/documents/fema_cx_Toolkit_socialmedia_guide.pdf) (link accessible at [https://www.fema.gov/sites/default/files/documents/fema\\_cx\\_Toolkit\\_socialmedia\\_guide.pdf](https://www.fema.gov/sites/default/files/documents/fema_cx_Toolkit_socialmedia_guide.pdf)) and video series provide guidance to community officials to more effectively communicate with the public about flood risk to help residents and other Community Partners become more active in increasing resilience.

Although the toolkit is focused on flood risk, general principles from this guidance can be applied to helping communicate risk regarding other hazards.



## Visual 53: Integration Resources

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FEMA and the American Planning Association have published a number of detailed resources that can help you integrate mitigation into other decisions.



### Integration Resources

- **Integrating Hazard Mitigation Into Local Planning: Case Studies and Tools for Community Officials (2013)** provides practical guidance on how to incorporate risk reduction strategies into existing local plans, policies, codes, and programs that guide community development or redevelopment patterns.
- **Plan Integration: Linking Local Planning Efforts (2015)** is a step-by-step guide developed to help communities not only analyze their local plans for existing integration, but also further improve those efforts, including interagency coordination.
- **Hazard Mitigation: Integrating Best Practices into Planning (PAS 560) (2010)** seeks to close the gap that exists between hazard mitigation planning and other local planning and regulatory land use processes.

## Visual 54: Resources for Mitigation Actions

- Ask your partners, experts, and the public
- Review actions from other existing plans, studies, programs
- Talk to neighboring communities
- Research Federal and State guides and resources
- Ask your State Hazard Mitigation Officer
- Talk to your workforce



### Integration Resources

To find effective solutions, innovative ideas, and best practices for mitigating risks, consider consulting the following resources (many of whom are hopefully already included on the Planning Team!):

- **Ask subject matter experts** – Experts on the Planning Team and among Community Partners, including neighboring communities and other communities, can help identify actions that provide long-term solutions. For example, if the problem is repetitive flood damage in a specific location, but you are unsure if the flooding is caused by undersized culverts, inadequate storm drainage, or debris, you may opt to ask an engineer to evaluate the flooding and recommend potential solutions.
- **Review actions from other plans, studies, and programs** - Actions identified in other existing plans, studies, programs, etc. can all serve as resources when identifying alternative mitigation actions that would be acceptable or preferred by community members.
- **Research existing guides and resources** – There are many publications and web-based resources for identifying mitigation actions. Some States have prepared technical guides to assist local communities.
- **Review the FEMA Mitigation Best Practices Portfolio** – This resource, found on our website, provides mitigation success stories and case studies from communities across the country.

- **Talk to your workforce** – the people on the ground often know the problems better than anyone and the solutions, but are rarely included in high-level planning discussions

## Visual 55: Additional Resources

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### FEMA

- Executive Summary
- Connecting Risk MAP to Hazard Mitigation Planning handout
- Considerations for Local Mitigation Planning Grant Sub Applications Job Aid
- NFIP Survey

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## Visual 56: Additional Training and Activities Nearby

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- [Introduction to Hazard Mitigation](https://training.fema.gov/is/courseoverview.aspx?code=IS-393.b)  
(link accessible at <https://training.fema.gov/is/courseoverview.aspx?code=IS-393.b>)
- [Hazard Mitigation Flood Insurance in Disaster Operations](https://training.fema.gov/is/courseoverview.aspx?code=IS-158)  
(link accessible at <https://training.fema.gov/is/courseoverview.aspx?code=IS-158>)
- [State Hazard Mitigation Planning](https://training.fema.gov/is/courseoverview.aspx?code=IS-329)  
(link accessible at <https://training.fema.gov/is/courseoverview.aspx?code=IS-329>)
- [Benefit-Cost Analysis Training](https://www.fema.gov/grants/guidance-tools/benefit-cost-analysis)  
(link accessible at <https://www.fema.gov/grants/guidance-tools/benefit-cost-analysis>)

## Visual 57: Resource: Capability Assessment Worksheet

- Local Mitigation Planning Handbook, Worksheet 4.1
- Modify worksheet as appropriate:
  - For your community
  - To gather information from another agency

### Resource: Capability Assessment Worksheet

Refer to Handbook, Worksheet 4.1 Local Capability Assessment for an example of a way to gather information about community capabilities. To improve response rate, the worksheet could be modified for a particular community or when being distributed to a particular agency or department. Work to develop methodology that can be used to evaluate and establish baseline data and metrics for measuring a mitigation program's effectiveness and progress. For example:

- What is working for your community?
- What are the obstacles?
- How can you expand and improve upon your existing capabilities?

Make sure to clearly identify what capabilities are specific to the community when developing a multi-jurisdictional HMP.

## Visual 58: Reminder: Document, Document, Document \*

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Documenting the planning process includes:

- Existing authorities, policies, programs, and resources
- Participation
- Methodologies and results
- Updates



By documenting progress now, you can inspire more action in the future.



This is a required hazard mitigation plan element/activity.

Note

## Visual 59: Examples

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## Visual 60: Dangerville Consider their Vulnerabilities

At its annual plan review, Dangerville used the FPA's map to look at new construction in/near the floodplain and considered the impacts on the risk assessment and mitigation strategy



## Visual 61: Dangerville Assesses Local Capabilities

- Dangerville surveyed departments on authorities, policies, programs, and resources
- They found grants management to be lacking to help them secure mitigation project funds

Pre-Disaster Capabilities	Post-Disaster Capabilities
Natural or cultural resource conservation plans	Grants management staff
Floodplain management ordinances	Long-term recovery plans, policies, and procedures
Building codes	

## Visual 62: Dangerville Updated Its Mitigation Goals

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- Dangerville's risk assessment also showed a number of properties that could be acquired or elevated
- Dangerville's capabilities assessment showed a need for grant writing capabilities

**Dangerville Goal:**  
*Find solutions for repetitively flooded properties.*

**Dangerville Goal:**  
*To build grant writing skills and in-house capabilities to fund future mitigation actions.*

## Visual 63: Dangerville Reviews Mitigation Actions

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- From the last two plans (10 years), Dangerville planners included the same problem and the same mitigation action, i.e., building a levee or flood wall to reduce flooding of the school
- Initially held up for funding, this past round the project got held up in the environmental permitting and approval process



## Visual 64: Dangerville Identified Mitigation Actions

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- To address the school flooding problem, the Town Planner, Town Administrator, and School Board met to consider additional alternative mitigation actions
- The Town Planner also held a public meeting to discuss identified mitigation actions and to see if there were others that should be included



## Visual 65: Dangerville Evaluates Mitigation Actions

Potential Mitigation Actions	Technical	Political	Environmental	Other Community Objectives	Benefit/Cost	Ranking (Total Score)
Flood Wall	4	2	4	3	2	4(15)
Storm Shelter	3	3	3	3	1	3(13)
Watershed Management	2	4	2	1	3	2(12)
Residential Relocation	1	1	1	1	3	1(7)

## Visual 66: Questions

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### Questions?

This concludes this module. If you have any questions, pose them to the instructor.

## Visual 67: FEMA logo

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# Module 6: Plan Maintenance and Updates

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## Visual 1:      Module 6: Plan Maintenance and Updates

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Keeping the Plan Current

### Plan Maintenance and Updates

This module describes how to maintain a hazard mitigation plan.

## Visual 2: Course Map

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	Introduction
	Planning Process: Role and Responsibilities
	Planning Process: Organizing and Engaging Community Partners
	Risk Assessment: Identifying Community Assets and Hazards
	Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk
	Developing a Mitigation Strategy
<b>6</b>	<b>▶ Plan Maintenance and Updates</b>
	Plan Implementation
	Mitigation Funding and Assistance
	Conclusion

### Course Map

This module will provide detailed guidance on how to maintain and update your plan.

This module helps address Element A5, A6 and D1-D3 of the mitigation planning requirements, according to the 2011 Local Plan Review Guide.

## Visual 3: Module Learning Objectives

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- Identify the three components of plan maintenance.
- Identify essential steps and considerations when updating the hazard mitigation plan.



### Module Learning Objectives

By the end of this module, you should be able to perform these objectives.

- Identify the three components of plan maintenance.
- Identify essential steps and considerations when updating the hazard mitigation plan.

## Visual 4: Plan Maintenance Overview

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Photo Source: Getty Images. This photo was purchased for use by FEMA.

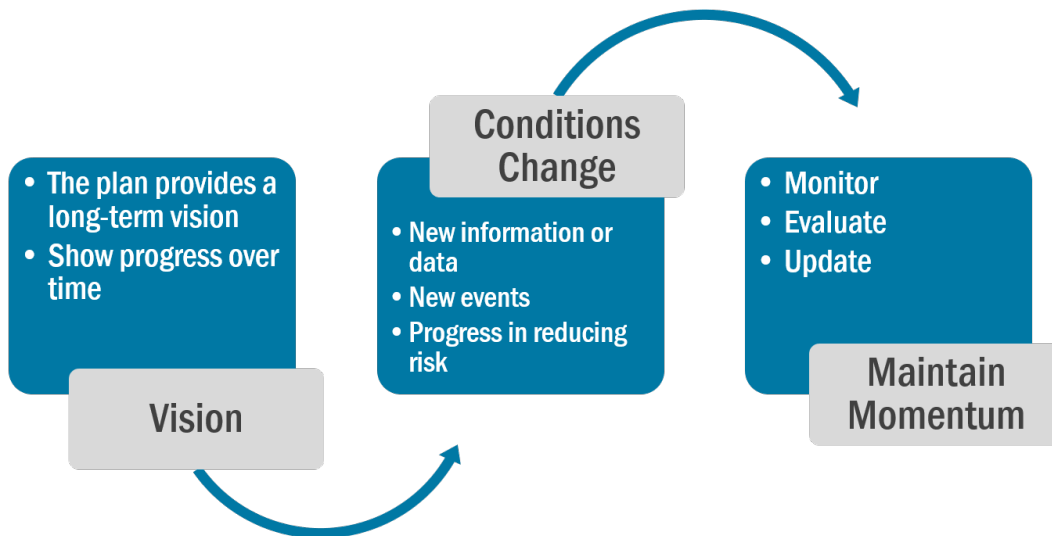
## Visual 5: HMP Maintenance and Updates

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- Having a strong maintenance plan in place before approval is essential for implementation.
- It is also important to document how the plan will be updated in the next 5-year planning cycle.



## Visual 6: Keeping Track of Progress



### Keeping Track of Progress

The mitigation plan is a living document that guides actions over time. It is a 5 year and more blueprint for reducing risk. Maintaining your plan recognizes that things change. New information becomes available, sometimes disasters happen, and you will make progress on implementing the mitigation strategy. All this means that you will have to adjust the plan to keep it relevant. This should be done at regular intervals, but your planning team can decide on how to do it.

The plan must include a description of the method and schedule for monitoring, evaluating, and updating it within a 5-year cycle.

Monitoring, evaluating, and updating are three separate pieces of plan maintenance.

## Visual 7: Plan Maintenance

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## Visual 8: What is Plan Maintenance? \*

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**Monitoring:** Track Hazard Mitigation Plan (HMP) implementation

**Evaluating:** Assess effectiveness of the HMP at achieving its goals

**Updating:** Revise the HMP to keep it current



When the plan is being written, make sure that the plan maintenance process works for how your community operates

Tip

### What is Plan Maintenance?

Maintenance is critical to use your plan to continually reduce your natural hazard risk. Though a requirement in the CFR, the heart of it is maintaining your plan for the good of your community.

What we mean by “plan maintenance” is keeping the plan accurate, current, and relevant over the 5-year approval period. Plan maintenance includes monitoring, evaluating, and updating the plan – and generally keeping the planning process active. This is essential to making your plan a continually useful blueprint for risk reduction.

Let’s pause for a minute to talk about the definitions of terms for plan maintenance, because all three things must be included in the plan (Element A6).

**Monitoring** is the process of tracking how the plan is being implemented. This includes the implementation of the action items, plan integration, public involvement, and other goals. The agency or department in charge of the plan coordinates with any other involved agencies to

expand opportunities to implement the plan, track progress on actions that have been initiated, identify and address any barriers to implementation, and take advantage of grant opportunities.

**Evaluation** involves a review of the stated vulnerabilities, capabilities, and mitigation goals. Plan evaluation may not happen as frequently as plan monitoring, but it is an important step to ensure that the plan continues to serve a purpose in the community. Many communities commit to, at a minimum, annually reconvening the planning team to review the mitigation plan or preparing a report for their governing bodies that demonstrates progress or changes to date.

This information also serves as the basis of the next plan **update**. The plan must be reviewed and updated at least every 5 years to maintain grant eligibility but this can also occur more frequently. For example, the planning team may want to update (via amendment) the plan after a major event or after a project is finished. Additionally, mitigation priorities can change after a disaster, and additional funding sources might become available. When the plan is being written, especially if it's being written by a contractor, make sure that you are comfortable with and able to carry through the plan maintenance process established in the plan. It is important that this process works for your community and how it operates.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ A6 on page 17



Note

This is a required hazard mitigation plan element/activity.

## Visual 9: Plan Maintenance Framework

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- Look at the previous plan to find what processes worked
- Review any feedback from FEMA in the Plan Review Tool
- Identify any elements and processes that will be changed in the updated plan
- Describe modifications, if any, to the monitoring system described in the previous plan



### Plan Maintenance Framework

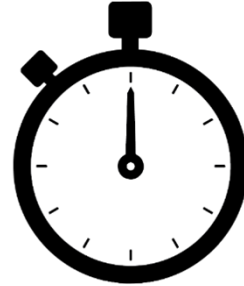
In the plan maintenance process, communities must develop a method and schedule for updating the plan on a 5-year cycle to:

- Describe modifications to the system used to track action implementation
- Discuss whether mitigation actions were implemented as planned
- Indicate who will be responsible for continued management and maintenance of the monitoring system, and timeframe for future reviews

## Visual 10: Importance of Sustained Plan Maintenance

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- Maintain momentum
- Integrate mitigation principles
- Account for changing conditions
- Build on successes
- Secure Funding for Plan Development/Update
- Plan Project Execution



### Importance of Sustained Plan Maintenance

Sustained plan maintenance keeps your community's mitigation goals moving forward.

## Visual 11: Monitoring the HMP

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- Monitoring should be an ongoing, regularly occurring implementation activity using:
  - Standard forms and procedures
  - Periodic meetings or agenda items for other established committee meetings
- Review your HMP post-disaster to identify potential mitigation projects



### Monitoring the HMP

Monitoring should be an ongoing, regularly occurring implementation activity using:

- Standard forms and procedures for responsible parties to report progress and identify any obstacles
- Special meetings or as agenda items for other established committee meetings (e.g., LEPC, Planning Commission, Elected Boards)

The HMP must identify how, when, and by whom the HMP will be monitored. For example, the HMP may describe a monitoring system for tracking the status of the identified mitigation actions and reporting this information on a quarterly basis. The responsible party assigned to each mitigation action may be responsible for tracking and reporting on each of their actions. The Planning Team must identify the lead individual or agency, usually the same individual or agency leading the HMP's development, for coordinating the monitoring process. A method and schedule for regular monitoring can include reports or other deliverables and expectations for meeting attendance. Monitoring, therefore, becomes part of the regular administrative function of the offices or positions to which it is assigned.

## Visual 12: Monitoring Progress

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- Identify a process to track progress and ensure strategy is being followed
- Have regular meetings with those involved in the planning process



### Monitoring Progress

As was previously mentioned, plan monitoring refers to the overall process of tracking implementation. The plan must identify how, when, and by whom the plan will be monitored. For example, the plan may describe a monitoring system for tracking the status of the identified mitigation actions and reporting this information on a quarterly basis to the steering committee. The responsible agency assigned to each mitigation action may be responsible for tracking and reporting on each of their actions. The steering committee identifies the lead position or agency, usually the same individual or agency leading the plan's development, for coordinating the monitoring process. A method and schedule for regular monitoring can include reports or other deliverables and expectations for meeting attendance. Monitoring, therefore, becomes part of the regular administrative function of the offices or positions to which it is assigned.

Keep in mind that grants have processes and procedures to track and report progress. The same reporting procedures for monitoring plan implementation as a whole can be used for grant tracking. Consider using those progress reports and processes for monitoring progress.

Having a process in place for monitoring will not only help keep you accountable and organized in terms of who is doing what but will keep the planning team “in the know” to prepare for the next plan update.

## Visual 13: Evaluating the HMP

- Measuring how effective the plan has been at meeting its stated purpose and goals
- Evaluation can be part of quarterly monitoring or an annual Planning Team activity to:
  - Determine HMP effectiveness
  - Determine upcoming next steps
  - Recommend issues for HMP updates
  - Report progress



### Evaluating the HMP

Evaluation can be part of quarterly monitoring activities or a more formal annual Planning Team activity to:

- Determine HMP effectiveness, i.e., identify evaluation metrics and compare results with intended outcomes
- Determine upcoming next steps to continue progress and overcome identified obstacles
- Recommend issues for HMP updates in the current time frame or as part of the next HMP update and approval cycle
- Report progress to governing bodies

Evaluating means assessing the effectiveness of the HMP at achieving its stated purpose and goals. Many communities commit to, at a minimum, annually reconvening the Planning Team to evaluate the HMP's effectiveness and to prepare a report for their governing bodies that demonstrates progress to date. This information also serves as the basis of the next HMP update. The Planning Team or, if applicable, a subset of the Planning Team assigned to evaluate the HMP, may develop a schedule for both regular meetings and specific deliverables. The Planning Team must identify how, when, and by whom the HMP will be evaluated.

The Planning Team may develop a list of metrics to evaluate progress toward goals on an annual basis. For instance, if a goal is to improve public awareness of hazards and risk, then repeat a survey conducted during the planning process on an annual or 5-year basis to gauge how perception of risk is changing. If a goal is to reduce the number of structures in hazard-prone areas, evaluate how these numbers change over time. The Planning Team could also evaluate the percentage of actions implemented. Plan evaluation may not occur as frequently as HMP monitoring, but it is an important step to ensure that the HMP continues to serve a purpose.



## Visual 14: Evaluating Effectiveness

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- Consider the following questions:
  - Where are we at with achieving our mitigation goals?
  - Are the goals and objectives of the plan still relevant?
  - Has the level of risk or impacts changes since the last update?
  - What is the current status of our previous mitigation plan?
  - Are the goals and actions of the plan still relevant?
  - Are there enough resources available to implement the plan?
    - Funds, people, or programs
- What outcomes occurred that can demonstrate progress?
  - Were any different than expected?
- After a disaster:
  - What new data have you learned from the experience?
  - Did any of your completed actions reduce impacts?



### Evaluating Effectiveness

Evaluation may work best by creating a standard form that can be used from year to year that includes these and any other questions that measure how the plan is doing overall. Share this with your state and FEMA mitigation planning team for heightened awareness of progress made, technical assistance required or immediate funding needs.

There is no required timeline for when evaluation must occur. However, regular evaluation sets your plan up for success and will be valuable when the plan is due to be updated. Note that the level of risk or impacts may change over the 5-year period until the next plan update. Many choose to do it annually, but it can happen at any point within the plan's lifecycle. Evaluation will help determine what mitigation goals have been accomplished, which ones require additional work, and what progress you have made on your mitigation actions.

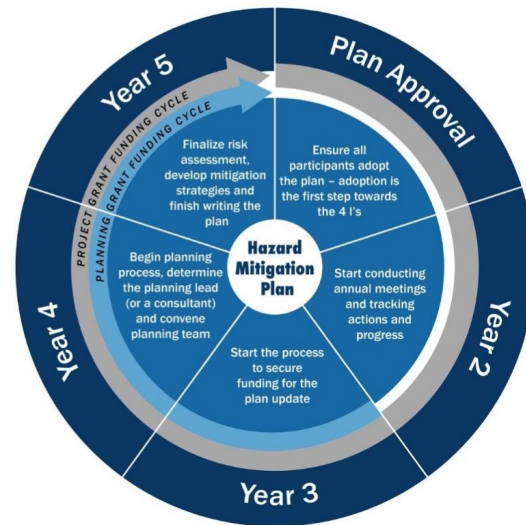
Again – this should connect to your plan. Use the lessons learned in evaluating effectiveness to make your planning process better next time.





## Visual 15: When Will the HMP Be Updated?

- Plan Approval – Ensure all participants adopt the plan
- Year 2 – Start conducting annual meetings
- Year 3 – Start the process to secure funding
- Year 4 – Begin planning process
- Year 5 – Finalize risk assessment



### When Will the HMP Be Updated?

**The HMP has a 5-year approval date and should therefore be updated on a 5-year plan or whenever needed based on ongoing identification of potential and future hazards and vulnerabilities.**

**Plan Approval** - Ensure all participants adopt the plan – adoption is the first step towards the 4 I's.

**Year 2** - Start conducting annual meetings and tracking actions and progress.

**Year 3** - Start the process to secure funding for the plan update

**Year 4** – Begin planning process, determine the planning lead (or a consultant) and convene planning team

**Year 5** – Finalize risk assessment, develop mitigation strategies and finish writing the pan

FEMA and the State can also help identify training and other resource needs if included on the annual plan review and development of a scope of work for the next HMP update.

## Visual 16: How Will the HMP Be Updated?

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A sustained effort by the Participating Jurisdictions is required to reflect:

- New information regarding hazards, risk, and assets
  - Information from recent hazard events
- Changes in demographics, development, etc.
- Progress in implementing mitigation actions
- Changes in priorities



### Evaluating Effectiveness

Updating means reviewing and revising the HMP at least once every 5 years to reflect changes in development, progress in local mitigation efforts, and changes in priorities.

The Participating Jurisdictions must identify and document how, when, and by whom the HMP will be updated. It may also be appropriate to include a schedule of activities that allows sufficient time to obtain funding for and complete the planning process before the HMP expires.

## Visual 17: When Will the HMP Be Monitored and Evaluated?

Description	Monitoring: Tracking implementation of mitigation actions	Evaluating: Assessing effectiveness at achieving HMP goals
When	Quarterly	Annually or after a disaster event
What	Compile progress reports from responsible parties and identify mid-course corrections	Evaluate implementation process and results and identify lessons learned

### When Will the HMP Be Monitored and Evaluated?

To maximize funding opportunities, schedule quarterly and/or annual meetings to coincide with an existing process or procedure, such as the community budget cycle or FEMA's annual grant cycle. If reports or other deliverables are necessary, determine their frequency and reporting requirements.

## Visual 18: Considerations for Plan Updates

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### Considerations for Plan Updates

Photo Source: Pixabay.

While your plan must describe how you will update your plan in 5 years, this section will look at what to think about when doing your plan update. These questions and considerations can be used throughout your plan maintenance cycle, but they are especially important to incorporate into the 5-year update.

It is important to remember that your 5-year plan update is just that: an update. You don't need to rewrite your plan from scratch. It is okay to keep what's still relevant and refresh what has changed

# Visual 19: Look at the Current Approved HMP

- What process was used to maintain and implement the current HMP? Did it work well?
- How did the adoption process go?
- What will you do differently this time?
- Look at the Review Tool, Section 2, Plan Assessment section for where Opportunities for Improvement were outlined.

**APPENDIX A:  
LOCAL MITIGATION PLAN REVIEW TOOL**

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The *Regulation Checklist* provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The *Plan Assessment* identifies the plan's strengths as well as documents areas for future improvement.
- The *Multi-Jurisdiction Summary Sheet* is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction:	Title of Plan:	Date of Plan:
Local Point of Contact:		Address:
Title:		
Agency:		
Phone Number:		
E-Mail:		
State Reviewer:	Title:	Date:
FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region (insert #)		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

Local Mitigation Plan Review Tool A-1

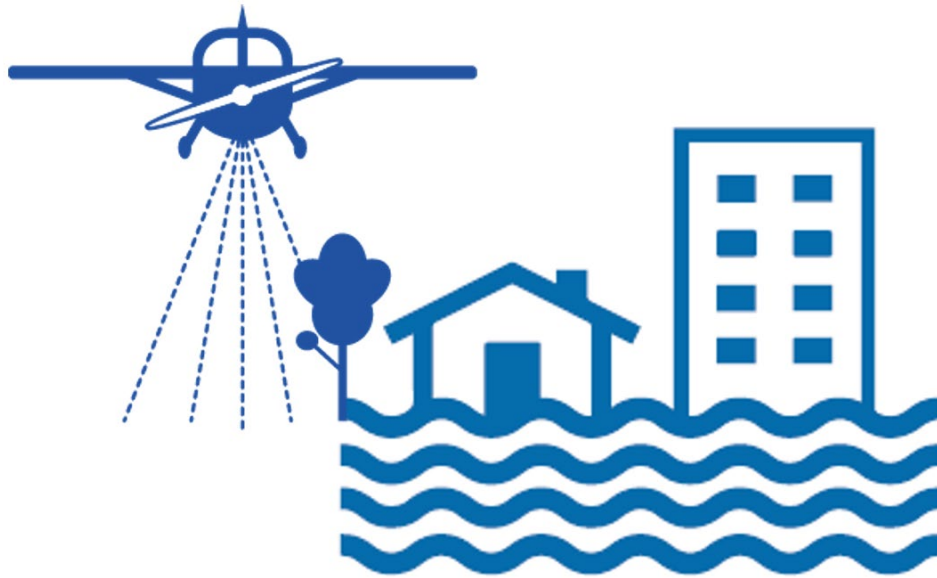
## Look at the Current Approved HMP

If you are updating your mitigation plan, consider how the process went last time. Make sure that everyone is on the same page, particularly if they were not a part of the planning team. Is there something that went particularly smoothly that you can use again? Were there some processes where there were challenges? What will you do differently this time? Do not be afraid to make changes to your process!

## Visual 20: Note What May Have Changed

---

- Has community awareness and support for mitigation and resiliency changed?
- Have elected officials been kept apprised of hazard mitigation plan maintenance?
- Have community development or land use patterns changed?
- Do you have new data (LiDAR)?



### Note What May Have Changed

Has community (including elected and appointed officials as well as stakeholders and the general public) awareness and support for mitigation and resiliency changed? If so, in what way and can you determine why?

Has your community reduced risk with completed mitigation actions through FEMA or other programs?

## Visual 21: Updating the Planning Process

---

- Who participated in the process last time?
- Which engagement techniques were most effective? Whose voices were or were not heard?
- Has there been staff turnover between the previous plan and now?
- Who should be included this time in terms of staff, departments, or partners?



### Updating the Planning Process

Between the last draft of the plan and the update, a lot will likely have happened. People move jobs or roles change, meaning that there may be new members of your planning team. Some people may be the same and can help guide new members through the process. They may also have suggestions on how to improve the overall planning.

Updating the planning process should take a look at who participated then, who should participate now, and if there are new partners to bring to the table. Think about whether there are other planning processes or mechanisms that will be going on around the same time and consider how the mitigation planning process can and should be integrated.



## Visual 22: Updating the Planning Process (continued)

- What about the process worked?
- What were the challenges?



Refer back to your previous plan's Review Tool to help determine what worked well and what you can improve on this.

Tip

### Updating the Planning Process (continued)

The plan update is also an opportunity to think about how to improve the process and the plan. When reviewing how the planning process took place during the last draft, first consider what went well. Is there anything that you think could be done better? What did you find the most helpful in terms of data or information provided? Is there anything you would have liked to have seen more of? Were there suggestions offered by the public from the last round on how to improve the process?

If large-scale changes are not necessary, it is acceptable to implement incremental changes as you look to update the plan.

## Visual 23: Updating the Risk Assessment \*

---

- What has changed?
  - Has there been any development or redevelopment?
  - How has vulnerability changed?
  - How is population shifting?
  - What new community assets exist?
- What has stayed the same?



### Updating the Risk Assessment

Between plan updates, populations and community assets, including infrastructure, can change. If those changes include mitigation techniques, like if a school has built a storm shelter on school grounds, they can reduce vulnerability. But new development or redevelopment in high-risk areas may put more people in harm's way. For example, if homes were recently constructed in the Wildland Urban Interface, they may be more prone to wildfire.



Note

This is a required hazard mitigation plan element/activity.

## Visual 24: Updating the Risk Assessment (continued)

- What events have occurred since the last plan?
- What new data needs to be incorporated?



### Updating the Risk Assessment (continued)

Updated mitigation plans need to include risk information that is accurate, current, and relevant. Consider what kinds of hazard events have happened since the last plan update. Also consider what new hazard and risk data is available that should be included in the plan update.

## Visual 25: Updating the Mitigation Strategy

---

- Look at your previous Capability Assessment
- Are there new plans or regulations?
- Have there been personnel changes that might affect the community's ability to implement mitigation?



### Updating the Mitigation Strategy

Much like how the planning process needs to be updated due to changes in roles or personnel, the capabilities of the community will also change.

## Visual 26: Updating the Mitigation Strategy (continued) \*

---

- Describe changes in priorities
- Account for progress in action implementation
- Describe how the plan was incorporated into other decisions



### Updating the Mitigation Strategy (continued)

It is important to note that there are some updates to the mitigation strategy that are required and add value to the planning process:

- The update must describe changes in priorities
- There must be an update to the status of each mitigation action in the previous plan
- The plan must describe how the community incorporated the mitigation plan into other types of plans, regulations, and community development

To continue to be an effective representation of the community's overall strategy for reducing risk from natural hazards, the plan must reflect current conditions and past achievements. The plan update is an opportunity for each jurisdiction to assess its previous goals and proposed actions, to evaluate progress made in implementing actions, and to adjust proposed actions to address current realities and changes in priorities. The mitigation strategy should be revised following a disaster to determine if the recommended actions are still appropriate given the impacts of the event.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ D2, and D3 on pages 26-27



This is a required hazard mitigation plan element/activity.

Note

## Visual 27: Updating the Mitigation Strategy (continued) \*

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- How have priorities changed?
  - Identify new actions based on updated risk and capability assessments
  - Reprioritize with remaining actions from the previous plan
  - Factors influencing changes:
    - Hazard events and recovery priorities
    - Rate of growth and development
    - Progress of hazard mitigation efforts
    - Political and economic changes

New State or Federal funding sources

### Updating the Mitigation Strategy (continued)

Be sure to identify new actions based on updated risk and capability assessments and reprioritize with remaining actions from previous assessments.

Factors influencing changes in actions may include:

- Hazard events and recovery priorities
- Rate of growth and development
- Political and economic changes
- New State or Federal funding sources
- New partners

Addressing changes in priorities allows your community to redirect actions to reflect current conditions, including financial and political realities, or changes in conditions or priorities due to disaster events. In addition, now that the community has implemented some actions, you will be able to apply what you learned about what works and what does not. New actions can be identified based on the updated risk assessment and capability assessment and prioritized in combination with actions that will be carried over or revised from the previous plan.

Factors that may influence changes in priorities include:

- Altered conditions due to disaster events and recovery priorities
- Changing local resources, community needs, and capabilities
- New State or Federal policies and funding resources
- New hazard impacts identified in the updated risk assessment
- Changes in development patterns that could influence the effects of hazards
- New partners that have come to the table

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

✓ D3 on page 27



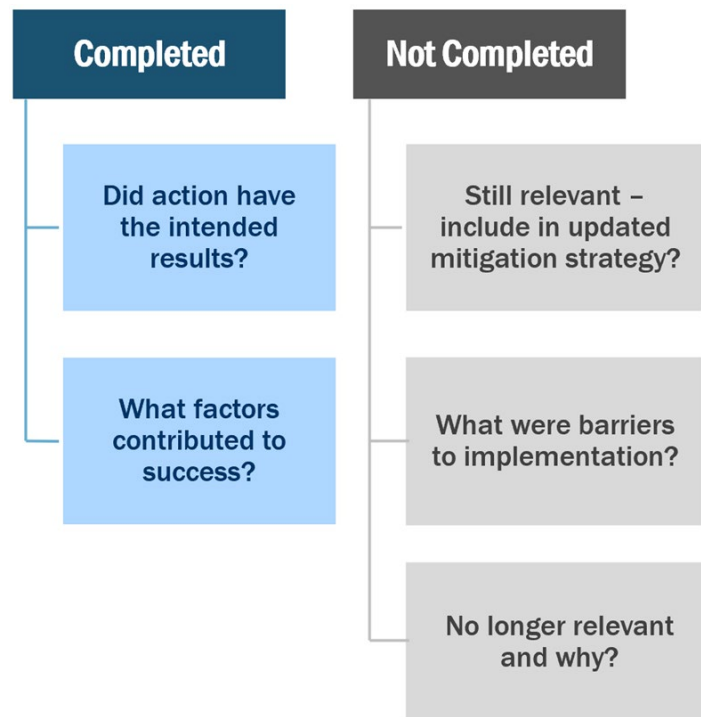
This is a required hazard mitigation plan element/activity.

Note



## Visual 28: Updating the Mitigation Strategy (continued)

- What is the status of each action?
- Were actions implemented as planned?



### Updating the Mitigation Strategy (continued)

The last part of updating the mitigation strategy is reporting out on the status of all mitigation actions from the prior plan.

For completed actions, ask:

- Did the action have the intended results?
- What factors contributed to success?

For actions not completed, ask:

- Is the action still relevant? Will it be part of the updated mitigation strategy?
- What were the barriers to implementation?

The plan also must describe the status of the mitigation actions identified in the previous plan by describing those that have been completed or not completed. For actions that have not been completed, the plan must either describe whether the action is no longer relevant or indicate whether it is included as part of the updated action plan.

## Visual 29: Plan Update Opportunities: New Data

---

Periodic HMP updates provide opportunities to address:

- New information on hazards from local, State, and Federal partners
- New data addressing limitations from the Risk Assessment and Mitigation Strategy
- New outreach opportunities
- New Federal Response Plans



### Plan Update Opportunities: New Data

Photo Source: Getty Images. This photo was purchased for use by FEMA.

New data is constantly being created. When it becomes available, and if it is applicable to your community, it can offer an opportunity to update your plan earlier than expected so that it is able to reflect the best information. This can also help to reprioritize your mitigation actions.



This information is beyond the basics.

Note

## Visual 30: Plan Update Opportunities: Disasters

---

### Potential changes:

- Vulnerability and risk
- Funding and priorities
- Public awareness and support

### Opportunities:

- Collect hazard and impact data
- Incorporate mitigation into recovery strategies
- Rebuild wisely to avoid similar losses



## Plan Update Opportunities: Disasters

The Planning Team can also establish procedures for updating the HMP following a disaster event or concurrent with the development of a recovery or post-disaster redevelopment HMP. Your community's vulnerabilities and mitigation priorities often change following a disaster, and additional funding sources may become available, such as FEMA's Hazard Mitigation Grant Program or Public Assistance. Generally, public awareness increases, and the demand and support for mitigation frequently increases following a disaster. You may choose to take advantage of opportunities to incorporate mitigation into recovery strategies and to rebuild wisely and safely to avoid similar losses in the future.

This is also an important time to collect data on the hazard and its impacts for future HMP updates. If you are considering developing a recovery plan prior to a disaster, coordinating the recovery and mitigation planning efforts promotes messages about building resilience.



This information is beyond the basics.

Note

## Visual 31: Sample Action Plan Update \*

Action	Hazard Addressed	Responsible Party(ies)	Potential Cost	Project Priority	Status
Install larger culverts under Interstate 2 to improve waterflow downstream in the event of flooding.	Flooding	Department of Transportation	\$50,000	High	Completed
Join the Firewise program.	Wildfire	Local Police Department	Staff Time and Resources	Medium	Not complete. Application is in progress.
Require new housing and other facilities to use low-flow water fixtures.	Drought	Town Council, Building Code Enforcement	Staff Time and Resources	High (formerly low)	Not complete. Awaiting grant funds. Upgraded to high priority due to elevated drought risk.
Use preventative measures to reduce potential for wildfires (goats, prescribed burns).	Wildfire	Fire Department	\$5,000	Low	Complete. Community now works with local farmers to reduce wildfire risks.



This is a required hazard mitigation plan element/activity.

Note

## Visual 32: Continued Public Involvement

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### Continued Public Involvement

During the plan maintenance process, it is important to make sure that the public is actively involved the entire time. This is, after all, a plan that belongs to the community, so it is crucial that the public can contribute in a meaningful way.

## Visual 33: Keep Your Stakeholders Involved

---

- Sustained involvement by public officials and other stakeholders is needed for successful implementation
- Keep public officials involved so they stay aware and engaged in annual plan updates
  - Identify existing meetings where the annual review could happen



### Keep Your Stakeholders Involved

Photo Source: Pixabay.

An important part of keeping the plan current is keeping it alive by integrating it into other plans, ordinances, studies, and decisions. Keeping the HMP current also means continuing to provide opportunities for public involvement in the implementation and update process. You should document how the Planning Team will sustain public involvement during the plan maintenance process as part of procedures for monitoring, evaluating, and updating the HMP.

The Planning Team also may identify specific procedures for keeping public officials involved, either through the monitoring, evaluation, and update procedures and/or through the process for continuing public involvement. The local governing body adopts the HMP, so reporting back to them annually or at other regular intervals can help maintain support and provide accountability for those responsible for the HMP's maintenance and implementation.

The State and FEMA maintain an interest in how the HMP is implemented and updated so keeping them in the loop will ensure they are able to provide any available assistance. What has



worked and not worked for your community in terms of engaging public officials at all levels of government?

As part of the plan's monitoring and evaluation process, annual meetings provide an excellent time to brief new government employees on what the mitigation plan is and why it is needed. There may already been a regular meeting that exists where you can discuss the plan.

## Visual 34: Maintaining Engagement \*


Participating Jurisdictions	Stakeholders	General Public
<ul style="list-style-type: none"> <li>• Municipal government</li> </ul>	<ul style="list-style-type: none"> <li>• Business interests</li> </ul>	<ul style="list-style-type: none"> <li>• Residents</li> </ul>
<ul style="list-style-type: none"> <li>• Others actively involved in the process</li> </ul>	<ul style="list-style-type: none"> <li>• Not-for-profit organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Anyone else who may engage with the process</li> </ul>
	<ul style="list-style-type: none"> <li>• Other advisors</li> </ul>	

### Maintaining Engagement

Public involvement in the plan maintenance process is required, and stakeholder involvement is a best practice. How do you intend to incorporate ongoing engagement through the implementation and maintenance processes?

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ A5 on page 17



This is a required hazard mitigation plan element/activity.

Note

## Visual 35: Maintaining Engagement in Existing Planning Efforts

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- Link your efforts to best involve everyone!
  - Participating Jurisdictions
  - Stakeholders
  - General Public
- You may have existing plans or meetings to involve your public
- Integrate plan goals with other community objectives



### Maintaining Engagement in Existing Planning Efforts

As discussed in the planning process unit, the mitigation plan should work with other planning efforts like land use plans, development standards, building codes, emergency operations plans, etc.

Linking your planning efforts can help the public understand not only what mitigation is, but why it is important. This helps both the public and local leaders to better include the mitigation plan in everything that you are doing. By doing regular maintenance on the plan, you can ensure that all planning efforts are being kept up to date, and that everyone who needs to be informed is getting the opportunity. Also consider including an Executive Summary in the plan that can be quickly used for engagement purposes.

Look to integrate goals with other community objectives. Incorporation of hazard information and mapping into land use plans, zoning and subdivision codes, and the development review

process can guide growth and redevelopment away from high-risk locations. This information can also be used to design and site future public facilities to minimize exposure to hazards.

## Visual 36: Opportunities for Public Involvement

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- Think about the ways community members provide feedback on public processes in your community.
- Use these opportunities to talk about mitigation and get feedback on areas of concern.
- Also consider: are there any groups within your community that do not normally participate in the public process? How can you reach them?



### Opportunities for Public Involvement

Zoning defines how properties in a specific geographic area can be used. The public may consider limiting development or encouraging more hazard-resistant development in zones that overlap with where the risk assessment says events may occur.

Capital improvement plans guide investment in parks, playgrounds, schools, and community facilities; transportation plans guide investment in transportation infrastructure while housing plans guide housing investments. Use the hazard vulnerabilities to invest in safe buildings and infrastructure and consider prioritizing investments that reduce risk or make the community more resilient.

Comprehensive plans govern the overall arrangement of land uses and community priorities. Since they often direct future growth, you can use the mitigation plan to inform where growth is safest. By discussing mitigation with the public while maintaining the comprehensive plan, you ensure that it is baked into the community's policy for the future.

Economic development strategies plan out economic growth opportunities. It's a common theme but use the mitigation plan to guide investment into safe areas and encourage diverse economies, which are often more resilient. When talking to the public about future economic growth, make sure that you are talking about how mitigation helps to secure that.

## Visual 37: Resources

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## Visual 38: Resources and Tools (continued) \*

Section 4: Regulation Checklist of the Local Mitigation Plan Review Guide spells out what must be included in the HMP to gain FEMA approval.

**APPENDIX A:  
LOCAL MITIGATION PLAN REVIEW TOOL**

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The [Regulation Checklist](#) provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The [Plan Assessment](#) identifies the plan's strengths as well as documents areas for future improvement.
- The [Multi-jurisdiction Summary Sheet](#) is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction:	Title of Plan:	Date of Plan:
Local Point of Contact:		Address:
Title:		
Agency:		
Phone Number:	E-Mail:	
State Reviewer:	Title:	Date:
FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region <small>(insert #)</small>		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

Local Mitigation Plan Review Tool A-1

### Resources and Tools (continued)

It is important to note the [Review Guide](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)) identifies “what” must be included but does not prescribe “how” to do so.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ A5 and A6 on page 17
- ✓ C6 on page 25
- ✓ D1, D2, and D3 on pages 26-27

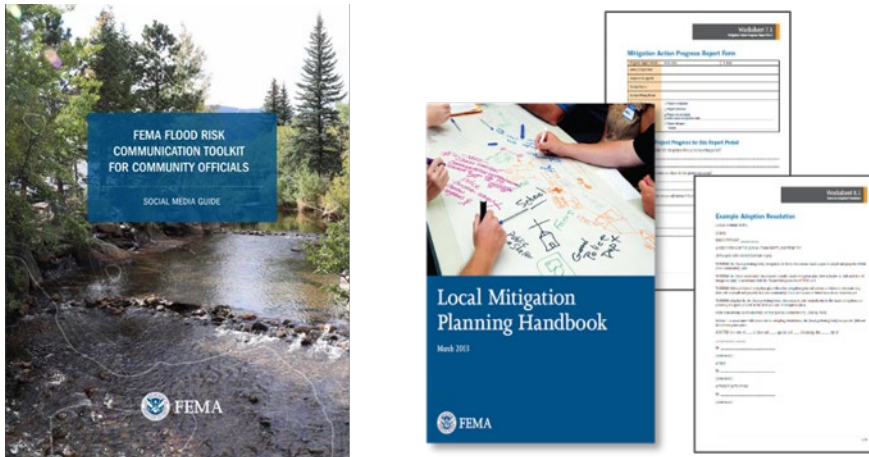


This is a required hazard mitigation plan element/activity.

Note



## Visual 39: Resources and Tools (cont2)



### Resources and Tools (continued)

FEMA's [Local Mitigation Planning Handbook](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook\\_03-2013.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf))

Task 7: Keep the Plan Current

Worksheet 7.1 – Mitigation Action Progress Report Form

Worksheet 7.2 – Plan Update Evaluation Worksheet

Task 8: Review and Adopt the Plan

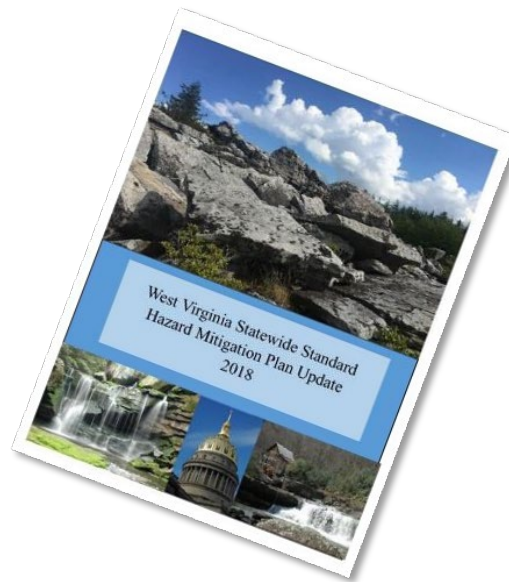
Worksheet 8.1 – Example Adoption Resolution

The [toolkit](https://www.fema.gov/sites/default/files/documents/fema_cx-toolkit-community-officials-start-guide.pdf) (link accessible at [https://www.fema.gov/sites/default/files/documents/fema\\_cx-toolkit-community-officials-start-guide.pdf](https://www.fema.gov/sites/default/files/documents/fema_cx-toolkit-community-officials-start-guide.pdf)) and video series provide guidance to community officials to more effectively communicate with the public about flood risk to help residents and other community partners become more active in increasing resilience. Although the toolkit is focused on flood risk, general principles from this guidance can be applied to helping communicate risk regarding other hazards.

## Visual 40: Sources of Information

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- Planning Team members and Community Partners
- State HMP
- FEMA and other Federal Agencies (e.g., USACE, NOAA, EPA, etc.)



### Sources of Information

Other agencies may have ongoing initiatives or interests in mitigation efforts that could tie in with local problems (e.g., USACE)

## Visual 41: Sources of Information (continued)

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- Non-profit organizations (e.g., American Red Cross)
- State agencies
- Colleges/universities
- Community history in libraries and historical associations
- Community elders



### Sources of Information (continued)

Perhaps a nearby college has expertise in engineering for mitigation projects, or a nonprofit organization has implemented actions nearby.

## Visual 42: Reminder: Document, Document, Document \*

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Documenting the planning process includes:

- Existing authorities, policies, programs, and resources
- Participation
- Methodologies and results
- Updates



By documenting progress now, you can inspire more action in the future.



This is a required hazard mitigation plan element/activity.

Note

## Visual 43: Examples

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## Visual 44: Dangerville Monitors the HMP

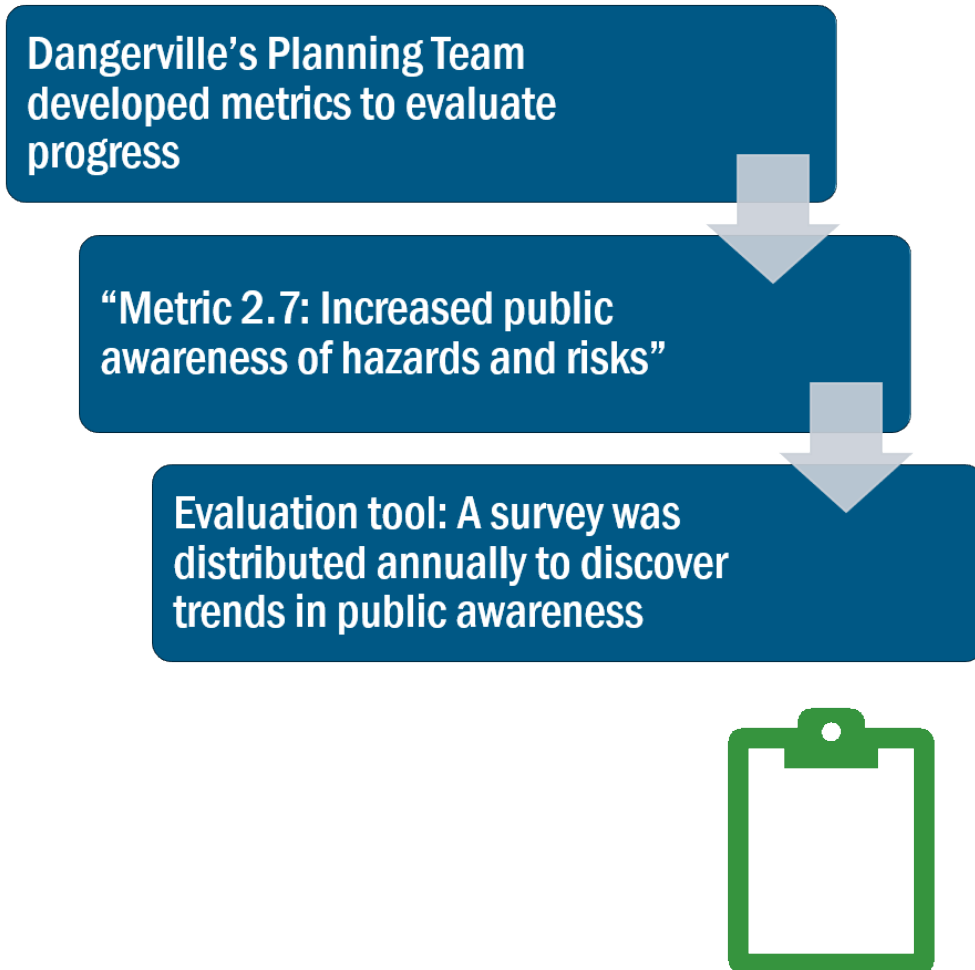
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- Dangerville's Planning Team developed a Responsible, Accountable, Consulted, Informed (RACI) chart for each mitigation action implementation plan
- Responsible parties were identified based on the implementation plans and the adoption resolution



## Visual 45: Dangerville Evaluates the HMP

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## Visual 46: Dangerville Updates the HMP

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- Dangerville's Planning Team decided to consider updates at their quarterly meetings
- The Planning Department updated the HMP as appropriate and distributed changes for review and approval
- Dangerville was then able to use the most recent version for the required 5-year HMP update submission





## Visual 47: Questions

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### Questions?

This concludes this module. If you have any questions, pose them to the instructor.

## Visual 48: FEMA logo

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# Module 7: Plan Implementation

# Visual 1: Module 7: Plan Implementation: Adopting and Implementing the Mitigation Plan

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## Plan Implementation **Adopting and Implementing the Mitigation Plan**

## Visual 2: Course Map

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	Introduction
	Planning Process: Role and Responsibilities
	Planning Process: Organizing and Engaging Community Partners
	Risk Assessment: Identifying Community Assets and Hazards
	Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk
	Developing a Mitigation Strategy
	Plan Maintenance and Updates
<b>7</b>	<b>Plan Implementation</b>
	Mitigation Funding and Assistance
	Conclusion

### Course Map

This module will provide detailed guidance for how to complete the hazard mitigation plan including the review, adoption, and approval process. This unit will also include discussion of how the hazard mitigation plan is maintained and action items from the mitigation strategy implemented.

This module helps address Element E1, E2 of the mitigation planning requirements, according to the 2011 Local Plan Review Guide.

## Visual 3: Module Learning Objectives

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- Identify some common challenges and possible solutions to the implementation process.
- Discuss best practices that will help move mitigation actions forward.



### Module Learning Objectives

By the end of this module, you should be able to perform these objectives.

- Identify some common challenges and possible solutions to the implementation process.
- Discuss best practices that will help move mitigation actions forward.

## Visual 4: Plan Adoption and Implementation Overview

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## Visual 5: HMP Adoption and Implementation Overview

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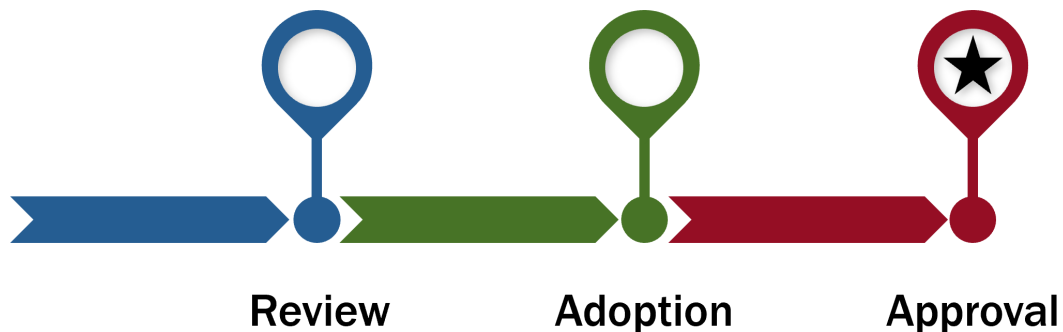
- Finishing the plan isn't the end. You also need to adopt and implement it.
- Implementation is what makes your community safer and stronger for years to come.





## Visual 6: You Have a Mitigation Plan....Now What?

- ✓ Have all members of the planning team reviewed the final plan?
- ✓ Have community partner stakeholders reviewed the final plan?
- ✓ Have you given the public an opportunity to review and comment?
- ✓ Have accountability measures been identified for implementing the plan?
- ✓ Have you vetted and included comments from stakeholders and the public?



### You Have a Mitigation Plan....Now What?

When you have completed a final draft of the HMP, the Planning Team can publicize the mitigation plan and ask Community Partners and the public to review and submit comments for the Planning Team’s final consideration. The planning process should have already included opportunities for the public to review and comment on the HMP prior to its adoption. A good outreach process provides the public sufficient time to comment and explains how comments will be used.

You may also directly inform your stakeholders of the HMP’s availability for comment, such as through an email or letter. This is a particularly good approach for providing neighboring jurisdictions an opportunity to review the mitigation plan. The plan itself can include information on the types of comments received and how comments were incorporated.

However, the process for plan review, adoption, and approval needs to be established early in the planning process so interested parties and community partners are aware of and have had a chance to comment on the HMP content before it gets to the review, adoption, and approval stage.

## Visual 7: Why is Adopting the Plan Important? \*

- Signals a commitment to mitigation by the community
- Documents formal adoption by the governing body of each community
- Ensures eligibility for Hazard Mitigation Assistance (HMA) programs
- Required before the plan is formally approved
  - Approvable Pending Adoption is only the first step



### Why is Adopting the Plan Important?

Adoption is not just required, it is a good idea. It:

- Requires elected official buy-in
- Protects bond ratings
- Establishes expectations for HMP implementation roles and responsibilities
- Ensures eligibility for FEMA's Hazard Mitigation Assistance (HMA) grant funding

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ E.1 on page 28
- ✓ E.2 on page 29



Note

This is a required hazard mitigation plan element/activity.

## Visual 8: State and FEMA Plan Review and Approval



### State and FEMA Plan Review and Approval

Prior to submitting the HMP to the State Hazard Mitigation Officer (SHMO), the Planning Team may validate that the local HMP meets all requirements of Title 44 Code of Regulations (CFR) 201.6. FEMA uses the Local Mitigation Plan Review Tool to ensure that approved local HMPs meet these requirements. The Planning Team may view the Regulation Checklist portion of the Plan Review Tool and fill in the page numbers where your HMP meets each of the required elements. This can serve as a final internal review to confirm the HMP meets Federal requirements prior to submitting it for approval.

Once the Planning Team is confident the HMP meets the required elements and includes all supporting documentation, forward the HMP to your SHMO or State Mitigation Planner. It is critical that all supporting documentation related to the planning process and other components of the HMP are included in the initial submittal. Incomplete HMP submittals can delay reviews. The State will review the HMP and work with you on any required revisions for approval. Don't forget to provide your local contact information where you can be reached for any questions.

Once the State is satisfied that the HMP meets the requirements, the SHMO will forward the HMP to the FEMA Regional Office for review and approval. FEMA will conduct its review within 45 days, if possible, and provide a completed Local Mitigation Plan Review Tool to the State. The FEMA Regional Office and the State may contact you to discuss additional revisions to the HMP to ensure that it meets the Federal regulation. Once FEMA determines the HMP meets the regulation, FEMA will notify the SHMO that the HMP is "approvable pending adoption" (APA), or approved if the participating jurisdiction has already adopted the HMP.

At least one community in a multi-jurisdictional plan must adopt the plan within one year from APA designation or the plan will need to be resubmitted and reviewed. This may negatively

impact your period of performance if you have secured a FEMA grant to fund - so be aware! Be sure not to “jump the gun” and adopt the plan before APA as there may be changes that would require reissuing an adoption resolution.

Revisions may be required by either the State or FEMA to ensure compliance with both State and Federal requirements.

After there are no revisions, you adopt the plan.

## Visual 9: Keep in Mind

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- Communicate often with your State partners
- Keep community partners informed of the HMP's progress
- Allow sufficient time for the State and FEMA to review your HMP and any revised versions based on their comments BEFORE expiration



### Keep in Mind

Additional considerations related to the HMP review and approval process include:

- Communicate with your SHMO early and often. Discuss with your SHMO whether it would be appropriate to share drafts of the HMP or portions of the HMP prior to a formal review to ensure it is complete. Also, you will want to ensure your HMP meets any additional State requirements, which are noted in Element F of the Local Mitigation Plan Review Tool.
- Keep Community Partners informed. The relationships you have already established with Community Partners, elected officials, and government agencies will be important assets during the adoption process. To facilitate adoption of the HMP, periodically brief community decision makers throughout the planning process on the progress of the Planning Team's efforts. When presenting the final draft for adoption, invite the Planning Team to the meeting and ask supporting agencies to provide testimony regarding their support of the HMP.
- **ALLOW TIME** for the review process! Build time into your planning process to meet State and FEMA procedures for review. FEMA gets at least 45 days to review the HMP and there will often be requests for revisions.

# Visual 10: Plan Review Tool (PRT)

**APPENDIX A:  
LOCAL MITIGATION PLAN REVIEW TOOL**

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction:	Title of Plan:	Date of Plan:
Local Point of Contact:		Address:
Title:		
Agency:		
Phone Number:		E-Mail:
State Reviewer:	Title:	Date:
FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region (month/d)		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

Local Mitigation Plan Review Tool A-1

- FEMA provides feedback on how to improve your plan in the PRT
- Refer back to the PRT Assessment Section to find feedback on what worked and where opportunities for improvements could be made

## Plan Review Tool (PRT)

Plan Developers should make sure the [Plan Review Tool](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)) submitted to the State clearly indicates where each element can be found in the document. Also, for a plan update, should you include an Executive Summary, ensure it summarizes how the risk and approach is different with this iteration and address what has changed since the last plan - hazards profiled, risk, mitigation strategies etc.

## Visual 11: Approvable Pending Adoption

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- When the State and FEMA agree an HMP meets the requirements, FEMA will send an Approvable Pending Adoption (APA) letter
- **REMEMBER:** you still have to adopt the plan once FEMA has issued the APA notification



### Approvable Pending Adoption

**Approvable Pending Adoption** - To avoid repeated attempts to adopt the HMP prior to FEMA approval, communities obtain a notice from FEMA that the HMP is APA before adopting the plan. As a time-saving measure, communities are encouraged to submit the final draft of the HMP to the State and FEMA for review prior to formal adoption by the elected officials or other authorized governing body. If FEMA determines the HMP is not approvable and requires revisions, the community will be able to make revisions before initiating the plan adoption process, therefore avoiding unnecessary delays in plan approval.

**Plan Approval** - Upon receiving the record of adoption from the State, FEMA will issue an official approval letter stating which jurisdictions have adopted and are approved and eligible for FEMA Hazard Mitigation Assistance programs. The approval letter will include the expiration date 5 years from the date of the letter. Attached to the approval letter will be a final Local Mitigation Plan Review Tool that provides feedback on the strengths of the HMP, recommendations opportunities for plan improvements during future plan updates, and suggestions for implementing the mitigation strategy.

## Visual 12: Approvable Pending Adoption (continued)

- Each Participating Jurisdiction adopts the plan and notifies FEMA
- Once FEMA receives the adoption resolution, an approval letter for each Participating Jurisdiction is sent



### Approvable Pending Adoption (continued)

Adoption by the local governing body demonstrates the community's commitment to implementing the mitigation strategy and authorizes responsible agencies to execute their actions. The final HMP is not approved until the participating jurisdiction adopts the plan and FEMA receives documentation of formal adoption by the governing body of the jurisdiction(s) requesting approval. The governing bodies are typically the Town Board, City Council, County Commissioners/Board of Supervisors, tribal council, District Board of Directors, etc. While plan adoption usually occurs through a formal resolution, council minutes, consent agendas, or other forms of adoption are acceptable if allowed by local law.

Each jurisdiction submits documentation of adoption to the State, who is responsible for forwarding this on to the FEMA Regional Office. If you choose to use the APA process, adoption must take place within 1 year of receipt of FEMA's APA notification.

This meets Element E1 in the Plan Review Guide.

**Requirements:** Relevant element(s) per the October 1, 2011 Local Mitigation Plan Review Guide include:

- ✓ C1 on page 23
- ✓ C2 on page 23



## Visual 13: Please Note!

---

Communities that **did not participate** in the planning process **are not eligible** to adopt the updated multi-jurisdictional HMP.



### Please Note!

All communities that wish to adopt the plan need to have actively participated in the planning process. That is why it is so crucial that all communities be a part of the planning process and that they are able to provide valuable input into the plan. For communities that did not participate in the initial planning process, they can use the adopted plan to develop a process to opt-in at a later date.

## Visual 14: Sending Adoption Documentation to FEMA

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- The Planning Lead will receive instructions on submitting adoption resolutions with the APA notice.
- Municipalities should submit adoption resolutions to the Lead Jurisdiction who will track them and send to FEMA. Adoption Resolutions should also be sent to your State/Commonwealth.



### Sending Adoption Documentation to FEMA

Each jurisdiction seeking plan approval must adopt the plan. For multi-jurisdictional HMPs, it is important for the lead planner to coordinate the adoptions of all the jurisdictions as soon as the plan receives APA status. The governing bodies may have different meeting schedules, which prevent all the jurisdictions from adopting at the same time. You may choose to coordinate the adoptions and submit documentation to the State at the same time. However, if the plan is close to expiration you should submit at least the first adoption so it remains in good standing. After the first community adopts the plan, all other participating jurisdictions have 1 year to do so as well.

## Visual 15: The Clock is Ticking

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- The approval timeline begins with the first jurisdiction to adopt
- HMA funding requires adoption of the plan



### The Clock is Ticking

At least one of the participating jurisdictions must adopt the HMP within 1 year of FEMA's APA notice. FEMA will issue an official approval letter stating which jurisdictions have adopted the plan and are eligible for FEMA hazard mitigation assistance programs. The plan will expire 5 years from the date of FEMA's approval letter for the HMP. The approval letter and date are generated with the first jurisdiction adopting the plan. The HMP approval date remains the same regardless of when other participating jurisdictions adopt the plan. It is important to coordinate the adoption process to ensure that all participants are covered by the HMP for the full 5 years. Plan amendments follow the same adoption process.

If, after the plan has been adopted and it is beyond the 1-year limit, more jurisdictions wish to adopt the plan, it may have to be resubmitted to FEMA for approval. Consult with your FEMA Region to find out more about the amendment process if this will be necessary.

## Visual 16: Expediting the Adoption Process

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- Be sure to add the HMP to the governing board’s agenda well in advance—don’t lose time
- Incorporate opportunities for public input throughout the adoption process
- Keep elected officials in the loop at regularly scheduled meetings and via annual progress report



This information is beyond the basics.

Note

## Visual 17: Implementing the Plan

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Photo Source: Getty Images. This photo was purchased for use by FEMA

## Visual 18: Risk Reduction Requires Implementing Mitigation Action

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Implement your plan to:

- Protect members of the community
- Maintain public safety
- Protect historical sites
- Prevent damage to community assets
- Reduce costs of disaster response and recovery
- Improve local capabilities
- Develop safely and sustainably



Picture depicts a destroyed home on Absentee Shawnee Tribal land from the May 19-20 tornado. Photo Credit: George Armstrong/FEMA.

## Risk Reduction Requires Implementing Mitigation Action

### **Risk Reduction Requires Action!**

Once your plan is completed, the next step is to implement its mitigation actions to reduce risk. This protects public safety, prevents damage to community assets, reduces the costs of response and recovery after a disaster event, improves capabilities to mitigate and recover from future disasters, and creates a safer, more sustainable community!

The more you can establish accountability measures upfront, e.g., include specific roles and responsibilities as part of the adoption resolution, the easier it will be to keep momentum and update regularly.

Reach out to your State to begin developing your project application to be ready for current or future funding opportunities and have projects that are ready to go.

## Visual 19: Implementation and Administration

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**Who is responsible?**



**What is the timeline?**



**How will it be funded?**

### Implementation and Administration

To implement the mitigation plan there has to be a clear definition of who is responsible for that action, what the timeline is, and how it will be funded. When you go to implement your plan, keep in mind that the specifics may change, and that's okay! The important thing is that a plan is in place. You want to use your mitigation strategy to advance resilience.

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## Visual 20: Common Challenges

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- Competing and changing priorities
- Lack of interest or knowledge of mitigation
- Lack of funding and resources
- Insufficient political will
- Disconnect with day-to-day operations
- Staffing changes

### Common Challenges

**Common challenges:** Turning your mitigation plan into action can be difficult. Here are some types of challenges you may face. However, in subsequent slides we will provide you with some ways to overcome them. The goal is to prepare you to successfully address these challenges as they arise to ensure that your process continues to move forward. Knowing your challenges will help you manage expectations as you move through the plan development, update, and mitigation action implementation processes.

**Competing and changing priorities:** Community officials make difficult decisions every day and must balance competing and changing priorities for local resources, funding, and staff time. Multiple competing and changing priorities can be a major challenge to implementing the plan and accomplishing your mitigation goals.

**Lack of interest:** If several years have passed without a significant hazard occurring, the community may have “disaster amnesia” or the perception that “nothing ever happens here” and not be interested in investing resources in mitigation. The planning team, stakeholders, and the community may exhibit a lack of interest or meeting fatigue after the mitigation planning and adoption process ends.

**Lack of funding and resources/limited local capability or capacity/frequent staff turnover:** The government may lack resources such as funding, technical expertise, and personnel capacity needed to accomplish some of the recommended mitigation actions. Also, if there is frequent staff turnover, the historical knowledge of what mitigation planning has taken place in the past and how to move forward is no longer available, resulting in the loss of capability. Staff will feel that they have to restart the process. It is very important to document the process throughout, so that it is recorded for future staff.

**Insufficient political will:** There may be insufficient political or community support for addressing the more complicated problems or for implementing a potentially controversial solution.

**Disconnect with day-to-day operations:** There may not be a connection between the mitigation strategy and the day-to-day operations of a local jurisdiction governed by staff work plans, established procedures, and the policies and objectives of other local plans and programs.



**Tip**

If you are using a contractor to write your plan, make sure you remain at the helm of the project and provide input throughout the planning process. You don't want the plan to be limited to boilerplate material that is hard to act upon. By ensuring that the plan is specific to your community, the plan and its projects have a better likelihood of being put into action.

## Visual 21: Common Challenges (continued)

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Hazard mitigation is not a community priority

- Not a typical planning function
- Competition with other priorities
- Framework of development and property rights

Capabilities may not exist

- Lack of political will
- Lack of actionable data
- Lack of incentives

### Common Challenges (continued)

Often, hazard mitigation is not a community priority. Unlike zoning, it is not seen as a typical or traditional planning function, and it may need to compete with other community priorities, such as developing waterfronts. Many communities are also pro-growth and want more development; hazard mitigation practices can be seen as having a detrimental effect on the tax base of a community by effectively taking land out of circulation. The US also has a strong history of property rights, which can hinder making good, smart land use choices.

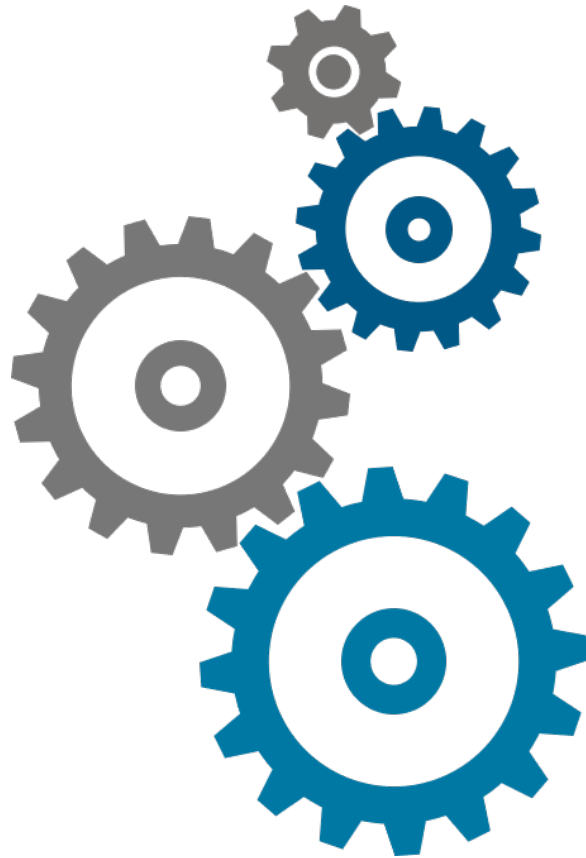
Other challenges relate to what communities see as limited capacity in a time of tight funding, which can mean a limited political will to integrate efforts. In addition, many communities and States see a lack of actionable data as a challenge to mitigation planning and integration. If a community does not have the data it needs to understand what, for example, the design level of a storm is, it cannot design appropriate mitigation measures. Without some kind of incentive or “carrot” to entice communities to integrate, many will continue with the status quo.

The insufficient framework for coordination really speaks to the silos commonly seen in planning efforts. There may also be a conflict of timeframe, meaning that a hazard mitigation plan is updated every 5 years, while a capital improvement plan could be a 6-year document and a comprehensive plan may need updated every 10 years. This mismatch may make it more difficult to plan in a unified matter. In addition, there is sometimes a conflict of geography. In some States, like Pennsylvania and New Jersey, local land use authority rests at the lowest aggregation of government, the municipality, but the hazard mitigation plan is most frequently written as a countywide effort.

## Visual 22: Possible Solutions

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- Expand education and outreach opportunities.
  - Consider partnering with others who have gone through the planning process and can speak to it, such as neighboring communities or academic institutions.
- Make stakeholders aware of the benefits of plan integration and implementation.
- Balance competing priorities.
- Expand local capacity for mitigation.
- Keep your political leaders, stakeholders, and public updated regularly so they don't forget about your HMP and its importance!



### Possible Solutions

#### **How to address the challenges:**

First, educate, educate, and educate! Use your existing engagement and education opportunities to start talking about safe growth and community resilience. You'll have to combat "disaster amnesia" or the complacency that sets in between events. Both active and passive campaigns can be used to increase awareness of risk. By going to the community and meeting them where they are, rather than asking them to come to you, you can increase your chances of success.

It is also essential that you frame the issue for your community, understanding their actual complaints or challenges to implementation and integration. Focus on what will resonate with your community and on efforts that match your risks and capabilities.

It will be important to recognize and balance competing priorities. Part of this solution is to spread the word that by integrating hazard mitigation goals and objectives with other planning efforts; you do not need to compete with priorities – you can support and complement them. It can be a win-win situation and can allow communities to leverage time and money.

A lack of political will can slow any planning process. Building political will means creating awareness of the wide range of benefits of your plan, including the social, economic, and

environmental aspects of your efforts. Some decision-makers need data and proof that integration works; this can be provided using quantifiable metrics, documenting the losses avoided, and emphasizing efficiencies and cost savings. Having a framework or forum for intergovernmental coordination helps to remove some of the silos we discussed earlier and can build political will and support. First use existing channels of communication, like metropolitan or rural planning organizations, water management districts, or councils of government. Consider flexibility in digital communication options!

Incentives and drivers for integrated planning can help overcome barriers to success. Incentives can kick-start the momentum of plan integration and can make integrating a more attractive option than doing nothing.

Expanding local capacity to support local resources seeks to use creative alliances and partnerships to support plan integration. Limited resources do not need to derail mitigation efforts; you just have to be smarter about using what you have. For example, is a college nearby? Would any of their majors or professors have an interest and ability in helping integrate plans? Could an insurance agent or industry group support your efforts? Can you incorporate hazard mitigation into the lifecycle of existing projects?

## Visual 23: Moving Mitigation Forward

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## Visual 24: Setting Up for Success

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- Use the post-disaster recovery period window of opportunity
- Focus on early wins
- Encourage champions
- Maintain your engagement
- Focus on quality over quantity
- Build on existing strengths
- Develop strong messaging
- Celebrate your successes!



## Visual 25: Use the Post-Disaster Recovery Period

---

- Take advantage of public interest and political will
- Funding opportunities to address problems
- Recover with mitigation in mind
  - Rebuild stronger and safer
- Use as a window of opportunity



Photo Credit: Tom Smith, FEMA Region V (ret.).

### Use the Post-Disaster Recovery Period

Following a disaster, there is generally a great deal of public interest in mitigation and a desire to avoid a recurrence of the effects of the hazard.

Various funding opportunities may be available after a disaster to fund mitigation actions; funding may come through State and Federal sources, as well as through volunteers and donations.

Redevelopment may provide a chance to recover with mitigation in mind. By implementing features of community economic development, environmental protection, land use, growth management, or other plans when the community is already undertaking large scale rebuilding, you can better protect your lands and people in the future.

The post-disaster recovery period is also an opportunity to highlight any previous mitigation actions that worked well during the disaster.

## Visual 26: Focus on Early Wins

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- Demonstrating success and progress can quickly go a long way toward gaining support
- Try to complete a few low-cost actions that can be implemented quickly
- Document and showcase wins for your leadership and public to see



### Focus on Early Wins

Education and outreach programs are often easily implemented and are low-cost.

Starting with these mitigation activities can also help to gain public buy-in for long-term implementation and may even garner a few volunteers along the way.



## Visual 27: Encourage Champions

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- Champions should:
  - Be credible with the community
  - Understand your plan
  - Be able to communicate it to others
- Look to the organizations that are identified in the action plan



Lisa Garcia, R3 Mission Support Division Director

### Encourage Champions

Successful projects often involve a strong, local champion. Champions are leaders who understand the mitigation vision, can clearly communicate it, and can engage others in the project.

## Visual 28: Maintain Your Engagement

---

Leverage your partnerships to:

- Share ideas and best practices to address risk
- Ensure efforts are not duplicated
- Ensure resources are used effectively and efficiently
- Identify potential funding sources



### Maintain Your Engagement

During the planning process, through stakeholder and public participation, community partnerships are formed. These community partnerships should be continued after your plan is completed because they are very important for mitigation action implementation. Working with these community partners provides a forum where ideas and best practices can be shared, as well as the ability to leverage other funding sources for mitigation that not everyone may know. These sources may not necessarily be called mitigation funding but can be used to achieve similar community goals for a safer, stronger community. Working together also ensures efforts are not duplicated and resources are used effectively and efficiently.

## Visual 29: Focus on Quality over Quantity

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- Identify and focus on projects that target the highest risks and your greatest community needs
- Balance available staff and the time allotted to the project
- Plans can always be revised to include future projects
- Try to balance low- and high-cost projects to address your priorities



### Focus on Quality over Quantity

Communities generally benefit a great deal from carrying out a few important projects that significantly reduce risk. As you transition from plan development to plan implementation, it is important to achieve a few wins early in the process and/or successfully complete some initial mitigation actions based on staff availability and project timeline. These could be low-cost actions that can be implemented quickly or a single high-priority project.

You should identify and focus on projects that target the highest risks and greatest community needs; this is why you need to evaluate and prioritize projects during the mitigation strategy development process. Plans can be revised on an ongoing basis, outside of the formal 5-year update process. When revising be sure to document the changes made to your plan, so they are captured and incorporated into the formal plan update process. Demonstrating progress can go a long way in gaining the support needed to implement more complex actions in the future.

## Visual 30: Build on Existing Strengths

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Look at existing programs and plans to match with mitigation actions and proposed projects.



Source: FEMA National Mitigation Planning Program training materials

### Build on Existing Strengths

Instead of re-inventing the wheel or starting from scratch, consider the programs, policies, and people that have already been successful in your community. You can also consult with the State Hazard Mitigation Officer (SHMO) to see what existing programs and plans are available to the community.

Integrate with and build upon these capabilities. The capability assessment conducted as part of the planning process summarizes the existing and potential mitigation capabilities.

## Visual 31: Develop Strong Messaging

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- Tailor the message to your audience
- Understand each audience member's knowledge of mitigation and potential risk



### Develop Strong Messaging

Messaging can be complex. Each stakeholder group will want/desire a number of different things that may or may not overlap with the wants/desires of other stakeholder groups. However, stakeholders will need to see personal value in investing in mitigation. It may require greater effort to gain political backing or public support for some actions than for others. Actions that require local financial and/or administrative commitments and actions that generate opposition from competing interests may be challenging.

You should consider the unique concerns of various groups and identify ways mitigation can address their concerns. You will need to make a convincing case for the long-lasting benefits of mitigation.

For each proposed action, you should be prepared to clearly and succinctly explain how well the action supports other objectives, such as by providing social, economic, or environmental benefits.

For each proposed action, identify key selling points such as:

- The action is economically viable
- The action contributes to the community's long-term resilience and sustainability
- The action can be completed efficiently using staff time and coordination among departments
- The action is a wise and cost-effective expenditure
- The action will reduce the overall community risk and protect public safety
- The action will achieve multiple objectives
- The action is supported by a broad array of stakeholders including intergovernmental or public-private partnerships
- The action has a local champion who will work toward its completion and success

## Visual 32: Celebrate and Showcase Your Success!

**Example** Publicize Plan Adoption and Approval

**FOR IMMEDIATE RELEASE:**  
Bonnie Prigge, MRPC, 573-265-2993

Gasconade County Hazard Mitigation Plan approved

The Gasconade County Hazard Mitigation Plan has been approved by both the State Emergency Management Agency and the Federal Emergency Management Agency. The plan approval is pending adoption resolutions from the participating jurisdictions including Gasconade County, its cities and its school districts.

Meramec Regional Planning Commission (MRPC) worked in partnership with Gasconade County to update the plan. Planning meetings were held with city and county officials, school leaders, emergency management agencies and interested individuals.

The county must have an approved hazard mitigation plan in order for Gasconade County schools, cities, agencies and others to access state hazard mitigation grant funds. The plan includes an assessment of natural hazards, showcases past accomplishments and sets goals and action items to reduce the impact of natural hazards in the future.

Persons wishing to review the plan may access it on the MRPC website at [www.meramecregion.org](http://www.meramecregion.org).

For more information on the plan, contact Assistant Director and Environmental Programs Manager Tammy Snodgrass at MRPC, 573-265-2993.



### Celebrate and Showcase Your Success!

Now that the HMP is adopted and approved, the work is just beginning. But first, it's time to celebrate! Publicize the adoption and approval of the plan. Consider getting the word out using multiple methods, such as the following:

- Post a notice on the community's website
- Issue a press release on plan adoption and approval to local media outlets
- Distribute notices of approval to community partners
- Announce the first project(s) to be initiated
- Propose a congratulatory resolution or achievement award for the Planning Team (or specific individuals) for their successful work and commitment to making the community safer.

These and similar steps are easy to complete, are inexpensive, and will keep the HMP at the forefront of people's minds, helping to build momentum as you move into implementation.

## Visual 33: Celebrate Your Success!

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## Visual 34: Let's Talk About Success

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- What successes have you had in implementing mitigation projects?
  - What about other planning projects around your community?
  - Remember, mitigation can come in many forms!
- How could you use these successes and lessons learned for future mitigation planning?



## Visual 35: Reminder: Document, Document, Document \*

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Documenting the planning process includes:

- Existing authorities, policies, programs, and resources
- Participation
- Methodologies and results
- Updates



By documenting progress now, you can inspire more action in the future.



This is a required hazard mitigation plan element/activity.

Note

## Visual 36: Examples

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## Visual 37: Riskburg Grant Application

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**Riskburg decided to apply for grants to relocate a school.** Representatives from Public Works and the School Board developed a project timeline, key deliverables, and budget. They then split the school relocation into three phases:

1. Assessing a potential new site: In this phase, they included the costs for engineers, contractors, and other hired needs. They requested Advanced Assistance for this phase, as well. They then drafted an outline of a Request for Proposal for budgeting and timing if FEMA awards them the grants.
2. Demolishing the old site: Riskburg worked with the State’s Historic Preservation Office to confirm the school was not historically or culturally significant. They then applied for a PDM grant to demolish the school and keep the land as greenspace in perpetuity.
3. Connecting the vacant land to a public trail system: Riskburg worked with the Parks Department and reached agreement for them to provide in-kind labor to be counted towards their local match. By leveraging grants from US Department of Education and FEMA, they also addressed other hazards as well: reinforced windows and a roof for high winds and snow load.



This is an option for communities with limited capabilities and Beyond the Basics.

Note

## Visual 38: Riskburg Community Fair

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**To gain additional feedback for the mitigation plan, Riskburg had a booth at their annual community fair.**

- Residents were able to provide feedback on what hazards most affected them, including flooding, tornadoes, and wildfires.
- Community members provided additional ideas for mitigation actions that addressed the identified hazards.
- Fliers were handed out for residents to learn how to protect their homes from hazards in easy, affordable ways.



This is an option for communities with limited capabilities and Beyond the Basics.

Note

## Visual 39: Dangerville HMP Final Draft Approval Process (2 of 2)

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- After addressing public comments and reviewing the final draft, the Planning Team presented it to elected officials, reminding them of their roles and answering questions about the process.
- The plan was then adopted smoothly because of their diligent efforts.



## Visual 40: Dangerville HMP Final Draft Approval Process (1 of 2)

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- As part of the approval process, the Planning Team followed their established process for public review.
- The Planning Team announced the public comment period in the local newspaper and put up flyers at community hubs. Copies of the plan were brought to the public library, fire station, and a local festival.
- Social media posts were made to guide the public to a website that housed the mitigation plan and how to leave comments.



## Visual 41: Questions

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### Questions?

This concludes this module. If you have any questions, pose them to the instructor.

## Visual 42: FEMA logo

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# Module 8: Mitigation Funding and Assistance

# Visual 1: Module 8: Mitigation Funding and Assistance

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Mitigation Funding and Assistance

## Module 8: Mitigation Funding and Assistance

This module provides guidance on sources of mitigation funding and assistance.

## Visual 2: Course Map

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	Introduction
	Planning Process: Role and Responsibilities
	Planning Process: Organizing and Engaging Community Partners
	Risk Assessment: Identifying Community Assets and Hazards
	Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk
	Developing a Mitigation Strategy
	Plan Maintenance and Updates
	Plan Implementation
<b>8</b>	<b>Mitigation Funding and Assistance</b>
	Conclusion

### Course Map

This module will provide detailed guidance for how to complete the funding sources available for mitigation planning.

## Visual 3: Module Learning Objectives

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- Identify FEMA and other mitigation funding sources and assistance.
- List the steps in the HMA application process.



### Module Learning Objectives

By the end of this module, you should be able to perform these objectives.

- Identify FEMA and other mitigation funding sources and assistance.
- List the steps in the HMA application process.

## Visual 4: Mitigation Funding and Assistance

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Photo Source: Pixabay.

## Visual 5: Types of Mitigation Funding and Assistance

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- Private funding
- Grants
- Loans
- Local revenue
- Technical assistance
- In-kind services and materials



### Types of Mitigation Funding and Assistance

Mitigation projects can be funded with grants, loans, and through local revenue sources, if available. Mitigation projects may require technical assistance or training that can be provided by State and Federal agencies. Mitigation projects can also be supported with in-kind services including volunteer labor and donated materials.

## Visual 6: Private Funding

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Individuals may complete their own mitigation projects or cover a portion of the cost of mitigation measures for their property.

- All or part of the non-Federal share up to 25 percent of the project cost
- Increases the likelihood of buy-in



### Private Funding

Individuals may complete their own mitigation or cover a portion of the cost of mitigation measures for their property.

- All or part of the non-Federal share
- Increases the likelihood of buy-in

Participation in a mitigation project by an individual is voluntary. However, if an individual elects to participate, he/she may be asked to contribute to the project, such as by funding part of the cost. This contribution to the total project cost may be all or a portion of the non-Federal share. Contributions by individuals may increase the likelihood of buy-in or commitment to mitigation goals.

## Visual 7: FEMA HMA Funding Opportunities

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### Robert T. Stafford Act Grant Programs

- Hazard Mitigation Grant Program (HMGP)
- HMGP Post Fire
- Pre-Disaster Mitigation (PDM) (Final grant application cycle concluded Jan. 31, 2019)
- Building Resilient Infrastructure and Communities (BRIC) (Replaces PDM in FY2020)

### National Flood Insurance Act of 1968 Program

- Flood Mitigation Assistance (FMA) Grant Program
- Repetitive Flood Claims (RFC) – Eliminated by Biggert-Waters Flood Insurance Reform Act of 2012 (BW12)
- Severe Repetitive Loss (SRL) – Eliminated by BW12

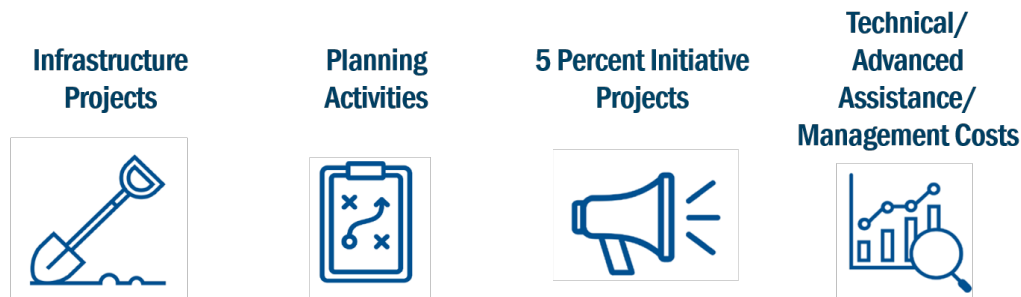
## FEMA HMA Funding Opportunities

FEMA offers HMA grants to State, Tribal, Territorial, and local governments to support mitigation projects. Specific funding availability may vary from year to year and program requirements vary. For the current and detailed eligibility requirements and application procedures, please review the most recent version of the FEMA Hazard Mitigation Assistance Guidance.



## Visual 8: Example of Projects Eligible for HMA Funds

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### Example of Projects Eligible for HMA Funds

Eligibility is subject to change per each funding availability announcement but will include at least a subset of these items. The HMA Guidance is the authoritative source of eligible project-types. Note that changes in eligibility may be a consideration as part of annual meetings to revise priorities for the next year's implementation program.

Example(s) of Infrastructure Projects:

- Acquisition/ Demolition
- Elevation
- Soil Stabilization
- Generator
- Green Space Infrastructure

Example(s) of Planning Activities:

- Local HMP Update
- State HMP Update
- HMP Addendum

Example(s) of 5 Percent Initiative Projects:

- Public Awareness Campaign
- Warning Signs/ Notification Systems

Example(s) of Technical/ Advanced Assistance/ Management Costs:

- Hydrology and Hydraulic (H&H) Study
- Architectural and Engineering Designs
- Benefit Cost Analysis (BCA)

## Visual 9: HMA Project Eligibility by Program

Eligible Activities	HMGP	PDM	BRIC	FMA
<b>1. Mitigation Projects</b>				
Property Acquisition and Structure Demolition	Yes	Yes	Yes	Yes
Property Acquisition and Structure Relocation	Yes	Yes	Yes	Yes
Structure Elevation	Yes	Yes	Yes	Yes
Mitigation Reconstruction	Yes	Yes	Yes	Yes
Dry Floodproofing of Historic Residential Structures	Yes	Yes	Yes	Yes
Dry Floodproofing of Non-residential Residential Structures	Yes	Yes	Yes	Yes
Generators	Yes	Yes	Yes	-
Localized Flood Risk Reduction Projects	Yes	Yes	Yes	Yes
Non-localized Flood Risk Reduction Projects	Yes	Yes	Yes	-
Structural Retrofitting of Existing Buildings	Yes	Yes	Yes	Yes
Non-structural Retrofitting of Existing Buildings	Yes	Yes	Yes	Yes
Safe Room Construction	Yes	Yes	Yes	-
Wind Retrofit for One- and Two-Family Residences	Yes	Yes	Yes	-
Infrastructure Retrofit	Yes	Yes	Yes	Yes
Soil Stabilization	Yes	Yes	Yes	Yes
Wildfire Mitigation	Yes	Yes	Yes	-

## HMA Project Eligibility by Program (1 of 2)

Any HMGP project type is eligible to be funded under the HMGP Post Fire program, unless otherwise stated in the HMA guidance. However, the Post Fire policy prioritizes certain project types and locations. ([see Job Aid](#) for eligible HMGP Post Fire project types: <https://www.fema.gov/disasters/disaster-recovery-reform-act-2018/provisions-1204-1209>).

## Visual 10: HMA Project Eligibility by Program (1 of 2)

Eligible Activities	HMGP	PDM	BRIC	FMA
Building Code Adoption	-	-	Yes	-
Post-Disaster Code Enforcement	Yes	-	Yes	-
Structure Elevation	Yes	Yes	Yes	-
5 Percent Initiative Projects	Yes	-	-	-
Aquifer Storage & Recovery**	Yes	Yes	Yes	Yes
Flood Diversion & Storage**	Yes	Yes	Yes	Yes
Floodplain & Stream Restoration**	Yes	Yes	Yes	Yes
Green Infrastructure**	Yes	Yes	Yes	Yes
<b>2. Hazard Mitigation Planning</b>	Yes	Yes	Yes	Yes
<b>3. Technical Assistance</b>		-	Yes	Yes
<b>4. Management Cost</b>	Yes	Yes	Yes	Yes

## Visual 11: Building Resilient Infrastructure and Communities (BRIC)

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- BRIC was enacted as a part of the Disaster Recovery Reform Act of 2018 (DRRA).
  - BRIC is now active, replacing the existing PDM program.
- Annual funding may be up to 6 percent of the total annual federal post-disaster grant funding; ensures yearly steady stream of grant funding
- Through BRIC, FEMA will continue to invest in a variety of mitigation activities with an added focus on infrastructure projects, nature-based solutions and community lifelines.

### Building Resilient Infrastructure and Communities (BRIC)

[BRIC](http://www.fema.gov/bric) (link accessible at <http://www.fema.gov/bric>) is a new FEMA pre-disaster hazard mitigation program that replaces the existing Pre-Disaster Mitigation (PDM) program.

## Visual 12: Plan Requirements for HHPD

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Applicants and Sub-recipients must have a Hazard Mitigation Plan that addresses all dam risk. Plan Review Tool for State and Local Communities are updated to reflect the planning requirements for HHPD.



### Plan Requirements for HHPD

Photo Source: Pixabay.

For State Plans:

- Does the plan describe how the state dam safety agency, other agencies, and stakeholders participated in the planning process and contributed expertise, data, studies, information, etc. relative to eligible high hazard potential dams?
- Does the plan address all dam risk for eligible high hazard potential dams in the risk assessment?
- Does the plan include mitigation goals to reduce long-term vulnerabilities from eligible high hazard potential dams that pose an unacceptable risk to the public?
- Does the plan prioritize mitigation actions to reduce vulnerabilities from eligible high hazard potential dams that pose an unacceptable risk to the public?

- Does the plan identify current and potential sources of funding to implement mitigation actions and activities for eligible high hazard potential dams that pose an unacceptable risk to the public?
- Does the plan generally describe and analyze the effectiveness of local mitigation policies, programs, and capabilities that address eligible high hazard potential dams that pose an unacceptable risk to the public?
- Does the plan describe the criteria for prioritizing funding for eligible high hazard potential dams that pose an unacceptable risk to the public?

For guidance on mitigation planning requirements to be eligible for the HHPD grant program, please see [Rehabilitation of High Hazard Potential Dams \(fema.gov\)](https://www.fema.gov/sites/default/files/2020-08/fema_hhpd_grant-guidance.pdf). The link is available at [https://www.fema.gov/sites/default/files/2020-08/fema\\_hhpd\\_grant-guidance.pdf](https://www.fema.gov/sites/default/files/2020-08/fema_hhpd_grant-guidance.pdf).

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## Visual 13: Plan Requirements for HHPD (continued)

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**For Local Plans:**

- Does the plan describe the incorporation of existing plans, studies, reports, and technical information for eligible high hazard potential dams?
- Does the plan address eligible high hazard potential dams in the risk assessment?
- Does the plan include mitigation goals to reduce long-term vulnerabilities from eligible high hazard potential dams?
- Does the plan prioritize mitigation actions to reduce vulnerabilities from eligible high hazard potential dams?



## Visual 14: Planning-Related Activities

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- FEMA supports a variety of planning-related activities through the HMGP and BRIC
- Up to 7 percent of a recipient's HMGP funding can be used
- There is no limit to the dollar value that can be submitted by a community

### Planning-Related Activities

To strengthen hazard mitigation across the country, FEMA supports a variety of planning-related activities through the HMGP and BRIC. In addition to hazard mitigation planning grants, this funding is available for planning-related activities and provides flexibility to State, Tribal, and local governments to reduce risk and integrate hazard mitigation principles into planning for resilience.

Planning-related activities that are eligible for HMGP and BRIC funding include:

- Update the mitigation strategy to reflect current mitigation and/or disaster recovery goals
- Update or enhance sections of the current FEMA-approved HMP
- Develop and deliver planning-related training
- Provide technical assistance to subrecipients on mitigation planning
- Evaluate the adoption and/or implementation of ordinances that increase resilience
- Integrate information from the current mitigation plan to enhance other planning efforts

## Visual 15: Rehabilitation of High Hazard Potential Dams (HHPD)

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- Grant program under FEMA’s National Dam Safety Program
- Provides technical, planning, design, and construction assistance for rehabilitation of eligible HHPDs
- HHPD classification is for any dam whose failure or mis-operation will cause loss of human life and significant property destruction
- In FY 2019, \$10 million available through HHPD Grant Program



### Rehabilitation of High Hazard Potential Dams (HHPD)

The President signed the “Water Infrastructure Improvements for the Nation Act” or the “WIIN Act,” on December 16, 2016, which adds a new grant program under FEMA’s National Dam Safety Program (33 U.S.C. 467f). Section 5006 of the Act, Rehabilitation of High Hazard Potential Dams, provides technical, planning, design, and construction assistance in the form of grants for rehabilitation of eligible high hazard potential dams. Having an approved mitigation plan is a prerequisite for HHPD funding.

High Hazard Potential is a classification standard for any dam whose failure or mis-operation will cause loss of human life and significant property destruction.

In Fiscal Year 2019, FEMA was appropriated \$10 million to implement the Rehabilitation of High Hazard Potential Dams (HHPD) Grant Program. For FY2019, the HHPD will provide assistance for planning and other pre-construction activities.

The Notice of Funding Opportunity (NOFO) is the authoritative source of information about this grant. The NOFO will be published each year the program is available. Visit [www.grants.gov](http://www.grants.gov) and search for High Hazard Potential Dams to find the most recent grant information.

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## Visual 16: Notice of Funding Opportunity (NOFO)

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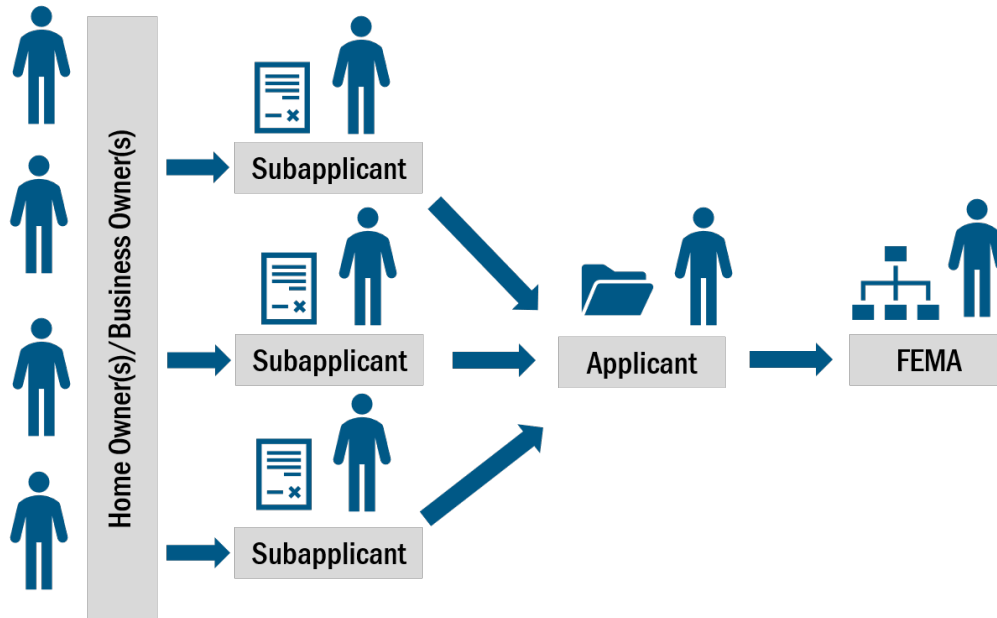
- Draft NOFOs each Fiscal Year
  - Agency's priorities for funding
  - Application timeline
- Finalize NOFOs upon receipt of Appropriations for review and approval
- Post on [Grants](http://www.Grants.gov) (link accessible at <http://www.Grants.gov>)

### Notice of Funding Opportunity (NOFO)

NOFOs are the official notification from the government that funding opportunities will be available. These notifications provide requirements for funding and submission instructions.

[Grants](https://www.grants.gov/) (link accessible at <https://www.grants.gov/>)

## Visual 17: Simplified HMA Application Process



### Simplified HMA Application Process

Homeowners, private non-profits, and business owners can apply for mitigation funds through a subapplicant. Subapplicants are generally a community of county agency, most commonly the jurisdictional emergency management office (though other governmental agencies can also be a subapplicant, i.e. housing/taxing authorities). After the subapplicants have submitted their project applications, the applicant reviews and selects the projects that will be submitted to FEMA for a federal review. Ultimately, FEMA decides which projects are approved for funding following an internal review.

Remember that sub-applicants can be a Tribe, local jurisdiction, or a special district.

## Visual 18: Other FEMA Resources

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- Public Assistance (PA) Program Section 406 Mitigation
- Emergency Management Performance Grant (EMPG)
- Increased Cost of Compliance (ICC) under the National Flood Insurance Program (NFIP)



### Other FEMA Resources

There are other FEMA programs that help fund mitigation projects. Please contact your FEMA Region for more information on these programs.

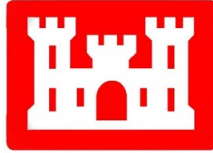
Section 406 of the Stafford Act through the Public Assistance Program provides funding for hazard mitigation actions for public facilities and infrastructure damaged by hazard events. This funding is available as a component of the FEMA Public Assistance award to a community as part of the disaster recovery process following a Presidential Disaster Declaration. Communities need to specifically request Section 406 Mitigation in order for it to be considered.

The purpose of the Emergency Management Performance Grant (EMPG) Program is to provide Federal funds to States to assist State, local, Territorial, and Tribal governments in preparing for all hazards by building and sustaining core capabilities. For more information on the EMPG, please contact your FEMA Region.

The Increased Cost of Compliance (ICC) benefit provides additional funding under the NFIP to homeowners with flood insurance whose structures have been determined to be substantially damaged by flood. This funding can be used to pay for or offset the costs of mitigation when the structure is rebuilt. Often this funding is used to offset the non-Federal share for hazard mitigation grants.

## Visual 19: Widespread Mitigation Funding Opportunities

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*Army Corps of Engineers*



### Widespread Mitigation Funding Opportunities

Mitigation funding doesn't just come from FEMA. There are lots of government agencies, including other Federal, State, local, and regional programs, as well. Get creative in your funding!

## Visual 20: Reminder: Document, Document, Document \*

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Documenting the planning process includes:

- Existing authorities, policies, programs, and resources
- Participation
- Methodologies and results
- Updates



By documenting progress now, you can inspire more action in the future.



This is a required hazard mitigation plan element/activity.

Note

## Visual 21: Questions

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### Questions?

This concludes this module. If you have any questions, pose them to the instructor.



## Visual 22: FEMA logo

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# Module 9: Course Conclusion

# Visual 1: Module 9: Course Conclusion: Wrap-Up and Final Questions

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## Course Conclusion **Wrap-Up and Final Questions**

## Visual 2: Conclusion

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Image credit: Lower Platte South Natural Resources District

## Visual 3: Course Map: What We Covered

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Introduction
Planning Process: Role and Responsibilities
Planning Process: Organizing and Engaging Community Partners
Risk Assessment: Identifying Community Assets and Hazards
Risk Assessment: Assessing Impacts, Vulnerabilities, and Risk
Developing a Mitigation Strategy
Plan Maintenance and Updates
Plan Implementation
Mitigation Funding and Assistance
<b>9</b> ► <b>Conclusion</b>

### Course Map: What We Covered

In this module, you will review course topics and take the final course exam.

## Visual 4: Course Goal

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Provide local governments and their partners with the information necessary to prepare and implement their hazard mitigation plan



## Visual 5: Module 1: Planning Roles and Responsibilities

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- Recall the roles and responsibilities of the entities involved in hazard mitigation planning.
- Differentiate between mitigation and preparedness



## Visual 6: Module 2: Planning Process: Organize & Engage Community Partners

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- Discuss the role of the planning team, community partners, and the public in hazard mitigation planning.
- Recall the process of gathering information and documentation essential for a successful mitigation plan.





## Visual 7: Module 3: Identifying Community Assets and Hazards

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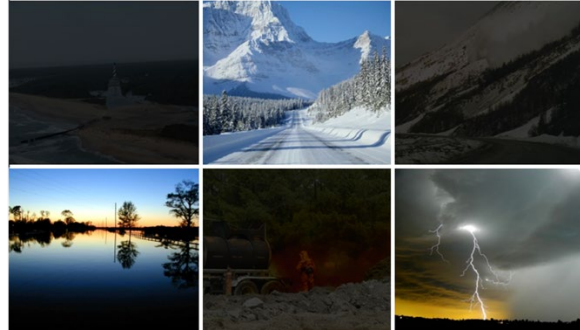
- Recall types of community assets and methods of determining at-risk assets.
- List steps involved in identifying and profiling hazards.



## Visual 8: Module 4: Assessing Impacts, Vulnerabilities and Risk

---

- Recall the steps and various methods for assessing risk, vulnerability, and impacts.
- Describe tools and resources to help with the risk assessment process.



## Visual 9: Module 5: Developing a Mitigation Strategy

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- Identify considerations for selecting and prioritizing mitigation actions.
- Recall the benefits of plan integration.



## Visual 10: Module 6: Plan Maintenance and Updates

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- Identify the three components of plan maintenance.
- Identify essential steps and considerations when updating the hazard mitigation plan.



## Visual 11: Module 7: Plan Implementation

---

- Identify some common challenges and possible solutions to the implementation process.
- Discuss best practices that will help move mitigation actions forward.



## Visual 12: Module 8: Mitigation Funding and Assistance

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- Identify FEMA and other mitigation funding sources and assistance.
- List the steps in the HMA application process.



## Visual 13: References and Helpful Links

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### Plan Development Resources:

- Local Mitigation Plan Review Guide
- Local Mitigation Planning Handbook
- Hazard Mitigation Planning Resources

### References and Helpful Links

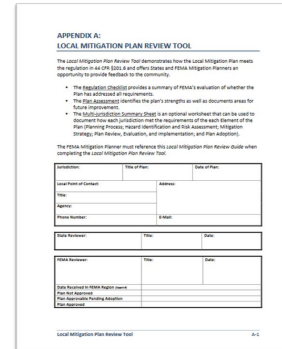
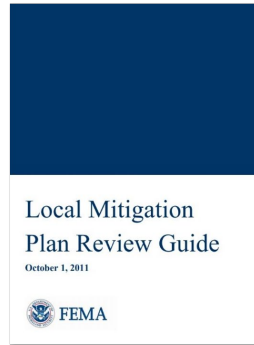
The [Local Mitigation Plan Review Guide \(2011\)](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide\\_09\\_30\\_2011.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-plan-review-guide_09_30_2011.pdf)) helps local governments update their plans to comply with FEMA's policy on the natural hazard mitigation planning requirements. It is the official interpretation of the Code of Federal Regulations.

The [Local Mitigation Planning Handbook \(2013\)](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf) (link accessible at [https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook\\_03-2013.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-local-mitigation-planning-handbook_03-2013.pdf)) is a tool for local governments to develop and update hazard mitigation plans. It has possible advice for developing a plan, as well as worksheets and other resources.

The [Local Mitigation Planning Resources](https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning) (link accessible at <https://www.fema.gov/emergency-managers/risk-management/hazard-mitigation-planning>) page is kept up to date with planning resources from across FEMA programs.

# Visual 14: Resources and Tools

Section 4: Regulation Checklist of the Local Mitigation Plan Review Guide spells out what must be included in the HMP to gain FEMA approval.

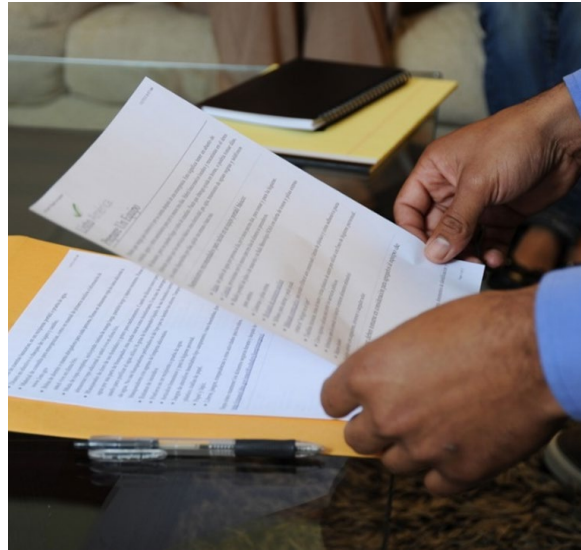




## Visual 15: Course Evaluation

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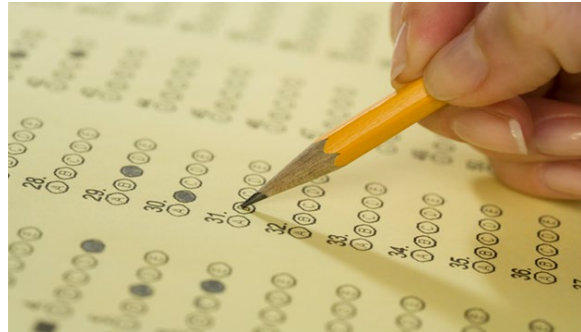
Please complete the Course Evaluation Form and return it to the instructor.



## Visual 16: Course Examination

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Complete the course final examination and turn it into the instructor.



## Visual 17: Closing Remarks

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- Are there any final questions?
- Do you have any general observations?
- Do you have any suggestions for future deliveries?

## Visual 18: Course Credits

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- American Planning Association American Institute of Certified Planners
  - Participants are required to log their own credits and must have signed in to the workshop.
- Association of State Floodplain Managers Continuing Education Credits
  - We will send the list of participants to ASFPM directly.
- International Association of Emergency Managers (IAEM) Certified Emergency Manager (CEM)
  - Submit an certificate that shows the course hours.

## Visual 19: Thank you!

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