G318

Local Mitigation Planning Workshop

FEMA

Instructor Guide

September 2017

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INSTRUCTOR PREPARATION

This part of the Instructor Guide provides instructors with administrative, logistical, and content support to prepare for and deliver this workshop. Early review of this section will help you to organize and deliver this workshop effectively.

WORKSHOP CONTENT

Goal

The goal of this workshop is to provide plan developers with the information necessary to prepare and implement a local hazard mitigation plan.

Objectives

Upon successful completion of this workshop, participants will be able to:

- Define hazard mitigation and identify the benefits of mitigation planning
- Develop or update a local hazard mitigation plan
- Identify resources and guidance available for mitigation planning and plan implementation

WORKSHOP OVERVIEW

Module	Objectives	Time
Introductions and Overview	• Participants will learn who other participants in the workshop are and become familiar with workshop goals and objectives	1 hour
Module 1: Planning Process	• Participants will understand how to involve the stakeholders and the public in the planning process	2½ hours
Module 2: Risk Assessment	• Participants will understand how to assess risk	2½ hours
Module 3: Mitigation Strategy	• Participants will understand how to develop a mitigation strategy	3½ hours
Module 4: Community Resilience in Action	• Participants will be able to identify opportunities for implementing a mitigation plan	1¾ hours

Module	Objectives	Time
State/Local Presentations	• Participants will learn from regional experts about hazards or mitigation–related topics of local interest and about mitigation funding opportunities in their State	2 hours
Conclusion	• Participants will review workshop topics	¾ hour

TARGET AUDIENCE

This workshop is designed for local government officials, State officials, and others who are involved in the development of a local mitigation plan.

PREREQUISITES

There are no prerequisites for participating in this workshop.

INSTRUCTORS

For offerings at the Emergency Management Institute (EMI), the Course Manager, who is responsible for scheduling and managing the overall workshop delivery, will manage the workshop.

For field offerings, the Lead Instructor will be responsible for this effort if the EMI Course Manager is not available. Selecting a Lead Instructor from the pool of instructors is recommended. The Lead Instructor:

- Provides the class with prompt feedback on subject matter issue resolutions
- Serves as a leader during group activities
- Facilitates discussion of subject issues arising among workshop participants
- Facilitates discussion of the participants' evaluation, and resolves any items relating to the accuracy of the content of the workshop
- Establishes a contact at FEMA Headquarters to discuss questions that could not be not answered and other potential issues
- Contacts State or local experts several weeks before the workshop is to be held to schedule a presentation about a hazard(s) of particular concern, a local example of integrating mitigation, or a cutting edge topic that is relevant to the State.
- Invites the State Hazard Mitigation Officer to present the portion of Module 4 that provides information about mitigation funding opportunities and to

supplement the Module with additional information on State programs, practices, and examples of successful projects.

Instructors will ensure that they:

- Are familiar with all workshop materials
- Have a copy of the workshop agenda
- Are able to discuss current policy and program changes
- Have updated the examples and perhaps some of the case studies to remain timely
- Have read and understand the case studies included in Attachment H or are prepared to present other mitigation planning case studies
- Are current with their instructional skills
- Have arranged for local or State presenter(s)

QUALIFICATIONS

This workshop is designed to be taught by instructors who have extensive and current experience as local mitigation plan developers as well as familiarity with the plan review and approval process.

Instructors must demonstrate effective instructional skills, be able to communicate effectively with the target audience, and be able to adhere to time schedules.

METHODOLOGY

This workshop is designed for delivery in the classroom. The workshop delivery will be most effective if each student has some experience with local hazard mitigation planning.

The workshop is broken into six sections: an introduction, four modules, and a conclusion. Each instructional unit combines informal lecture with opportunities for participant questions and observations.

Workshop instructors will facilitate discussions and provide immediate feedback to participant questions.

DURATION

This format allows the workshop to be delivered in 14 hours of instruction, which includes lecture, activities, and breaks.

WORKSHOP AGENDA

Time	Day 1
8:30-9:30	Introduction and Overview
9:30-10:30	Module 1
10:30-10:45	Break
10:45-12:00	Module 1, Activity 1.1
12:00-1:00	Lunch
1:00-2:00	State/Local Presentation
2:00-3:00	Module 2
3:00-3:15	Break
3:15-4:30	Module 2, Activity 2.1
Time	**Day 2**
8:30-10:30	Module 3, Activities 3.1, 3.2
10:30-10:45	Break
10:45-12:00	Module 3, Activity 3.3
12:00-1:00	Lunch
1:00-2:00	State/Local Presentation
2:00-3:00	Module 4, Activity 4.1
3:00-3:15	Break
3:15-3:45	Module 4
3:45-4:30	Conclusion

PREPARATION CHECKLIST

Pre-Delivery Administrative Duties

- Obtain the workshop roster.
- Download and print copies of the attendance sheet (see Appendix 1 for an attendance sheet).
- Update and print copies of the workshop agenda (see Appendix 2 for a sample agenda) and any additional handouts.

- Print copies of the Workshop Evaluation (see Appendix 3) for distribution to the class.
- Read the case studies found in Attachment H and prepare a short presentation on each as part of Module 4. Tell each story in your own words. Be prepared to respond to questions based on the material in the case study.
- Contact State or local experts several weeks before the workshop is to be held to schedule a presentation about a hazard(s) of particular concern, a local example of integrating mitigation, or a cutting edge topic that is relevant to the State.
- Invite the State Hazard Mitigation Officer to present the portion of Module 4 that provides information about mitigation funding opportunities and to supplement the Module with additional information on State programs, practices, and examples of successful projects.

Pre-Delivery Instructor Preparation

Your preparation has a direct impact on training effectiveness. Use the following steps during your preparation:

- Read the Instructor Guide and the Student Manual thoroughly
- Be prepared to answer any questions that participants may ask
- Draft your own notes in the white space around the margins in the Instructor Guide; sharing personal experiences helps illustrate workshop concepts

Other Recommendations for Instructors

The Instructor may also consider the following ideas to tailor the workshop to the local area and improve overall facilitation:

- When contacting State and local experts to schedule a presentation, consider the following ideas for presentations:

A presentation by an expert in another State or Federal agency, such as a State forest service or geologic survey, on available resources and methods for assessing risk to a hazard of concern in the State

A presentation by a GIS expert on how Hazus and risk assessment can be used in emergency preparedness and response planning, as well as mitigation

A presentation by a local expert on an innovative best practice in developing a plan or implementing a project

A presentation by a local expert on a recent disaster, including the impacts, recovery experience, and lessons learned

- Work with the State to develop a handout that lists the best available data resources for each hazard specific to the State where the workshop is being held
- Bring one or two paper copies of plans that have been approved in the Region to display so that participants can examine them to understand what the plans look like
- Change images and examples in the PowerPoint presentations to represent the State where the workshop is being held
- Ask the State to start off the workshop by welcoming participants, discussing the purpose, and introducing the Instructors
- Be prepared to begin the second day of the workshop with a few questions to check for learning. For example, ask:

What is the definition of risk?[1]

What four characteristics of each hazard must be addressed in the plan?[2]

Who has to be given an opportunity to participate in plan development?[3]

- For each of the small group activities, ask the groups to select a speaker who has not already reported results in a previous activity

Using This Manual

This manual has been formatted to facilitate workshop delivery. Key features include Instructor Notes that provide helpful directions and sample responses to discussion questions and for classroom activities.

CLASSROOM SETUP AND FACILITY REQUIREMENTS

The following space setup is recommended:

- Room dimensions for class of 25–30 participants are a minimum of 1,250 square (e.g., 25 feet x 50 feet)
- Five to six tables, seating five to six people per table
- Instructor table to accommodate assigned instructors

[1] Risk is the intersection of assets and hazards.
[2] Location, extent, previous occurrences, and probability.
[3] The public, stakeholders, and agencies involved in hazard mitigation.

- Additional space/tables for materials and supplies, audio-visual/electronic equipment (projector, etc.), and break foods (coffee, snacks)

SUPPLIES AND EQUIPMENT

Audio-Visual/Electronic Equipment

- Computer with PowerPoint software for instructor
- LCD projector and large projection screen
- Overhead projector and screen (optional or as a backup)
- Handheld microphones (two per class)
- Lapel microphones for instructors (minimum of two)
- Laser pointer

Classroom Materials

- Tables and chairs
- Easel pads, felt-tipped markers, and easels
- Name tags and name tents for each participant and instructor

Participant Supplies

- Student Manuals (one per participant)
- Highlighters for participants (minimum one per participant)
- Pencils and pens
- Post-It notes
- Sticky dots (three per participant)
- Index cards (12 per group)

Instructional Materials

Workshop materials include Instructor Guide, Student Manual, handouts, and visuals. See the following table for print instructions.

Item	Quantity
Instructor Guide	(Instructors: one each)
Student Manual	(Enrolled participants + 1*)
Workshop Agenda	(Enrolled participants plus instructors)

Item	Quantity
Workshop Evaluation	(Enrolled participants)

*Extra Student Manual intended for instructor reference.

SUPPORTING PUBLICATIONS

The *Local Mitigation Planning Handbook* (Attachment A) and the *2011 Local Mitigation Plan Review Tool* (Attachment B) support the workshop materials and should be used to increase understanding of the material presented.

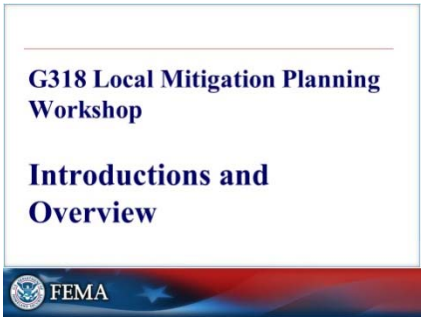
INTRODUCTIONS AND OVERVIEW

OBJECTIVES

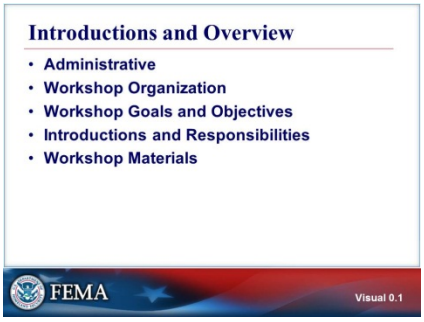
Participants will learn who other participants in the workshop are and become familiar with workshop goals and objectives.

METHODOLOGY

This section includes lecture and provides an opportunity for participants to ask questions.



Visual 0.0



Visual 0.1

Introductions and Overview

- Administrative
- Workshop Organization
- Workshop Goals and Objectives
- Introductions and Responsibilities
- Workshop Materials

Visual 0.2

Administrative

- Emergency exits
- Restrooms
- Cell phones
- Break schedule

Visual 0.3

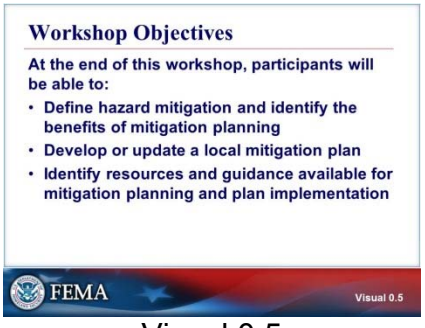
Instructors

- Brett Holt, Mitigation Planner, FEMA Region 10
- Amanda Siok, Mitigation Planner, FEMA Region 10
- Brent Nichols, State Hazard Mitigation Officer, AK Department of Military and Veteran Affairs
- George Grady, Mitigation Planner, AK Department of Military and Veteran Affairs

Visual 0.4

Workshop Goal

To provide plan developers with the information necessary to prepare and implement a local hazard mitigation plan.



Visual 0.5

Workshop Objectives

At the end of this workshop, participants will be able to

- Define hazard mitigation and identify the benefits of mitigation planning
- Develop or update a local mitigation plan
- Identify resources and guidance available for mitigation planning and plan implementation

The workshop focuses on local mitigation planning and the responsibilities of local governmental entities; however, this workshop will also benefit participants who work for the State by enhancing their ability to think of hazards and hazard mitigation from the local perspective.

These are the overall objectives of the workshop if presenting all four modules in combination. The next slides break out the goals for each of the four modules if taught independently.

Visual 0.6

Introductions

- Name
- Position and organization
- Mitigation planning experience or familiarity with hazard mitigation
- Workshop expectations

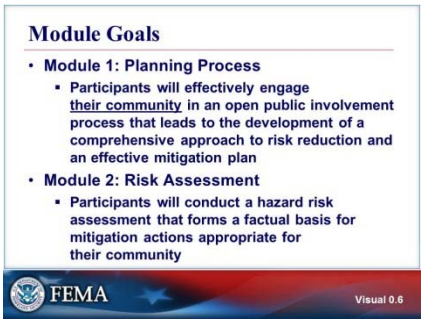
Visual 0.7

Workshop Organization

The workshop is organized into four half-day modules:

- Module 1: Planning Process
- Module 2: Risk Assessment
- Module 3: Mitigation Strategy
- Module 4: Community Resilience in Action

There are multiple units in each module. The modules may be taken together over 2 days or separately over a planning cycle.



Visual 0.8

Module Goals

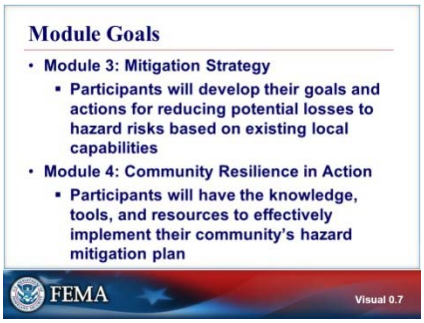
When delivered separately, the goals for individual modules are:

Module 1: Planning Process

- Participants will engage their community in an open public involvement process that leads to the development of a comprehensive approach to risk reduction and an effective mitigation plan.

Module 2: Risk Assessment

- Participants will conduct a hazard risk assessment that forms a factual basis for mitigation actions appropriate for their community.



Visual 0.9

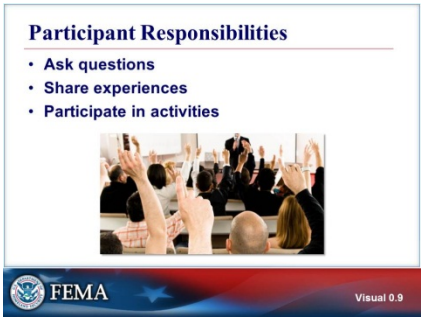
Module Goals

Module 3: Mitigation Strategy

- Participants will develop their goals and actions for reducing potential losses to hazard risks based on existing local capabilities.

Module 4: Community Resilience in Action

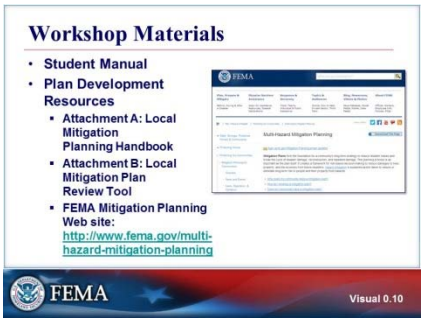
- Participants will have the knowledge, tools, and resources to effectively implement their community's hazard mitigation plan.



Visual 0.10

Participant Responsibilities

- Ask questions
- Share experiences
- Participate in activities



Visual 0.11

Workshop Materials

- Student Manual
- Plan Development Resources

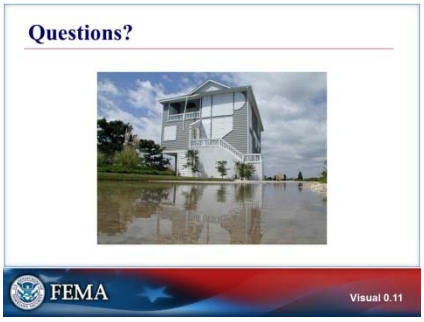
Attachment A: *Local Mitigation Planning Handbook*, which outlines how to develop a local mitigation plan that will meet Federal requirements
Attachment B: *Local Mitigation Plan Review Tool*, which is the document that FEMA uses to evaluate whether your plan meets Federal requirements
FEMA Mitigation Planning Web Site:
http://www.fema.gov/multi-hazard-mitigation-planning

Visual 0.12

Workshop Materials (Tribal)

- PowerPoint Slides
- Plan Development Resources
  - o Tribal Multi-Hazard Mitigation Planning Guidance
  - o Tribal Multi-Hazard Mitigation Plan Review Crosswalk
  - o Tribal Mitigation Plan Development Workbook

FEMA Mitigation Planning Website:
http://www.fema.gov/multi-hazard-mitigation-planning



Visual 0.13

Are there any questions?

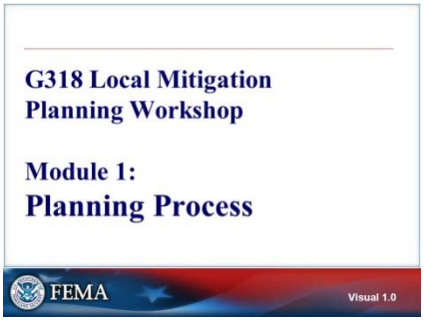
MODULE 1: PLANNING PROCESS

OBJECTIVES

Participants will understand how to involve stakeholders and the public in the planning process.

METHODOLOGY

This section includes lecture, discussion questions, and a tabletop activity, and provides an opportunity for participants to ask questions.



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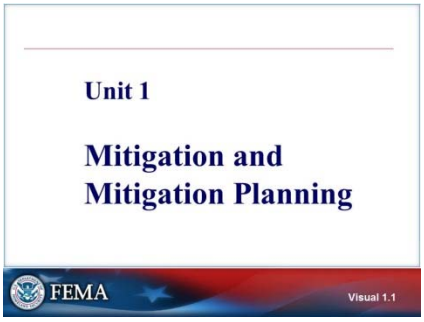
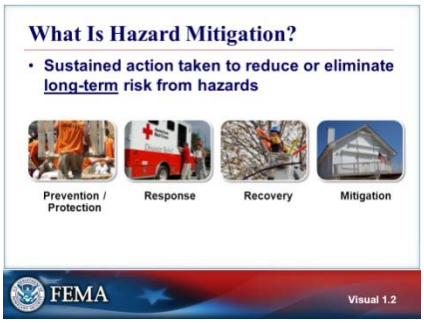


Visual 1.1

UNIT 1: MITIGATION AND MITIGATION PLANNING

At the end of this unit, participants will be able to:

- Define hazard mitigation
- Define resilience
- Describe the purpose of mitigation planning
- Identify authorities for mitigation planning



Visual 1.2

What Is Hazard Mitigation?

- Sustained action taken to reduce or eliminate long-term risk from hazards

Hazard mitigation reduces the potential for disaster; it is defined as sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

Mitigation reduces the potential for disaster and is most effective at the State and local levels.

Examples of local mitigation actions are:

- Acquiring and removing homes in the floodplain that have flooded repeatedly
- Instituting zoning ordinances that require fire-resistant roofing material in a subdivision in a wildfire hazard area
- Securing an unreinforced concrete parapet of a historic building in an earthquake hazard area
- Enforcing building codes

Mitigation is different from the other emergency management phases:

- **Prevention/Protection** includes plans and arrangements made to save lives and property and to facilitate response operations
- **Response** includes actions taken to provide emergency assistance, save lives, minimize property damage, and speed recovery immediately after a disaster
- **Recovery** includes actions taken to return to a normal or improved operating condition following a disaster

Visual 1.3

Hazard Mitigation: Examples

- Retrofitting a critical facility
- Land use planning
- Removal of a structure from a hazard area (property acquisition)
- Elevating a home by the river
- Clearing defensible space

Not Hazard Mitigation:

- Purchase of a Police Command Vehicle is *not* a mitigation action
- Planning for or conducting a response exercise is *not* a mitigation action

Visual 1.4

Mitigation Is an Investment

Mitigation is an investment in your community's future safety and sustainability. Mitigation helps to:

- Prevent injury and loss of life

Reduce exposure to risk from natural hazards

- Prevent damage to community assets (existing and future)

Prevent damage to a community's unique economic, cultural, and environmental assets

- Reduce costs of disaster response/recovery

Minimize operational down time and accelerate recovery of government and business after a disaster

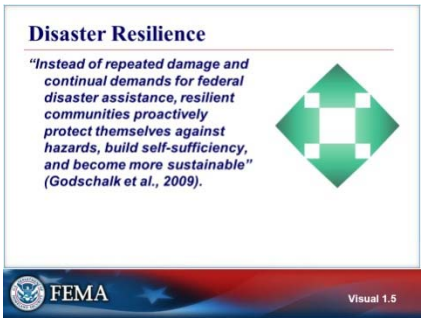
Reduce exposure to risk for first responders

- Advance other community objectives

Capital improvements, infrastructure protection, open space preservation, and economic resiliency

A one-time cost for implementing a mitigation action often results in long-term savings to the community.

Note that in this workshop the term "community" may be one or more political jurisdictions, school districts, councils of government, taxing authorities, or unincorporated areas.



Visual 1.5

Disaster Resilience

"Instead of repeated damage and continual demands for federal disaster assistance, resilient communities proactively protect themselves against hazards, build self-sufficiency, and become more sustainable." (Godschalk et al., 2009).

Local governments have the responsibility to protect the health, safety, and welfare of their citizens; proactive mitigation policies and actions help create safer, more disaster-resilient communities.

The green symbol on the slides in this workshop represents resilience.

Source: "Estimating the Value of Foresight: Aggregate Analysis of Natural Hazard Mitigation Benefits and Costs." David R. Godschalk, Adam Rose, Elliott Mittler, Keith Porter, and Carol Taylor West, *Environmental Planning and Management* 52:6, 739-756, September, 2009.

Visual 1.6

Hazard Mitigation Planning

Engages the whole community in a process to:

- Assess vulnerabilities and risks
- Identify policies and actions to reduce risk

The purpose of mitigation planning is to identify community 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 and the participation of a wide range of stakeholders and the public—the whole community—in the planning process.

One of the benefits of the mitigation planning process is

the establishment of partnerships that will be critical to recovery should a disaster occur.

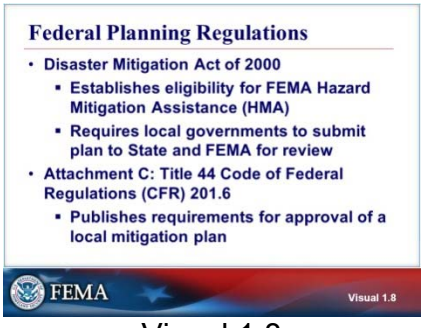
Visual 1.7

Why Mitigation Planning?

Mitigation is most effective when it is based on an inclusive, comprehensive, long-term plan that is developed before a disaster occurs.

Mitigation planning strengthens community disaster resilience with the following benefits:

- Identifies cost-effective actions for risk reduction that are agreed upon by stakeholders and the public
- Focuses resources on the greatest risks and vulnerabilities
- Builds partnerships by involving people, organizations, and businesses
- Increases education and awareness of hazards and risk
- Communicates priorities to State and Federal officials
- Aligns risk reduction with other community objectives (e.g., economic development, open space, public safety, civic engagement)



Visual 1.8

Federal Planning Regulations

- The Disaster Mitigation Act of 2000
  - Establishes eligibility for FEMA Hazard Mitigation Assistance (HMA) funding programs
  - Requires local governments to submit a plan to State and FEMA for review
    - Plan approval is a precondition for receiving HMA grants
    - Purpose of planning is to reduce the loss of life and property, human suffering, economic disruption, and disaster assistance costs

resulting from natural disasters

- Title 44 Code of Federal Regulations (CFR) 201.6 Publishes requirements for approval of local mitigation plans

- These requirements are explained in the relevant units of the workshop

Refer to Attachment C: Title 44 CFR 201.6 Local Mitigation Plans, which explains the Federal regulation for local mitigation plan approval.

Visual 1.9

Hazard Mitigation Assistance (HMA)

- To mitigate potential effects of any hazard

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM) program

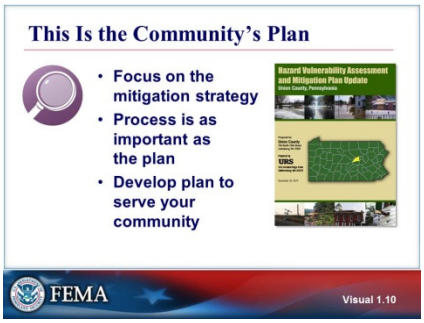
- To mitigate potential effects of flooding

- Flood Mitigation Assistance (FMA) program

The benefit of mitigation planning is not only that it makes communities eligible for funding to repair and rebuild following a disaster, but also that it prepares the community to be safer before a disaster happens.

HMA grant programs provide funding for eligible mitigation activities that reduce disaster losses and protect life and property from future disaster damages. The most recent Hazard Mitigation Assistance Unified Guidance provides information on eligible project activities.

Refer to Attachment D: HMA Fact Sheet, which contains additional information about FEMA HMA funding programs.



Visual 1.10

This Is the Community's Plan

The mitigation plan belongs to the local community. While FEMA has the authority to approve plans, there is no required format for the plan's organization.

When writing the mitigation plan, keep the following guiding principles in mind:

- Focus on the mitigation strategy. The mitigation strategy is the primary purpose of the plan. All other sections contribute to and inform the mitigation strategy and specific hazard mitigation actions.
- Process is as important as the plan. The plan is only as good as the process and people involved in its development. The plan should also serve as the written record, or documentation of the planning process.
- Develop the plan to serve your community. To have value, the plan must represent the current needs and values of the community and be useful to local officials and stakeholders.

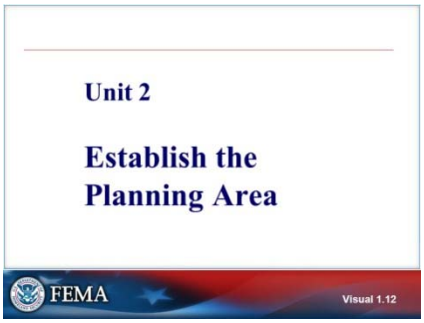
Visual 1.11

Plan Updates

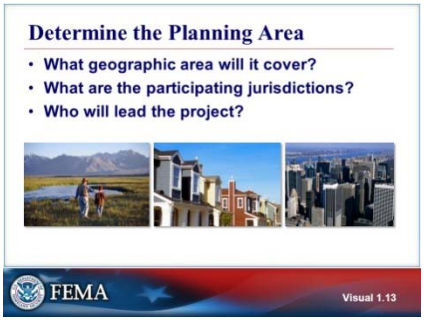
- Local mitigation plans must be updated every 5 years to maintain HMA eligibility
- Update requirements and recommendations are addressed in this workshop

By regulation, communities must review and revise plans to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within 5 years to continue to be eligible for FEMA mitigation project grant funding. Plan update requirements and recommendations are addressed in each unit of the workshop.

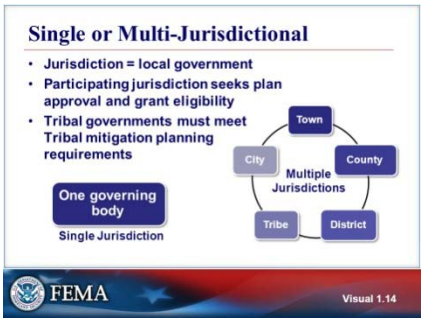
In this workshop, look for the Update symbol for information about updating the local mitigation plan.



Visual 1.12



Visual 1.13



Visual 1.14

UNIT 2: ESTABLISH THE PLANNING AREA

At the conclusion of this unit, participants will be able to:

- Define the scope of a planning process, including technical resources
- Describe the benefits and challenges of a single-jurisdiction or multi-jurisdictional mitigation planning process

Determine the Planning Area

Once your community has identified the need to develop or update its hazard mitigation plan, the first task is to determine the scope of the plan and who will lead the plan development process. You will need to identify the geographic planning area and the jurisdictions that will be represented in the plan.

Single or Multi-Jurisdictional

Communities may choose to develop their mitigation plan as a single jurisdiction or in partnership with other jurisdictions.

Any interested jurisdictions may participate in the planning process. However, jurisdictions that seek formal plan approval and eligible applicant status for FEMA mitigation grant programs must meet the multi-jurisdiction plan requirements. The final plan must clearly list the jurisdictions that participated in the plan and are seeking plan approval.

An Indian Tribal government may choose to participate in a multi-jurisdiction plan; however, they must meet the requirements for Tribal mitigation planning specified in 44 CFR 201.7.

Visual 1.15

Benefits of Multi-Jurisdictional Plans

Single jurisdiction plans offer sole discretion and autonomy in how the community conducts its planning process and can be suitable for any community, large or small.

Multi-jurisdictional planning processes may offer the following benefits:

- Improves communication and coordination among jurisdictions and other regional partners
- Enables comprehensive mitigation approaches to reduce risks that affect multiple jurisdictions
- Maximizes economies of scale by leveraging individual capabilities and sharing costs and resources
- Avoids duplication of efforts
- Provides an organizational structure that local jurisdictions may find supportive

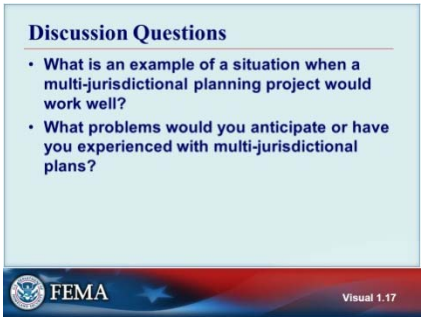
Visual 1.16

Challenges of Multi-Jurisdictional Plans

While offering several benefits, a multi-jurisdictional planning process is not an easier approach and can present the following challenges:

- Reduces individual control over the mitigation planning process
- Involves coordinating participation of multiple jurisdictions, which may have different capabilities, priorities, and histories working together
- May result in a less detailed assessment of local risk and less specific identification of mitigation actions for each jurisdiction
- Requires the organization of large amounts of information into a single plan document

In cases where jurisdictions have no history of working together, it can be more cost effective to develop single-



Visual 1.17

jurisdiction plans.

Discussion Questions

- What is an example of a situation when a multi-jurisdictional planning project would work well?
- What problems would you anticipate or have you experienced with multi-jurisdiction plans?

Potential responses for situations when multi-jurisdictional planning efforts are most effective include:

- When jurisdictions are concerned with the same hazards and operate under the same authorities
- When jurisdictions have similar needs and capabilities
- When jurisdictions have successfully partnered in the past, such as on developing plans for schools, emergency response, growth management, or water control

Potential responses for anticipated challenges may include:

- Collaboration takes time and effort
- Collaboration entails costs and it may be difficult to agree on how jurisdictions share the costs

Instructor may note that the benefits of collaboration include the sharing of ideas and information.
Follow up question may be:

- How has your community determined the planning area for hazard mitigation or other planning processes?

Potential responses may identify:

- Geographic proximity
- Economic factors such as by combining plans

Visual 1.18

for a city and its surrounding suburbs

Additional Considerations for Multi-Jurisdictional Planning

- Plan updates: Is the planning area defined in the previously approved plan still appropriate? Consider whether your community's mitigation planning needs were met by the previous planning effort or whether it would be beneficial to make adjustments to the process.
- Existing plans and partnerships: Consider whether there are regional organizations, councils of government, or other established multi-jurisdictional partnerships that your community collaborates with for planning activities related to comprehensive planning, watershed protection, or transportation. Counties with multiple townships and incorporated municipalities may wish to use a countywide planning approach. You may look to partner with neighboring jurisdictions, as well as quasi-governmental agencies such as school districts and utility or service districts, that have a vested interest in reducing hazard impacts.
- Available resources and capabilities: Consider the human, technical, and financial resources that your jurisdiction has available to take on this planning effort. If outside technical assistance is needed to help develop the plan, consider how to leverage this assistance to build long-term community capabilities.
- Once the planning area and participating jurisdictions have been determined, it is helpful to secure a level of commitment from all participants. This can be done by asking the jurisdictions to sign a Memorandum of Understanding at the beginning of the planning process that outlines what will be required of

each participating jurisdiction.

Visual 1.19

Multi-Jurisdiction Requirements

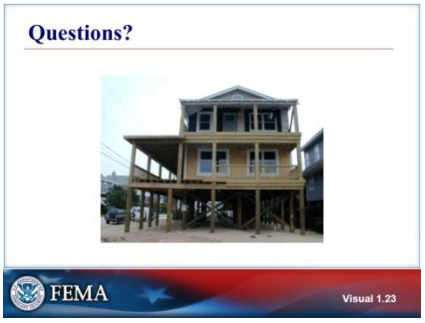
Each jurisdiction seeking plan approval must:

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

Multi-jurisdictional plans must meet all of the requirements of 44 CFR 201.6 for each of the participating local jurisdictions.

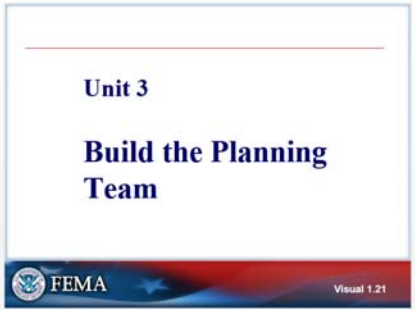
The orange symbol with the letter "R" is used in this workshop to identify a topic as a Federal planning requirement.

Refer to Attachment C: 44 CFR 201.6.



Visual 1.20

Are there any questions?



Visual 1.21

UNIT 3: BUILD THE PLANNING TEAM

A second critical task at the beginning of the planning process is to assemble a planning team that represents organizations with the expertise or authority to implement the mitigation strategy developed through the planning process. This will be the core group of people responsible for developing and reviewing drafts of the plan, creating the mitigation strategy, and submitting the final plan for local adoption.

At the conclusion of this unit, participants will be able to:

- Identify stakeholders and establish a planning team
- Document the planning process and stakeholder engagement

Visual 1.22

Role of the Planning Team

- Engage community members
- Identify vulnerabilities of each jurisdiction
- Develop potential solutions for each jurisdiction
- Be champions for community resilience and hazard mitigation

A critical task at the beginning of the planning process is to assemble a planning team that will be the core group responsible for assessing risks, creating the mitigation strategy, involving the public, and submitting the final plan for local adoption.

The symbol with the letter P is used in this workshop to highlight information about the planning team.

Visual 1.23

Local Leadership

Strong leadership is needed throughout the planning process from local elected officials and staff. An important initial decision of local officials is assigning the agency or individual that will lead the hazard mitigation planning effort.

While many local agencies have responsibility in hazard mitigation and should be included in the planning process, both the emergency management and community planning and development functions have unique knowledge and experience that make them natural leaders for a mitigation planning process.

Local emergency management staff will have an understanding of local hazards, risks, and consequences and may have more experience working with State and Federal agencies on mitigation projects and activities.

Community planning staff are familiar with zoning and subdivision regulations, land use plans, and long-term funding and planning mechanisms through which mitigation can be implemented; they may be trained to facilitate public outreach, conduct meetings, and develop a plan document, and may have access to data needed to assess risk.

If there's a person in your organization who you have worked with in the past, the two of you could share the responsibilities of leading the project.

Visual 1.24

Planning Team Members

Expertise

- People and social conditions
- Built and natural environments
- Hazards and disaster history

Responsibility

- Implement programs and activities
- Make decisions on policies and resources

The planning team represents organizations with the expertise or authority to implement the mitigation strategy developed through the planning process. For example, the planning department and building department would bring expertise on enforcing zoning regulations and building codes.

When building the planning team, you can start with existing organizations or committees in the community, if appropriate. For mitigation plan updates, reconvene the team from the previous planning process along with any additional individuals or organizations.

Visual 1.25

Technical Assistance

You could seek help with:

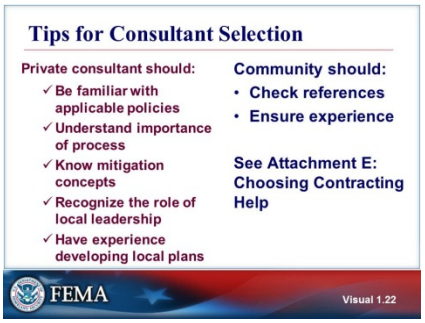
- Assessing risks
- Facilitating meetings and outreach strategy
- Creating plan document

You could seek help from:

- Regional planning agencies
- Private consultants
- Universities
- State or FEMA Region

Although developing a hazard mitigation plan does not require formal training in planning, engineering, or science, it may be helpful to get outside expertise in some areas. You could seek assistance with:

- Identifying hazards, assessing vulnerabilities, and understanding significant risks
- Facilitating planning team meetings, public involvement, and decisionmaking activities
- Creating an organized and functional plan document



Visual 1.26

Tips for Consultant Selection

Consultant should:

- Be familiar with applicable policies
- Understand importance of process
- Know mitigation concepts
- Recognize the role of local leadership
- Have experience developing local plans

Community should:

- Check references
- Ensure experience

If your community decides to hire a consultant, consider looking for a planner who:

- Recognizes that each community has unique demographic, geographic, technical, and political considerations that must be taken into account
- Understands all the applicable policies and regulations as they apply to the mitigation plan, including Federal law, FEMA guidance, State and local ordinances, and the National Flood Insurance Program (NFIP)
- Recognizes that community input and public participation are integral to any successful mitigation plan
- Is familiar with emergency management and multi-hazard mitigation concepts
- Provides you with past performance information and references

Refer to Attachment E: Choosing Contracting Help

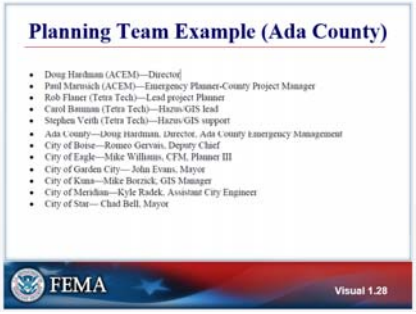
Visual 1.27

Planning Team and Other Stakeholders

- Planning Team
  - Members of
    - Previous planning team
    - Committee that oversees land use planning
    - Local emergency planning committee
  - Representatives of agencies that
    - Promote hazard mitigation
    - Regulate development
- Stakeholders
  - Elected officials
  - Business leaders
  - Public agencies
  - Cultural institutions
  - Colleges and universities
  - Nonprofit organizations
  - Neighborhood groups

It is important to distinguish between those who should serve as members of the planning team and other stakeholders. Representatives of agencies involved in hazard mitigation activities and with the authority to regulate development are usually key members of the planning team, while the other entities are important stakeholders.

Unlike planning team members, stakeholders need not be involved in all stages of the planning process. Instead they inform the planning team on a specific topic as subject matter experts (SMEs) or provide input from different points of view in the community. Examples of stakeholders are representatives of businesses, academia, and neighboring jurisdictions. We will discuss stakeholder involvement in more detail in the next unit.



Visual 1.28

Planning Team Example

A diverse planning team contributed to the development of the Ada County, (Idaho) Hazard Mitigation Plan

Visual 1.29

Planning Team Example

The planning team for the Ada County (Idaho) Hazard Mitigation Plan included partners from various Special Purpose Districts

Visual 1.30

Planning Team Example

The Quileute Indian Nation (Washington State) Hazard Mitigation Planning Team included official members, representatives from the tribal council, and a tribal planning committee.

Visual 1.31

Opportunity for Involvement

Certain stakeholders must be given the opportunity to be on the planning team or otherwise involved in the planning process, including:

- Agencies involved in hazard mitigation activities
- Agencies that have the authority to regulate development
- Neighboring jurisdictions
- Businesses, academia, and other private and nonprofit interests

Visual 1.32

Discussion Question

What agencies, organizations, and officials would be valuable members of the planning team?

Potential responses include:

- Planning and Development Department
- Department heads from Roads, Public Works, Economic Development, GIS, etc.
- Floodplain Manager
- Building Code Enforcement Officer
- Emergency Manager
- Representatives of Rural Electric Cooperative
- City/County Attorney
- City/County Tax Assessor
- City Manager / County Administrator

Refer to Handbook; Worksheet 2.1 Mitigation Planning Team (Attachment A).

Visual 1.33

Promoting Participation

- Send formal invitation from elected official or department head
- Follow up with a phone call
- Plan meeting in multiple convenient locations
- Provide refreshments

Identifying potential planning team members may be fairly straightforward; however, persuading individuals with competing priorities to invest time and energy in the mitigation planning process can be challenging. This is especially true when coordinating the participation of multiple jurisdictions.

It may be helpful, for example, to hold planning team meetings at a restaurant or to schedule the meeting at lunchtime and provide food.

It is important to determine what planning team members will be expected to contribute, as well as how they will be invited to participate. While updating a plan, you should consider what worked well or did not during the previous planning process.

The following are approaches for recruiting potential team members that have worked for communities in the past:

- After sending an e-mail or letter invitation, follow it up with a phone call to emphasize why participation is needed and to answer any questions
- Send a formal invitation signed by the mayor, elected official, or department head
- Plan the initial meeting at a convenient time and location for everyone
- Provide coffee and food at meetings to bolster attendance and attention spans
- Define the expected level of effort
- Explain if participation on the planning team requires in-person attendance at meetings or if contributions will be possible using electronic media (e.g., webinar, conference call)

Visual 1.34

Getting Buy-In

- Develop a mission statement

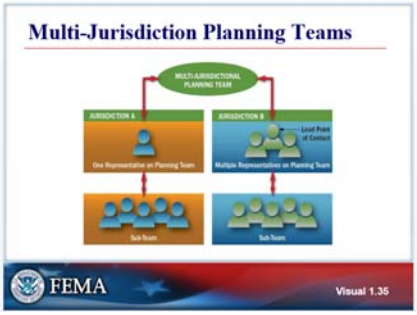
- The people invited to participate on the planning team will want to know what they can get out of the process
- Develop messages to communicate importance of mitigation and the roles of different agencies

- Obtain official recognition of the planning team via:

Memorandum of Agreement

- Council Resolution

  - The planning process is an opportunity to inspire ownership of mitigation efforts
  - Build relationships to:
- Increase coordination and commitment
  - The planning process is an opportunity to improve relationships and coordination among agencies and officials, both in your jurisdiction and with other participating jurisdictions
- Build resilience and enhance post-disaster response and recovery
  - In the event of a disaster, coordination and commitment are critical to a community's response and long-term recovery

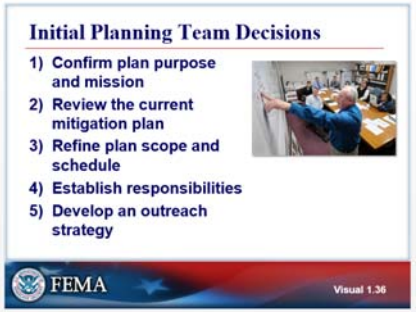


Visual 1.35

Multi-Jurisdiction Planning Teams

If you are developing a multi-jurisdictional plan, you will need to develop a planning team structure that promotes coordination and accountability among the jurisdictions. Each jurisdiction will have at least one representative on the planning team. This lead representative will be responsible for coordinating with his/her local community departments, agencies, and citizens.

Other models may include a core group of individuals from each jurisdiction participating on the planning team. The method of representation should be based on each community's capabilities and the level of effort required for assessing unique risks and developing specific mitigation actions.



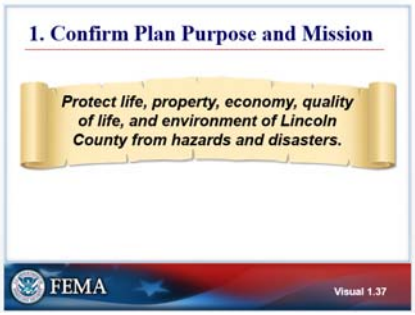
Visual 1.36

Initial Planning Team Decisions

1. Confirm plan purpose and mission
2. Review the current mitigation plan
3. Refine plan scope and schedule
4. Establish responsibilities
5. Develop an outreach strategy

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.

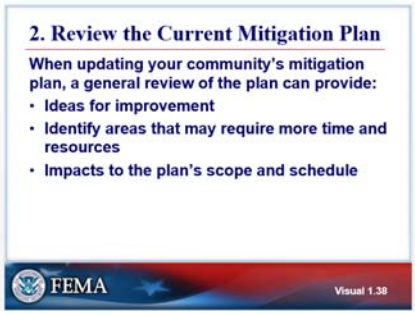


Visual 1.37

1. Confirm Plan Purpose and Mission

Example of a mission statement: Protect life, property, economy, quality of life, and environment of Lincoln County from hazards and disasters.

A mission statement describes the overall purpose of the planning process and the outcome that your community seeks to accomplish as the plan is implemented. Developing a mission statement at the beginning of the process helps unite the planning team around a common purpose and provides a foundation for the rest of the planning process. This also helps to communicate the benefits of the plan to stakeholders, elected officials, and the public.



Visual 1.38

2. Review the Current Mitigation Plan

A general review of your community's previously approved mitigation plan can provide a good starting point for identifying ideas for improvement and areas that may require more time and resources. This can impact the plan's scope and schedule.

Visual 1.39

3. Refine Plan Scope and Schedule

The slide illustrates an abbreviated planning process schedule.

The kickoff meeting is a good time for the planning team to agree on the overall scope of work and schedule for developing or updating the mitigation plan and the requirements of a hazard mitigation plan for FEMA approval. It is important that everyone walks away from the kickoff meeting with an understanding of the overall

project purpose, schedule, and tasks, as well as the agendas and goals for future planning team meetings.

Visual 1.40

4. Establish Responsibilities

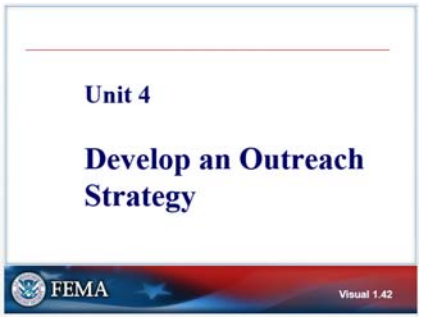
- Attend meetings
- Make decisions on plan process and content
- Collect data
- Submit mitigation action worksheets
- Review drafts
- Coordinate and assist with public involvement and plan adoptions

The planning team can establish roles and responsibilities at the beginning of the planning process. Planning team members should all have a clear understanding of what is expected of them as members of the team and how much time and effort they will need to dedicate to the project.

Visual 1.41

5. Develop an Outreach Strategy

The planning team will also determine who else needs to be involved in the mitigation planning process and how. The next unit, Unit 4, Create an Outreach Strategy, describes how to develop a comprehensive approach to engaging stakeholders and the public in the mitigation planning process.



Visual 1.42

Visual 1.43

Visual 1.44

UNIT 4: DEVELOP AN OUTREACH STRATEGY

At the conclusion of this unit, participants will be able to:

- Develop an outreach strategy
- Promote participation by stakeholders and the public
- Document the planning process and public participation

Outreach Strategy Framework

Think of the outreach strategy for the plan as having three tiers:

1. Planning Team
2. Stakeholders
3. Public

The level of effort is greater for the planning team than for stakeholders or the public.

The timing, method, and level of engagement are different for each tier. Unit 3 discussed how to establish a successful planning team. Unit 4 focuses on involving stakeholders and the public.

A stakeholder is any person, group, or institution that can affect or be affected by a course of action. The public includes the citizens of the community and anyone who has an interest in the process.

Opportunity for Involvement

Planning Team:

- Agencies involved in hazard mitigation activities
- Agencies with authority to regulate development

Stakeholders:

- Neighboring jurisdictions
- Businesses

- Academia
- Other private and nonprofit interests

Public:

- Residents, business owners, local workers

The last unit discussed the requirement to involve local and regional agencies involved in hazard mitigation activities and agencies that have the authority to regulate development.

Planning regulations also require that stakeholders and the general public are given opportunities to be involved during the planning process and in the plan's maintenance and implementation.

Stakeholders must include neighboring communities, which may be adjacent counties and municipalities, such as those that are affected by similar hazard events or may be partners in hazard mitigation and response activities. Other interested stakeholders may be defined by each jurisdiction depending on the unique characteristics, established relationships, and resources of the community.

In this workshop, the symbol for the public is  .

Visual 1.45

Types of Stakeholders

Involving stakeholders in the planning process helps develop support for the plan and identify barriers to implementation. Mitigation planning also requires information from scientific and technical sources and subject matter experts.

Interested stakeholders may be defined by each jurisdiction depending on the unique characteristics and resources of the community. The following stakeholders are important in mitigation planning:

- **Elected Officials and Planning Commission Members** – Elected officials are responsible for protecting the health, safety, and welfare of their constituents and must adopt the plan prior

to FEMA approval. The level of support that the elected officials provide to the mitigation plan's goals and actions largely determines the plan's progress and implementation.

- **Business Leaders and Large Employers** – Economic resiliency drives a community's recovery after a disaster. A key component of mitigation planning is identifying those economic assets and drivers whose losses and inability to operate would have severe impacts on the community and its ability to recover from a disaster. Involving economic development officials, the local chamber of commerce, and business leaders in the planning process and educating them about local risks and vulnerabilities can make them partners in future mitigation initiatives.
- **Regional, State, and Federal Agencies** – Public agencies, such as regional planning agencies, geological surveys, forestry divisions, emergency management offices, dam safety agencies, and weather service offices, at the regional, State, and Federal government levels are key resources for data and technical information, as well as financial assistance. These agencies may have programs that complement your mitigation planning goals.
- **Cultural Institutions** – Cultural institutions, such as museums, libraries, and theatres, often have unique mitigation needs. For example, they may be located in a historic building or house collections that require special protection from natural hazards. These institutions may also keep records and collections of historic information on natural disasters in your community, particularly floods, fires, and earthquakes.
- **Schools and Universities –** Like public

agencies, academic institutions have valuable resources to assist with planning efforts, such as natural hazards data, GIS mapping and analysis, or research on successful methods to reduce risk. Participating in the mitigation planning process can also help local colleges and universities understand and reduce hazard risks on their campuses. School districts are often partners on hazard education and awareness programs and also have important critical assets to protect.

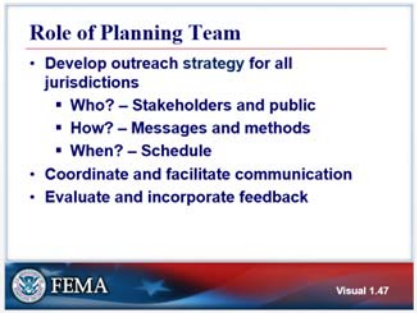
- **Nonprofit Organizations** – These groups often act as advocates for citizens and can be important in public outreach, information sharing, and getting support for the mitigation actions developed in the plan. They could also be applicants for grants identified through the mitigation strategy. Nonprofit organizations could include disaster preparedness and response organizations, such as the local Red Cross; parks, recreation, or conservation organizations; historic preservation groups; church organizations; and parent-teacher organizations.
- **Neighborhood Groups –** Many communities have existing neighborhood associations and homeowners' associations that are active and engaged in community activities. These groups can provide valuable information about local hazard issues and possible solutions in specific areas. They can also help disseminate hazard mitigation information via newsletters and periodic meetings. Also, consider contacting people involved in Community Emergency Response Teams (CERTs), since they are knowledgeable about hazards and interested in making the community more disaster resilient.

Visual 1.46

Benefits of Public Involvement

- Educates people about hazards and risk
- Incorporates different perspectives
- Improves plan quality
- Ensures transparency and builds trust
- Improves opportunities for implementation by building consensus
- Strengthens community disaster resilience

The general public must also be given an opportunity to be involved in the planning process. More than just informing the public of the plan's development, a good public outreach effort educates the public and motivates them to take action. Although members of the public may not be technical experts, they can help identify community assets and problem areas, describe issues of concern, narrate hazard history, prioritize proposed mitigation alternatives, and provide ideas for continuing public involvement after plan adoption.



Visual 1.47

Role of Planning Team

- Develop outreach strategy for all jurisdictions
  - Who? – Stakeholders and public
  - How? – Messages and methods
  - When? – Schedule
- Coordinate and facilitate communication
- Evaluate and incorporate feedback

Because there are many possible stakeholders to involve in the planning process, an outreach strategy is needed to identify the appropriate people to contact and what the planning team would like each stakeholder or group to contribute.

Depending on the needs of your community and timeline for plan development, you may need to prioritize which stakeholders you contact directly and which you include

Visual 1.48

in the outreach to the general public.

Outreach Methods

- Community events
- Interviews
- News media
- Presentations to governing bodies
- Questionnaires/surveys
- Roundtable/forums
- Social media
- Web sites

The planning team will need to identify and use the best methods for reaching out to stakeholders and the public.

Stakeholders should be engaged using targeted methods for specific input: online surveys, one-on-one briefings, webinars, phone interviews, roundtable discussions, presentations to specific groups, and personal invitations to public outreach activities are all potential methods to involve stakeholders.

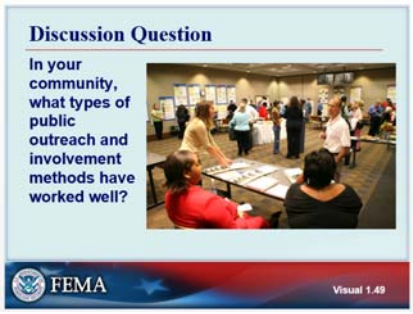
If your community has recently suffered a disaster event, the public may have a heightened interest in hazards and mitigation. Use this interest to engage community members in finding ways to avoid the impacts of future events.

Use the planning team to help identify what methods of public involvement have worked well in your community in the past. It helps to reach out to people instead of asking them to come to you. A variety of informational materials and methods, such as news media, social media, fliers, surveys, and Web sites, are useful for reaching out to the public during the planning process.

Public involvement activities should include methods designed to improve public awareness by presenting information (one-way communication), as well as soliciting input to inform the plan's content (two-way

communication).

Refer to Handbook, Worksheet 3.1 Public Opinion Survey for a sample survey used to gather public input on hazards and community assets.



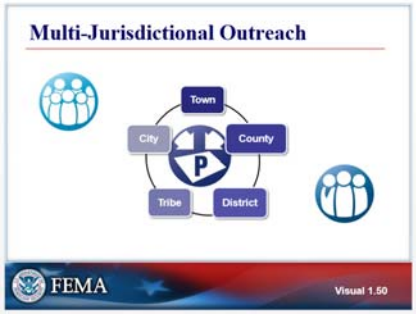
Visual 1.49

Discussion Question

In your community, what types of public outreach and involvement methods have worked well?

Potential responses include:

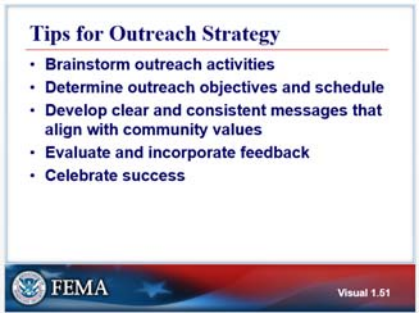
- Using social media to reach a wide audience
- Attending meetings of various organizations or agencies and making a short presentation showing how hazard mitigation affects their mission
- Setting up a booth at a popular community event



Visual 1.50

Multi-Jurisdictional Outreach

Multi-jurisdictional plans need an outreach strategy that encourages coordination and accountability from each jurisdiction. The plan must document how each jurisdiction was involved in the planning process, including how they provided opportunities for the involvement of their stakeholders and public. Specific stakeholders need to be identified for each participating jurisdiction, and public involvement activities need to be designed to reach citizens throughout the planning area.



Visual 1.51

Tips for Outreach Strategy

Brainstorm outreach activities

- The planning team can conduct a brainstorming session to identify stakeholders during the project kickoff meeting, as well as to determine when and how to conduct outreach activities. If completing a plan update, the planning team should evaluate the stakeholders and the outreach activities

involved in the previous planning process and identify any needed changes.

Determine outreach objectives and schedule

- Identify what type of input you need from stakeholders and the public to contribute to the development of the risk assessment and mitigation strategy. Identify the times when it is important to inform and seek input from stakeholders and the public.

  - For example, a good time to invite public involvement is after the risk assessment is complete and the planning team begins to create the mitigation strategy. Involving the public at this stage provides the opportunity to educate the public on the risk assessment findings, collect input on any data inaccuracies, and understand the public's ideas and priorities for various mitigation actions.

Develop clear and consistent messages that align with community values

- Consider the overarching goals and values of the community and how they align with reducing the impacts of future hazards and disasters. Then personalize talking points for discussions with different audiences and develop messages that appeal to them.

Evaluate and incorporate feedback from outreach activities

- The feedback received through outreach activities, such as completed questionnaires and surveys, comments at meetings, and comments on plan drafts will need to be evaluated and incorporated into the planning team's decisionmaking process and the final plan. During the outreach process, it should be clearly communicated to stakeholders and the public how the planning team will use their feedback to develop the plan. A process

should be developed for organizing and evaluating the comments received, as well as documenting them in the final plan.

Celebrate success

- Publicize accomplishments such as receipt of grant funding for mitigation activities or completion of an approvable plan to raise awareness of risk and of hazard mitigation efforts.

Visual 1.52

Involve the Public Prior to Plan Adoption

- Make the final plan draft available for comment
- Consider existing policies for public review
- Use the adoption process to increase awareness

The public must be given the opportunity to review and comment on the final draft plan prior to its adoption. This may be done by making copies of the draft plan available in the local library, city hall, or community center, as well as posting it on the community's Web site. Consider allowing at least 4 weeks for review and comment and providing some guidance on the type of comments and feedback you are seeking.

Some jurisdictions have policies in place for the public review of documents prior to adoption, which should be followed for the final comment period.

This final comment period cannot substitute for the public outreach process discussed previously where input was requested during the development of the plan.

Visual 1.53

Keep Public Involved After Plan Adoption

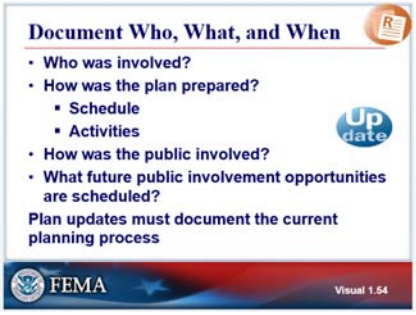
- Identify how to continue public involvement after plan adoption
- Use methods that were successful during the planning process

The outreach strategy should address both the planning

process and how to keep people engaged after the plan's adoption. The planning team needs to identify how the jurisdictions will continue public participation during the plan's implementation and maintenance. This information must be documented in the plan.

Examples of activities for continued public participation include: periodic presentations on the plan's progress to elected officials, schools, or other community groups; annual questionnaires or surveys; postings on social media and e-mail lists; and interactive Web sites.

Assigning staff from each jurisdiction to be responsible for coordinating these activities will help build awareness throughout the planning area.



Visual 1.54

Document Who, What, and When

- Who was involved?
- How was the plan prepared?
  - Schedule
  - Activities
- How was the public involved?
- What future public involvement opportunities are scheduled?

Plan updates must document the current planning process.

There are several requirements related to documentation of planning team, stakeholder, and public involvement opportunities during the planning process:

- The plan must document how it was prepared and who was involved in the planning process for each jurisdiction. This must include the schedule or timeframe and activities that made up the plan's development.
- The plan must identify all planning team members and stakeholders who were involved or given an opportunity to be involved in the planning process, including the

agency/organization and the person's position or title within the agency.

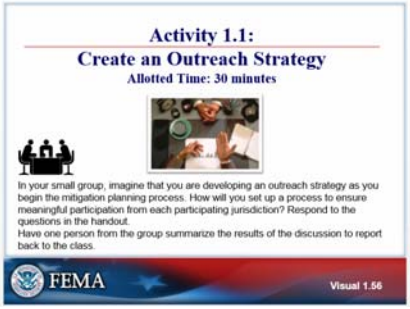
- The plan must document how the public was given the opportunity to be involved in the planning process and how their feedback was incorporated into the plan. The opportunity for participation must occur during the plan's development, which is once before the comment period for the final plan and once before plan adoption and approval.
- The plan must describe how the jurisdiction(s) will continue public participation in the plan maintenance process.

The plan may contain:

- Copies of surveys that were used to gather public input as well as a description of how surveys were distributed and a summary of survey results
- Copies of sign-in sheets from public meetings
- Copies of newspaper announcements of public meetings
- Copies of letters inviting officials of neighboring jurisdictions to a planning meeting

Visual 1.55

Are there any questions?



Visual 1.56

Activity 1.1: Create an Outreach Strategy

Allotted Time: 30 minutes

Instructions

In your small group, imagine that you are developing an outreach strategy as you begin the mitigation planning process. How will you set up a process to ensure meaningful participation from each participating jurisdiction? Respond to the following questions:

- How will you:
  - Invite potential planning team members?
  - Coordinate participation of multiple jurisdictions?
  - Provide opportunities for public participation?
  - Obtain buy-in from elected officials?
- What challenges do you foresee in obtaining meaningful participation?

Share a story about a planning process in your community that was a success or failure, in terms of participation and community buy-in, and why.

Have one person from the group summarize the results of the discussion to report back to the class.

Purpose of Activity

This activity provides participants an opportunity to consider how they might establish a planning team and develop an outreach strategy in their own communities.

The work of the planning team and the public involvement process are both critical to the success of a hazard mitigation planning process.

Activity Overview

- Instructor will write questions on a white board or flip chart for the whole class ahead of time.
- Participants will divide into small groups of six or less for this activity. Instructor will read the instructions in the Student Manual and advise participants to take approximately 15 minutes

to discuss the questions in the small groups.

- Each group will elect one person to be their speaker and summarize the results of their discussion. Instructor will ask from the speakers from the remaining groups to add to the discussion, but not to repeat information that has already been provided.

Activity Materials

- Student Manuals, which contain instructions
- Easels (one per group) and markers

Time Plan

Task	Time
Introduce Activity	5 minutes
Work as Small Groups	15 minutes
Report by Small Group	10 minutes
Total	30 minutes

Sample Responses

- How will you:
  - Invite potential planning team members?
    - In person, by phone, by e-mail
  - Coordinate multiple jurisdictions?
    - By having meetings in various locations, holding conference calls and Web-based meetings to limit travel time and expenses
  - Provide opportunities for public participations?
    - By having open meetings at various times of day and in various locations, by providing other ways for people to participate who cannot attend meetings, such as conducting a survey or accepting comments on a Web page
  - Obtain buy-in from elected officials?
    - By preparing frequent short statements or

updates on the mission of the planning team and progress on developing the plan, by emphasizing that this is a way to serve their constituents and enhance public safety and community sustainability or resiliency

- What challenges do you foresee in obtaining meaningful participation?

- People lose interest when results are not immediate and planning takes time
- Other concerns require immediate attention and mitigation receives less attention.

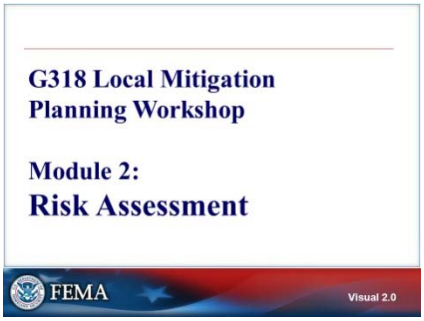
MODULE 2: RISK ASSESSMENT

OBJECTIVES

Participants will understand how to assess risk.

METHODOLOGY

This section includes lecture, discussion question, and a tabletop activity, and provides an opportunity for participants to ask questions.



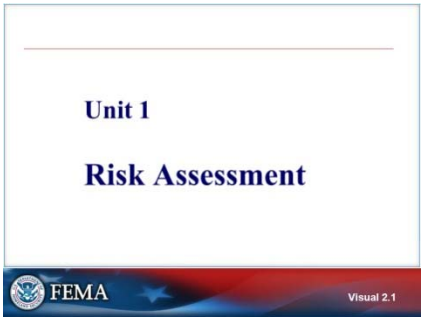
Visual 2.0

Module 2: Risk Assessment

By the end of this module, participants will be able to develop a hazard risk assessment that forms a factual basis for mitigation actions appropriate for their community.

At the end of Module 2, participants will:

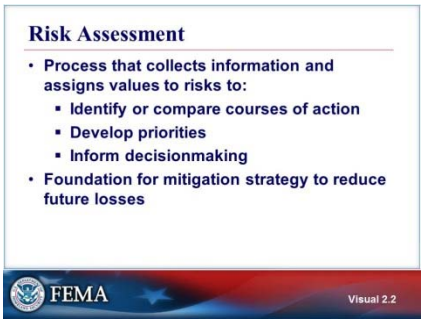
- Understand risk assessment terminology
- Recognize hazards and community assets
- Determine potential losses to vulnerable community assets
- Be able to summarize their community's vulnerability to the identified hazards



Visual 2.1

UNIT 1: RISK ASSESSMENT

Unit 1 presents an approach for conducting a local risk assessment. At the end of this unit, participants will understand risk assessment terminology.



Visual 2.2

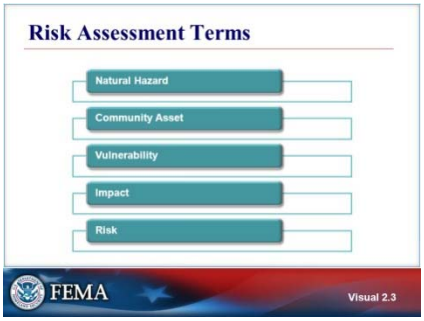
Risk Assessment

- Process that collects information and assigns values to risks to:
  - Identify or compare courses of action
  - Develop priorities
  - Inform decisionmaking
- Foundation for mitigation strategy to reduce future losses

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 to natural hazards.

In addition to informing the mitigation strategy, the risk assessment can be used to establish emergency preparedness and response priorities, for land use and comprehensive planning, and for decisionmaking by elected officials, city and county departments, businesses, and organizations in the community.

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.



Visual 2.3

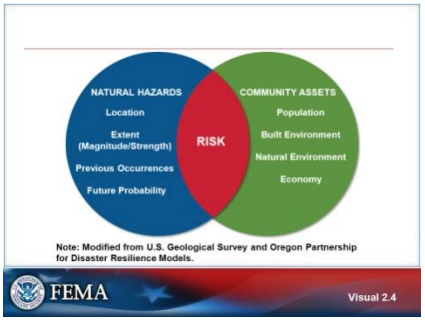
Risk Assessment Terms

- Natural Hazard
  - Source of harm or difficulty created by a meteorological, environmental, or geological event
- Community Assets
  - The people, structures, facilities, and systems that have value to the community
- Vulnerability
  - Characteristics of community assets that make them more or less susceptible to damage from a given hazard
  - Vulnerability depends on factors such as construction materials, building techniques, and

location

- Impact

- The consequence or 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



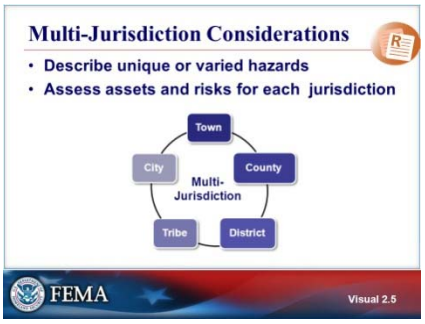
Visual 2.4

Natural 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, such as tornados and earthquakes, that people and communities have little control over. However, the exposure of people, property, and other community assets to natural hazards can result in disasters depending on the impacts.

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 capabilities in place to mitigate prepare, respond, and recover from events.



Visual 2.5

Multi-Jurisdiction Considerations

- Describe unique or varied hazards
- 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. Although hazards may be described for the entire planning area, the plan also must explain any hazards that are unique or varied within communities.

Reference: 44 CFR §201.6(c)(2)(iii)

Visual 2.6

Steps to Assess Risk

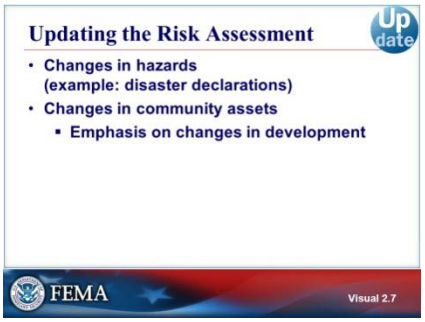
There are four basic steps to a risk assessment:

1. Describe Hazards
2. Identify Community Assets
3. Analyze Risks
4. Summarize Vulnerability

The desired outcomes of these steps are:

- An evaluation of the potential impacts of each hazard on the assets, the people, economy, and built and natural environments in the planning area
- An understanding of each community's most significant risks and issues of concern

These potential impacts and issues of concern will be used to create problem statements and identify mitigation actions to reduce risk.



Visual 2.7

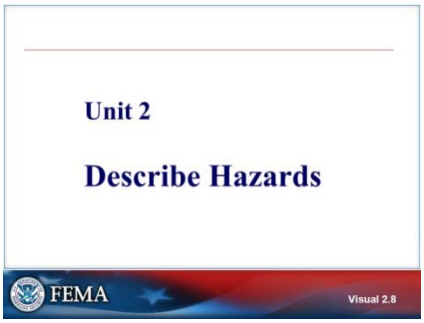
Updating the Risk Assessment

- Changes in hazards (example: disaster declarations)
- Changes in community assets

Emphasis on changes in development
A mitigation plan update focuses on how risk has changed since the previous plan was completed, particularly changes related to land use development and new hazard information.

Changes in development, population shifts, areas affected by recent disasters, and new data and reports must be incorporated into the plan to analyze the current risk and update problem statements.

Changes in development means recent development (for example, construction completed since the last plan was approved), potential development (for example, development planned or under consideration by the jurisdiction), or conditions that may affect the risks and vulnerabilities of the jurisdictions (for example, climate variability, declining populations or projected increases in population, or foreclosures). Not all development will affect a jurisdiction's vulnerability. The plan should focus on development that may occur in hazard-prone areas given current zoning codes.



Visual 2.8

Visual 2.9

Visual 2.10

UNIT 2: DESCRIBE HAZARDS

At the end of this unit, participants will be able to recognize

- Hazard description requirements
- Community assets

Step 1: Describe Hazards

- Describe Hazards
- Identify Community Assets
- Analyze Risks
- Summarize Vulnerability

Describing hazards is step one of the risk assessment. The plan must include a description of the natural hazards that can affect the jurisdiction(s) in the planning area.

Types of Hazards

- **Natural hazards** must be addressed in a local mitigation plan; this is required by Federal regulation.

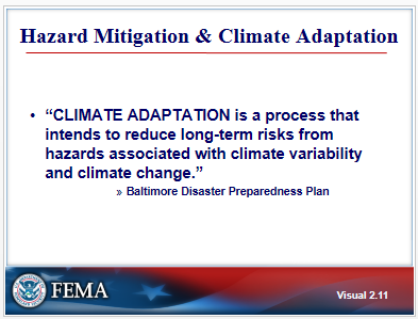
However, some communities may choose to assess other hazards in their planning process, and the mitigation plan may be the most appropriate tool for that community.

- **Technological hazards** result from accidents or the failure of systems and structures, such as hazardous materials spills, dam failure, or airplane accidents.
- **Human-caused hazards**, also known as threats, result from intentional actions of an adversary, such as a chemical or cyber-attack.
- **Climate change** in and of itself may not be a hazard, but it may change the characteristics of the hazards that currently affect the planning area, and climate adaptation strategies may complement other hazard mitigation strategies.

Federal mitigation planning regulations do not require technological and human-caused hazards to be included

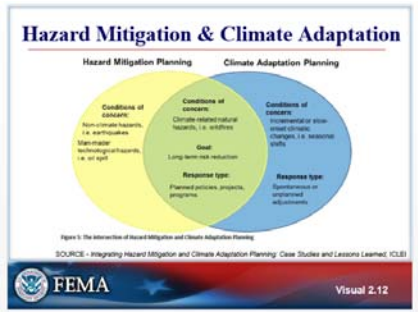
in the plan, but a community may choose to do so. See *Integrating Manmade Hazards into Mitigation Planning* (FEMA 386-7) for suggestions and information on including these types of hazards in the mitigation plan.

These photographs depict a natural hazard (blizzard in Colorado); a technological hazard (oil spill in Gulf of Mexico); a human-caused hazard (bombing of Federal building in Oklahoma City); and an impact of climate change hazard (drought in Marshall Islands).



Visual 2.11

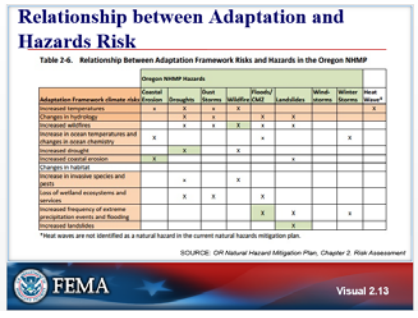
Climate Mitigation & Climate Adaptation



Visual 2.12

Hazard Mitigation & Climate Adaptation

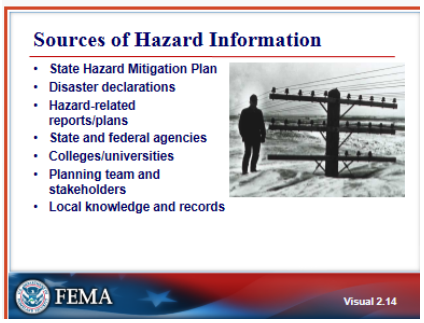
Hazard Mitigation and Climate Adaptation do have an overlapping area of concern. Both fields are concerned about climate-related natural hazards and share the common goal of long-term risk reduction.



Visual 2.13

Example: Oregon NHMP

Relationship between Adaptation and Hazards Risk



Sources of Hazard Information

- State Hazard Mitigation Plan
- Disaster declarations
- Hazard-related reports/plans
- State agencies
- Colleges/universities
- Planning team and stakeholders
- Local records (newspaper, chamber of commerce, local historical society)

Review State Hazard Mitigation Plan for information on hazards affecting your planning area.

- Document the disaster declaration history of the planning area
- Review existing studies, reports, and plans related to flooding, wildfire, geological, and other hazards in the planning area.
- Contact colleges or universities that have hazard-related academic programs or extension services.
- Interview your planning team and stakeholders about which hazards pose risks to the planning area and should be described in the mitigation plan.
- Consult local resources such as the newspaper, chamber of commerce, local historical society, or other resources with records of past occurrences.
- For plan updates, reference hazards previously identified and determine if they are still fitting.

Visual 2.15

Discussion Questions

- What natural hazards affect your community?
- What information sources would you use for your plan?

The Instructor will ask the class to brainstorm the hazards that affect the community where the workshop is taking place and use a flipchart or whiteboard to list the responses.

Possible responses for natural hazards include:

- Straight-line wind or derecho, tornado, wildfire, flooding (which may be caused by heavy rains, snow melt, storm surge, seiche, or tsunami), earthquake, landslide, avalanche, and drought. Responses for other hazards may include invasive species, airplane crash, or hazardous materials spills.

The Instructor will ask participants to provide ideas for the best information sources in that State or in their local area for different types of hazards.

Potential sources of information include:

- The State Hazard Mitigation Plan, specific published studies or reports, and data available online through FEMA, National Climatic Data Center, National Hurricane Center, and SHELDUS (the Spatial Hazard Events and Losses Database for the United States).

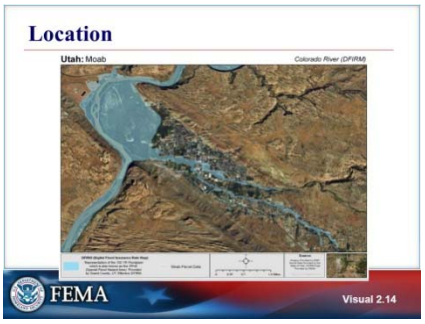
Visual 2.16

Hazard Descriptions

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

For each hazard affecting the planning area, the risk assessment must include a description of location, extent, previous occurrences, and 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 has become available, such as new flood studies. Plan updates must include hazard events that have occurred since the last plan was developed.



Visual 2.17

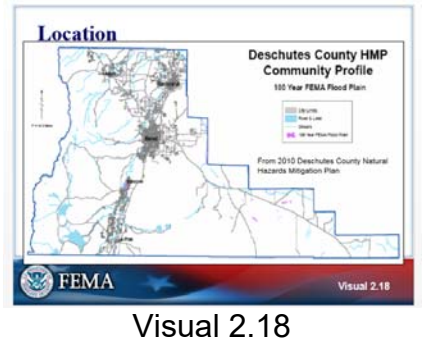
Location

Location is the geographic areas within the planning area that are 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.

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.

The entire planning area may be uniformly affected by some hazards, such as drought or winter storm.

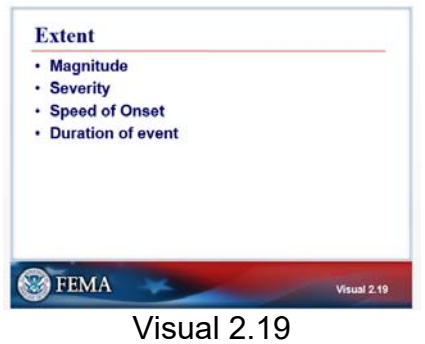
This map is part of a Flood Insurance Rate Map showing the location of the 1-percent-annual-chance floodplain in Moab, Utah



Visual 2.18

Example:

Flood Hazard Location, taken from 2010 Deschutes County Hazard Mitigation Plan



Visual 2.19

Visual 2.20

Extent

Extent is the strength or magnitude of the hazard, and it can range from nuisance to catastrophic levels. Extent is a characteristic of the hazard regardless of its effect or impact. Extent can be described different ways depending on the hazard, such as:

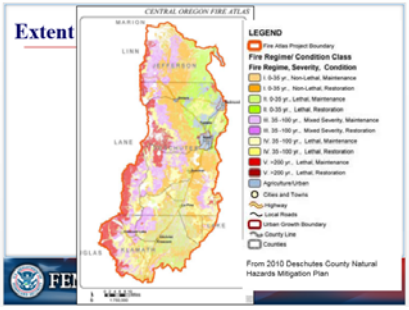
- An established scientific scale or measurement system, such as the Enhanced Fujita Scale for

tornadoes

- The speed of onset
- The duration of hazard events

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 built environment it affects, while *impacts* refers to the effect of a hazard on the people and property in the community.

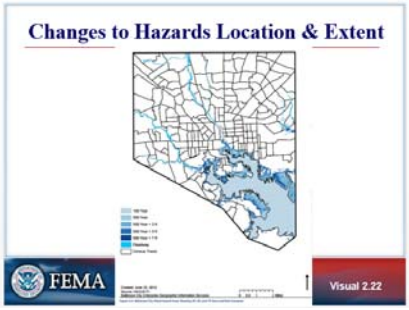
This map shows the potential depth of water during a flood in Moab, Utah.



Visual 2.21

Example:

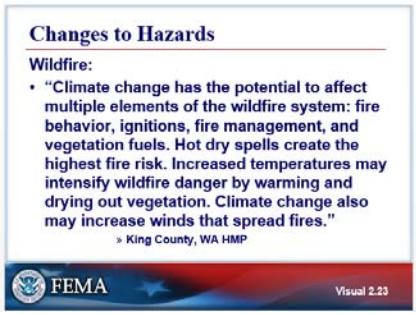
Extent of Fire Hazard taken from 2010 Deschutes County Natural Hazards Mitigation Plan



Visual 2.22

Changes to Hazards Location and Extent

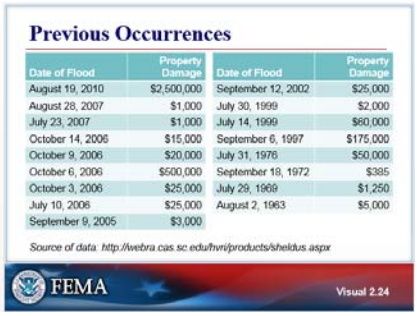
This will impact current and future shoreline development. The impacts of rising sea level on communities will continue to present significant short- and long-term challenges.



Visual 2.23

Example:

Exacerbation to existing hazards, taken from King County (Washington) Hazard Mitigation Plan



Visual 2.24

Visual 2.25

Previous Occurrences

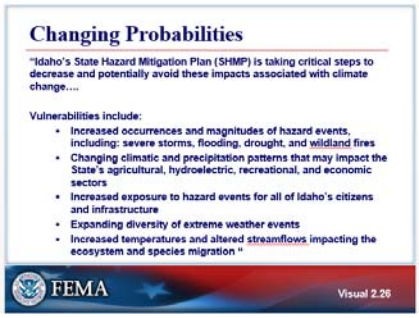
The plan must include the history of previous hazard events for each identified hazard. This information helps estimate the likelihood of future events and predict potential impacts. When data are available, describe the extent of the event and the impacts that occurred, such as fatalities and injuries, building and infrastructure damage, and loss of services.

Slide illustrates information on previous occurrences of flooding from the Colorado River in Grand County, Utah, and the estimated property damages for each occurrence.

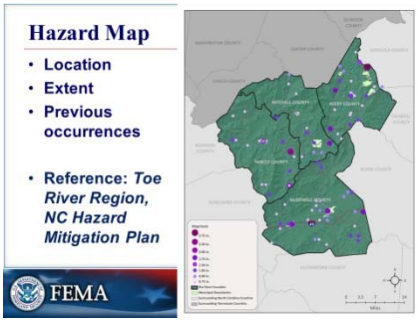
Probability of Future Events

- The previous slide shows:
  - There have been 17 occurrences of flooding in Grand County, UT
  - Over 48 years from 1962 through 2010
  - With 17 occurrences in 48 years, probability of future occurrence is 17/48 = 0.3542 or about a 35 percent chance of flooding in any year

Probability of Future Events is the likelihood of the hazard occurring in the future. Probability may be defined using historical frequencies or statistical probabilities. For example, the likelihood of a flood event of a given size is defined by the percent chance of occurrence in a single year, such as the 1-percent-annual-chance 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 plan. For example, “highly likely” could be defined as occurring less than every 10 years, “likely” as occurring every 10-50 years, and “unlikely” as occurring at intervals greater than 50 years.



Visual 2.26



Visual 2.27

Example: Changing Probabilities

Idaho's State Hazard Mitigation Plan is taking critical steps to decrease and potentially avoid these impacts associated with climate change:

- Increased occurrences and magnitudes of hazard events including: severe storms, flooding, drought, and wildland fires
- Changing climatic and precipitation patterns that may impact the State's agricultural, hydroelectric, recreational, and economic sectors
- Increased exposure to hazard events for all of Idaho's citizens and infrastructure
- Expanding diversity of extreme weather events
- Increased temperatures and altered streamflows impacting the ecosystem and species migration.

The planning team should consider what constitutes an acceptable risk. Different thresholds exist for different assets. Historic trends are only one of the many factors to consider

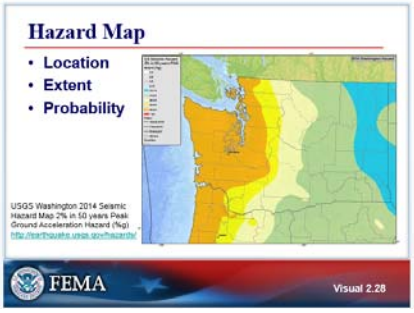
Hazard Map

- Location
- Extent
- Previous occurrences

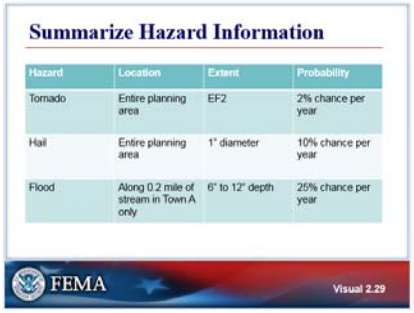
Reference: *Toe River Region, NC, Hazard Mitigation Plan*

Hazards can be described in narrative, paragraph form, or visually through tables, maps, charts, or photographs. Some maps can be used to illustrate multiple elements, such as location and probability.

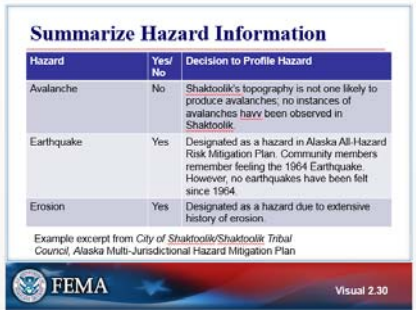
This map of the Toe River watershed in North Carolina shows the location of previous hail events, indicates the extent or size of the hail, and shows the number of previous occurrences.



Visual 2.28



Visual 2.29



Visual 2.30

Hazard Map

- Location
- Extent
- Probability

This map shows the potential Peak Ground Acceleration (PGA) for Washington. It identifies the locations with the greatest earthquake risk, the extent of the risk based on a scientific scale, and the probability of damage based on location.

Summarize Hazard Information

Hazard	Location	Extent	Probability
Tornado	Entire planning area	EF2	2% chance per year
Hail	Entire planning area	1" diameter	10% chance per year
Flood	Along 0.2 mile of stream in Town A only	6" to 12" depth	25% chance per year

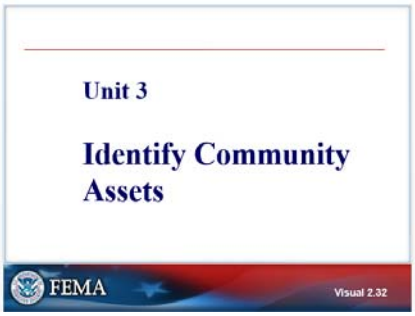
A table or matrix can be a good way to summarize information from the hazard descriptions and portray which hazards have the greatest significance to jurisdictions in the planning area.

Example:

Sample taken from City of Shaktoolik, Alaska Multi-Jurisdictional Hazard Mitigation Plan

Visual 2.31

Are there any questions?



Visual 2.32

Visual 2.33

Visual 2.34

UNIT 3: IDENTIFY COMMUNITY ASSETS

At the end of this unit, participants will be able to identify the community assets that are vulnerable to identified hazards.

Step 2: Identify Community Assets

- Describe Hazards
- Identify Community Assets
- Analyze Risks
- Summarize Vulnerability

Each participating jurisdiction needs to inventory local assets at risk to hazards. Assets are defined broadly to include anything that is important to the character and function of a community.

Community Assets

Assets can be described in the following categories:

- People
- Economy
- Structures (Existing and Future Development)
- Critical Facilities and Infrastructure
- Natural Environment

When updating a mitigation plan, the planning team will need to update the asset inventory to reflect current conditions and analyze how changes in vulnerable populations, new or renovated critical facilities, infrastructure expansion, economic shifts, and new development in hazard-prone areas affect risk.

Visual 2.35

Discussion Question:

What are the assets in your community?

- People
- Economy
- Structures
- Critical Facilities and Infrastructure
- Natural Environment

Potential responses include:

- Critical Facilities: Hospitals and medical facilities, police and fire stations, Emergency Operations Centers, evacuation shelters, schools, airports
- High Potential Loss Facilities: Nuclear power plants, dams, military installations, locations housing hazardous materials
- Infrastructure Systems: Water and wastewater, power utilities, transportation (roads, railways), energy pipelines, communication systems

Visual 2.36

People

- Locations and concentrations of residents and employees
- Locations and concentrations of special needs and dependent populations
- Types and locations of visiting populations

An asset inventory should identify areas of higher population density of residents and workers, as well as the types of populations that may have unique vulnerabilities or be less able to respond and recover in a disaster. Consider the following populations in the community:

- **Concentrations of residents and employees during day, night, and commute hours.** Populations shift throughout the day, typically based on a work commute schedule, seasonal tourist events, and school calendars.
- **Types of visiting populations and locations where they are likely to congregate.** Visiting populations include students, second home owners, migrant farm workers, or visitors for special events that may be less familiar with the local environment and hazards and are not prepared to protect themselves in an event.
- **Locations and concentrations of special needs and dependent populations.** The very young, the elderly, the disabled, and non-English speakers are just some of the special needs and dependent populations that may require more assistance during and following hazard events. Locations of facilities that provide necessary services (e.g., hospitals, shelters, oxygen delivery, and accessible transportation, etc.) also need to be considered in terms of their vulnerability to risks.
- **Demographics of projected population growth.** This information may also be considered to avoid potential development subject to hazards.

Visual 2.37

Economy

- Major employers
- Primary economic sectors
- Commercial centers
- Dependencies between economy and infrastructure

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 2.38

Structures (Existing and Future)

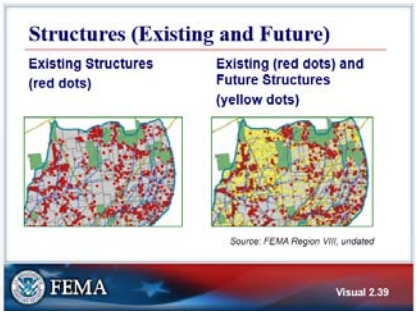
- Locations, types, and values of structures
- Cultural and historic resources
- Locations and types of planned new development / redevelopment
- Infrastructure for new development
- Planned critical facilities and capital improvements

FEMA regulation requires that the asset inventory consider not only the existing built environment, but also future development. Each participating jurisdiction should consider the following:

- Types of buildings by occupancy type, including commercial, industrial, and single- and multi-family residential
- Age and construction type of existing buildings to understand inventory
- Current building code and subdivision standards to determine whether the minimum requirements reflect the community's acceptable level of risk
- Museums, unique geological sites, concert halls, parks, stadiums, or any asset that is important to the community can be considered a cultural resource

- Existing land uses, as well as future land uses permitted by zoning and development trends
- Location, numbers, and types of structures of planned new development and redevelopment
- Existing stormwater management infrastructure and upgrades that will be necessary with any future development
- New facilities, infrastructure, annexations, and other planned capital improvements

The community can determine how much detail about community assets to provide in the plan.



Visual 2.39

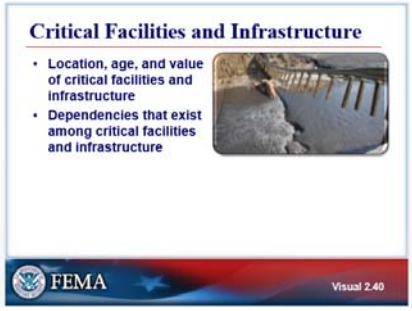
Structures (Existing and Future)

Illustration shows a map of the location of:

- Existing Structures (on the left; location of existing structures shown as red dots)
- Existing and Future Structures (on the right; location of existing structures shown as red dots and of future structures as yellow dots)

Maps such as these show where structures will be located in the future should the area be built out as allowed by zoning or development codes.

Reference: *Lockatong and Wickecheoke Creek Watersheds Restoration and Protection Plan (New Jersey)*



Visual 2.40

Critical Facilities and Infrastructure

- Location, age, and value of critical facilities and infrastructure
- Dependencies that exist among 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 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.

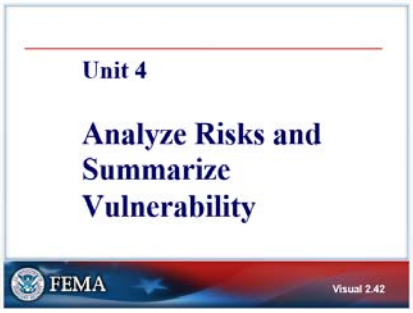
Infrastructure systems are also essential for life safety and economic viability. Many critical facilities are dependent upon infrastructure to function. For example, hospitals need electricity, water, and sewer to continue helping patients. As with critical facilities, the continued operations of infrastructure systems during and following a disaster are key factors in the severity of impacts and the speed of recovery.

Visual 2.41

Natural Environment

- Environmental functions that reduce magnitude of hazards
- Critical habitat areas to protect
- Areas where conservation reduces risk and achieves other community objectives (example: trails and parks)

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 flood waters, soils and landscaping contribute to stormwater management, and vegetation in the upper watershed provides erosion control and reduces runoff.



Visual 2.42

UNIT 4: ANALYZE RISKS AND SUMMARIZE VULNERABILITY

At the end of this unit, participants will be able to:

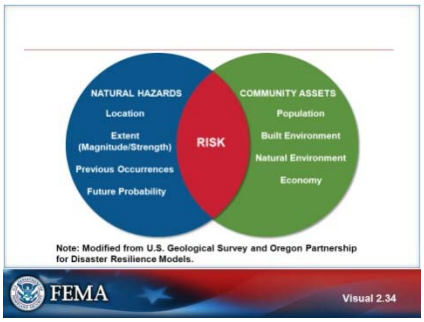
- Determine potential impacts to vulnerable community assets
- Summarize community's overall vulnerability to the identified hazards

Visual 2.43

Step 3: Analyze Risks

- Describe Hazards
- Identify Community Assets
- Analyze Risks
- Summarize Vulnerability

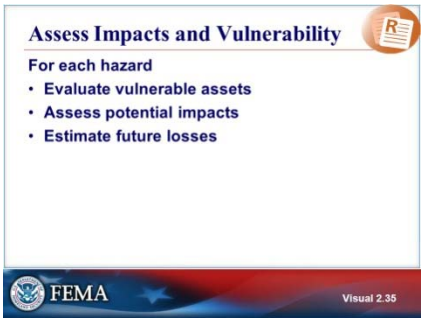
The risk analysis step involves evaluating vulnerable assets and estimating potential impacts and losses for each hazard.



Visual 2.44

Natural Hazards, Community Assets, and Risk

The purpose of this analysis is to help the community understand the greatest risks facing the planning area. It occurs after hazards and assets have been identified.



Visual 2.45

Assess Impacts and Vulnerability

For each hazard:

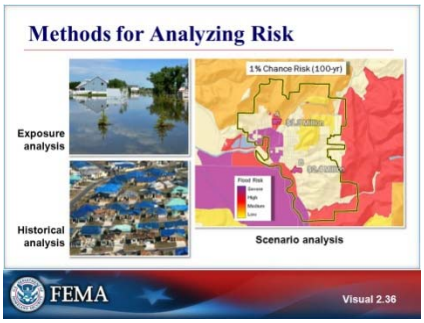
- Evaluate vulnerable assets
- Assess potential impacts
- Estimate future losses

There are a variety of methods for analyzing risk, and impacts can be expressed qualitatively or quantitatively.

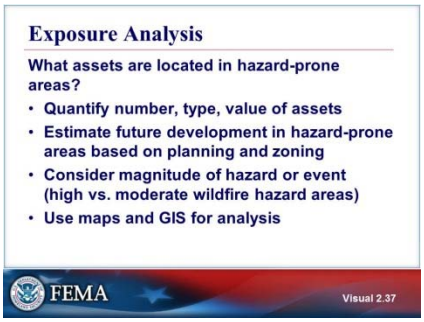
Qualitative evaluations describe the types of impacts that might occur in a hazard event and can be developed by using the planning team, subject matter experts, stakeholders, and community members to brainstorm and discuss potential impacts.

Quantitative evaluations quantify the assets at risk to hazards and potential losses. Loss estimations quantify potential fatalities, injuries, direct property loss and damage, and indirect economic loss for a certain event scenario or over time (annualized loss).

Regardless of how the results are expressed or the methods of analysis used, this step must result in a description of the potential impacts of each hazard for each participating jurisdiction in the plan.



Visual 2.46



Visual 2.47

Methods for Analyzing Risk

There are a variety of methods to analyze vulnerable assets and potential impacts and estimate losses depending on the hazard and the available time, data, staff, and technical resources.

Exposure Analysis

What assets are located in hazard-prone areas?

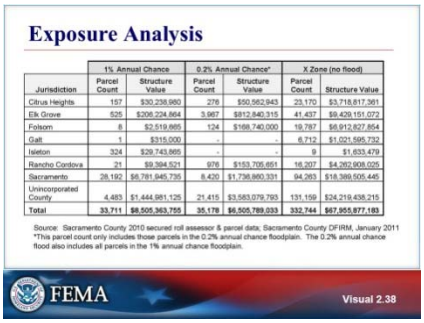
- Quantify number, type, value of assets
- Estimate future development in hazard-prone areas based on planning and zoning
- Consider magnitude of hazard or event (high vs. moderate wildfire hazard areas)
- Use maps and GIS for analysis

An exposure analysis identifies the existing and future assets located in identified hazard areas.

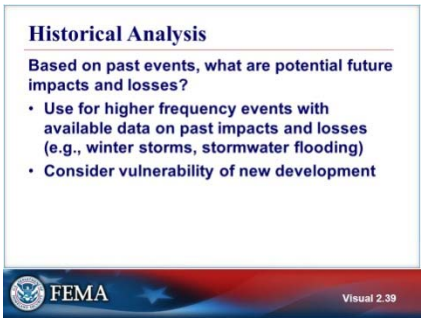
Exposure analysis may also take into account the magnitude of the hazard. For instance, the assets located in high, medium, or low wildfire hazard areas or the assets located in different flood frequency areas (1-percent-annual-chance flood and 0.2-percent-annual chance flood risk).

Exposure analysis can be used to quantify the number, type, and value of structures, critical facilities, and infrastructure in hazard areas and to estimate potential dollar losses of vulnerable structures. It also can be used to identify assets at risk to multiple hazards.

Exposure analysis can also be used to estimate the number of future structures and infrastructure in hazard-prone areas based on current zoning and building codes. Maps and GIS analysis are helpful tools for identifying assets located in hazard-prone areas.



Visual 2.48



Visual 2.49

Visual 2.50

Exposure Analysis

This slide shows an example of an exposure analysis.

Note that while this table summarizes exposure by providing the full value of structures in flood zones, it does not estimate potential loss; damage will not typically equal 100 percent of the value of a structure.

Historical Analysis

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

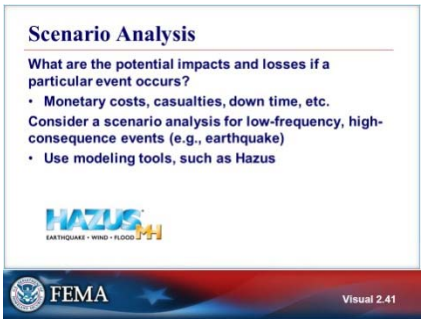
Historical analysis uses information on impacts and losses from previous hazard events to predict potential impacts and losses in a similar type of future event.

This can be especially useful for hazards that are weather-related. Because of the frequency of these events, communities are more likely to have experience with and data on impacts and losses. For recent events, consider not only what was damaged, but what might have been damaged if the event had been of greater magnitude. For hazard events that have not occurred recently, consider new development and infrastructure that would now be vulnerable in a similar event.

Hazards Suitable for Historical Analysis

- Drought
- Floods
- Severe winter weather

Historical analysis may be appropriate for events that occur relatively frequently in the planning area, such as drought, floods, and severe winter weather.



Visual 2.51

Scenario Analysis

What are the potential impacts and losses if a particular event occurs?

- Monetary costs, casualties, down time, etc.

Consider impacts for low-frequency, high-consequence events (e.g., earthquake).

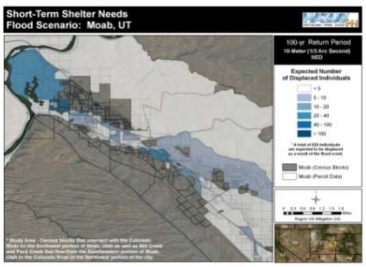
- Use modeling tools, such as Hazus

Scenario analysis asks “what if” a particular event occurred and predicts potential impacts and losses in terms of monetary costs, casualties, infrastructure down time, and other elements of risk. Scenarios are a good tool for assessing low-frequency, high-consequence events, such as earthquakes, for which historical information is not available. This type of analysis can also be used to describe possible impacts if different growth and development scenarios were to take place.

Hazus software uses a risk assessment methodology for analyzing potential losses from floods, hurricane wind, and earthquakes. In Hazus, current scientific and engineering knowledge is coupled with the GIS technology to produce estimates of hazard-related damage before, or after, a disaster occurs. Hazus analyses rely on hazard and asset data inputs to create accurate loss estimations.

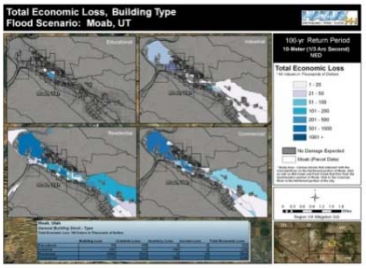
If using Hazus, the planning team should consider the following:

- Update hazard data with flood boundary, flood depth grid, earthquake shake maps, and/or hurricane wind data
- Update asset inventory with population, building stock, and critical facility data
- Edit flood depth damage functions and stream discharges



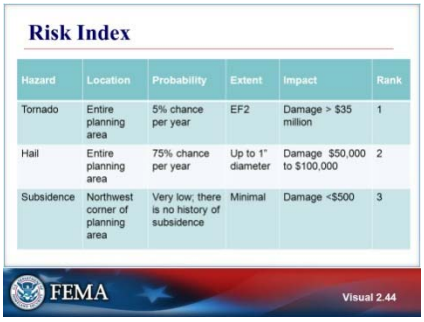
Visual 2.52

This slide shows the population along the Colorado River in Moab, Utah. This information can be used to estimate the number of displaced individuals and the short-term shelter needs for a flood scenario.



Visual 2.53

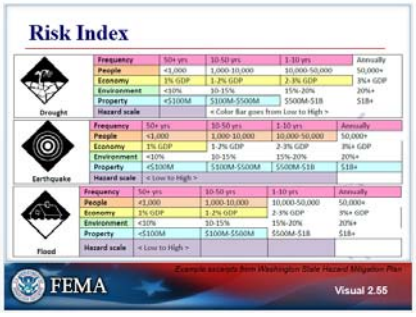
This slide shows the relative amount of estimated damages or economic losses due to flooding along the Colorado River in Moab, Utah. Maps depict losses for educational, industrial, residential, and commercial buildings.



Visual 2.54

Risk Index

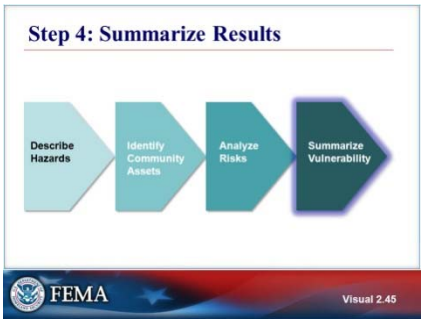
The results of these analyses could be incorporated into a risk index or matrix, such as a calculated priority risk index. The purpose of a risk index is to compare hazards to each other and rank which ones pose the greatest threat. Each hazard is given a rank based on probability, magnitude, impact, and other community identified considerations. While a risk index is not a complete risk assessment, it is a useful way to compare the results for multiple hazards. In a multi-jurisdictional plan, a risk index should be completed for each jurisdiction to reflect their unique vulnerabilities.



Visual 2.55

Example:

Sample Risk Index from the Washington State Hazard Mitigation Plan



Visual 2.56

Step 4: Summarize Results

- Describe Hazards
- Identify Community Assets
- Analyze Risks
- Summarize Vulnerability

The risk analysis step involves evaluating vulnerable assets and estimating potential impacts and losses for each hazard.

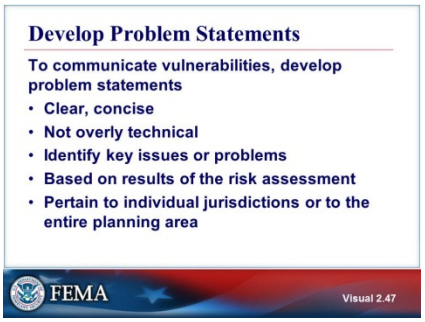
The purpose of this analysis is to help the community understand the greatest risks facing the planning area and it occurs after hazards and assets have been identified.

Visual 2.57

Summarize Overall Vulnerability

- Summarize each jurisdiction's overall vulnerability to hazards
- Communicate findings to:
  - Educate public, stakeholders, elected officials
  - Inform decisionmaking
  - Develop mitigation strategy
  - The plan must include a summary of each jurisdiction's vulnerability to the identified hazards.

The previous three steps in the risk assessment process generate large amounts of information about hazards, vulnerable assets, and potential impacts and losses. This information needs to be summarized so the community can understand the most significant risks and vulnerabilities, not only to inform the mitigation strategy, but also to communicate findings to elected officials, and other stakeholders to inform decisionmaking.

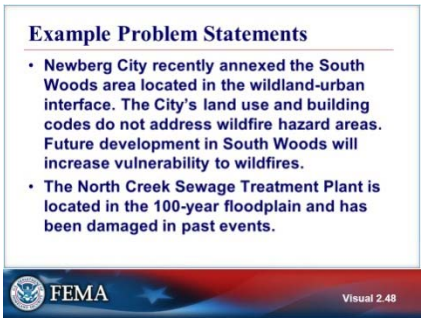


Visual 2.58

Develop Problem Statements

To communicate vulnerabilities, develop problem statements

- Clear, concise
- Not overly technical
- Identify key issues or problems
- Based on results of the risk assessment



Visual 2.59

- Pertain to individual jurisdictions or to the entire planning area

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.

Example Problem Statements

- Newberg City recently annexed the South Woods area located in the wildland-urban interface. The City'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.

One recommended approach to summarizing vulnerability is to develop problem statements. For instance, your analysis of impacts and losses allows you to identify which critical facilities are located in 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.

The problem statement should answer:

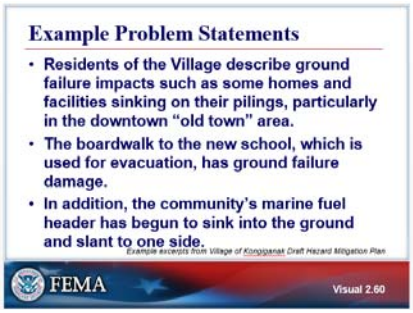
- Location of problem
- Cause and contributing factors creating the problem
- Significance of impacts
- Who is impacted, if applicable

Examples of problem statements are:

1. The lighthouse, of significant historic value, is threatened by erosion from coastal flooding. The rate of erosion is 5 feet per year.
2. Hazus predicts a 6.0 magnitude earthquake event in Greenville would result in $10.5 million in structural losses and $40 million in non-structural losses. Damage will be greatest to the 700 unreinforced masonry buildings (pre- building

code) located in the downtown business district.

3. The schools are a central focus of the community and offer opportunities to educate the public about hazards, risk, and mitigation. In addition, many school facilities are vulnerable to one or more hazards, including flooding, earthquake, tornado, and severe winter storms.

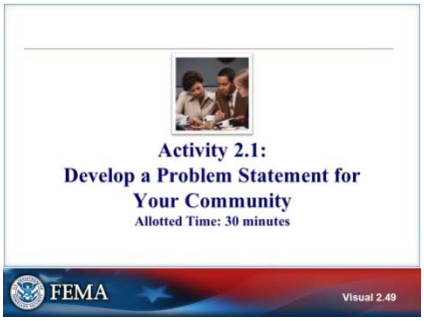


Visual 2.60

Example Problem Statements:

- Residents of the Village describe ground failure impacts such as some homes and facilities sinking on their pilings, particularly in the downtown "old town" area.
- The boardwalk to the new school, which is used for evacuation, has ground failure damage.
- In addition, the community's marine fuel header has begun to sink into the ground and slant to one side.

Example excerpts from Village of Kongiganak Draft Hazard Mitigation Plan



Visual 2.61

Activity 2.1: Develop a Problem Statement for Your Community

- Allotted Time: 30 minutes

Instructions

In small groups, identify a risk that exists in one of your communities and write a problem statement on the easel or paper. The problem statement should describe the specific risk to the community.

Purpose of Activity

This activity provides participants an opportunity to write a problem statement that precisely summarizes a risk.

A well-written problem statement is critical for developing mitigation actions that will significantly reduce risk.

Activity Overview

- Participants will divide into small groups of six or less for this activity. Instructor will read the instructions from the Student Manual and advise participants to take approximately 5 minutes to write a problem statement.

- Instructor will ask for one person from each group to read the problem statement.
- Instructor will comment on problem statements and help re-word as necessary to point out statements that clearly define a problem and can be addressed with a mitigation action.
- Instructor will facilitate a conversation asking the entire group to discuss other risks or problems in their communities.

Activity Materials

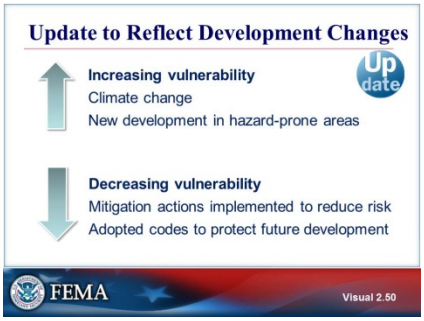
- Student Manuals, which contain instructions
- Easels (one per group) and markers

Time Plan

Task	Time
Introduce Activity	5 minutes
Work as Small Groups	5 minutes
Report by Small Group	10 minutes
Discuss with Entire Class	10 minutes
Total	30 minutes

Sample Responses

- The County has recently approved 500 permits for new natural gas drilling. This will result in increased use of roadways by heavy trucks, which will damage roadbeds and increase the potential for erosion of roadways when flooding occurs.
- City Hospital is built along an earthquake fault line and is in danger of suffering severe damage should an earthquake occur.
- The city has approximately 11,000 buildings



Visual 2.62

made of unreinforced masonry that are in danger of crumbling if a moderate earthquake occurs.

- The contents (lighting fixtures, bookcases, etc.) in school buildings in the region would fall if an earthquake occurs; this could result in injuries or even loss of life.
- The value of structures in the wildland-urban interface is greater than $100 million; all of these structures are at risk of damage from wildfire.

Increasing Vulnerability

- Climate change
- New development in hazard-prone areas

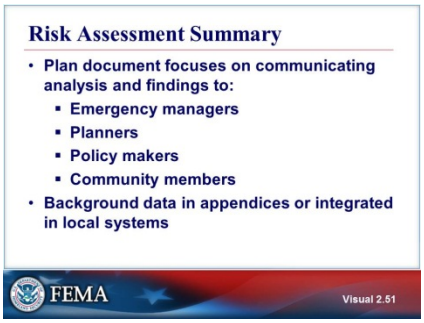
Decreasing Vulnerability

- Mitigation actions implemented to reduce risk
- Adopted codes to protect future development

Plan updates must describe changes in development that have occurred since the last plan was approved.

The planning team will need to gather information from planning and building departments on recent and planned development to evaluate how vulnerability may have increased or decreased. Development in identified hazard areas and construction not built to updated building codes increases the vulnerability of your community to future hazards and disasters. The planning team may also consider conditions that could affect the risks and vulnerabilities, such as climate variability, declining populations or projected increases in population, or foreclosures.

If no changes in development occurred or did not affect the jurisdiction's overall vulnerability, plan updates may validate the information in the previously approved plan.

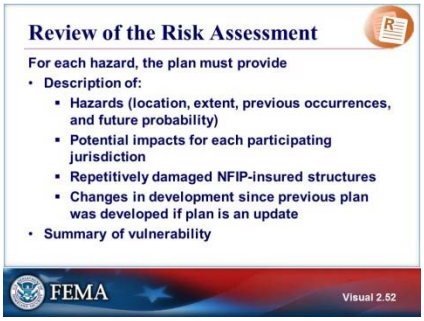


Visual 2.63

Risk Assessment Summary

- Plan document focuses on communicating analysis and findings to:
  - Emergency managers
  - Planners
  - Policy makers
  - Community members
- Background data in appendices or integrated in local systems

While the process for conducting the risk assessment needs to be described as part of the planning process, there will likely be data inputs and outputs that do not need to be included in the main body of the plan document. Some of this information may be included in appendices, and some may be integrated and updated as part of your community's GIS program, recordkeeping, and other systems. Information in the plan document should focus on communicating the analysis and findings to a non-scientific audience that includes planners, policy makers, and community members.



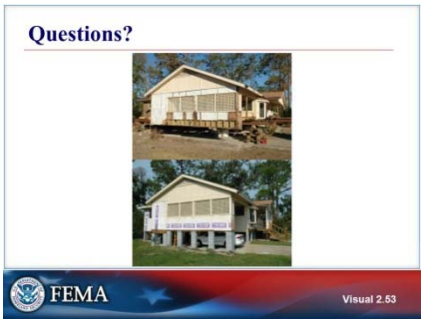
Visual 2.64

Review of the Risk Assessment

To meet mitigation planning regulations, the plan must provide the following risk assessment information at a minimum:

- A description of the hazards that can affect jurisdictions in the planning area; the description includes information on location, extent, previous occurrences, and future probability for each hazard
- A description of the potential impacts of each identified hazard on each participation jurisdiction
- A description of NFIP-insured structures that have been repetitively damaged by floods
- A summary of each jurisdiction's vulnerability to the identified hazards

Plan updates must include a description of changes in development since the previously approved plan



Visual 2.65

Are there any questions?

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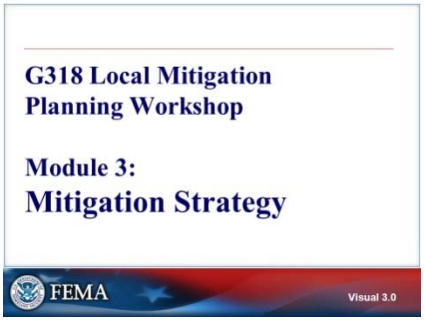
MODULE 3: MITIGATION STRATEGY

OBJECTIVES

Participants will understand how to develop a mitigation strategy.

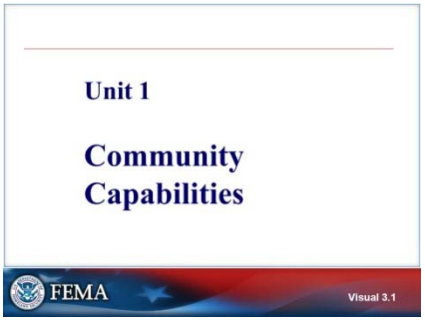
METHODOLOGY

This section includes lecture, discussion questions, and three tabletop activities, and provides an opportunity for participants to ask questions.



Visual 3.0

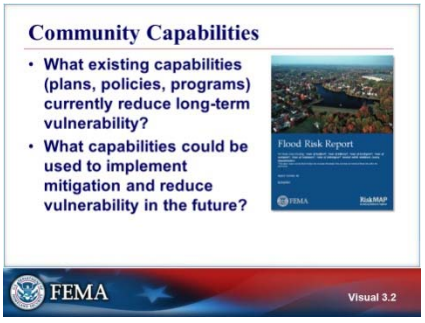
Module 3: Mitigation Strategy



Visual 3.1

UNIT 1: COMMUNITY CAPABILITIES

At the conclusion of this unit, participants will be able to identify the capabilities their community currently has to accomplish hazard mitigation.



Visual 3.2

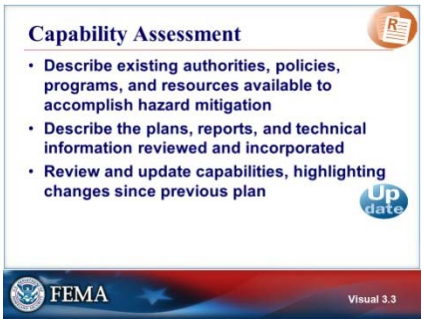
Community Capabilities

- What capabilities (plans, policies, and programs) currently reduce long-term vulnerability?
- What capabilities could be used to implement mitigation and reduce vulnerability in the future?

Each community has a unique set of capabilities, including authorities, policies, programs, staff, funding, and other resources, for accomplishing mitigation.

The planning team should evaluate how existing capabilities contribute to vulnerability by reducing or exacerbating disaster impacts. Understanding what capabilities need to be changed or enhanced to reduce

disaster losses allows the community to address those shortfalls in the mitigation strategy. Moreover, if the planning team understands community capabilities, they can select mitigation strategies that are feasible from a management perspective rather than strategies that require resources they don't have.



Visual 3.3

Capability Assessment

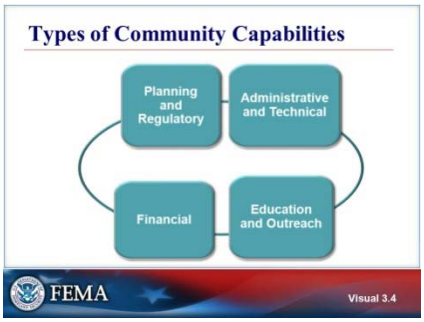
- Describe existing authorities, policies, programs, and resources available to accomplish hazard mitigation
- Describe the plans, reports, and technical information reviewed and incorporated
- Review and update capabilities, highlighting changes since previous plan

The plan must describe each jurisdiction's existing authorities, policies, programs, and resources that can help accomplish hazard mitigation.

The planning team will need to collect information on community capabilities. To review capabilities, begin by reviewing existing plans, reports, and information and interviewing local departments and agencies to gain a better understanding of relevant programs, regulations, resources, and practices. A recommended approach is to distribute a capabilities worksheet to planning team members to take back to their community or agency to complete.

For multi-jurisdictional plans, the capabilities of each participating jurisdiction must be individually reviewed and documented.

In a plan update, the planning team will ensure capabilities are documented sufficiently and highlight any capability changes from the previous plan.



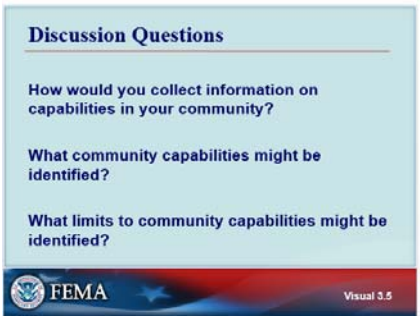
Visual 3.4

Types of Community Capabilities

The primary types of capabilities to review in mitigation planning are:

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

The planning team may also identify additional types of



Visual 3.5

capabilities relevant to mitigation planning.

Discussion Questions:

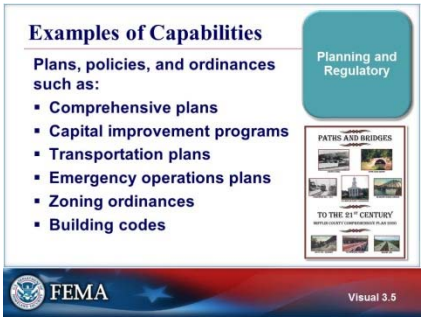
- How would you collect information on capabilities in your community?
- What community capabilities might be identified?
- What limits to community capabilities might be identified?

Potential responses include:

- How to collect information may include:
  - Distributing a survey to or interviewing leaders of local government departments or agencies and, as appropriate, leaders of private sector businesses.
- Community capabilities may include:
  - The knowledge and technical expertise of people employed by each jurisdiction, as well as other public, nonprofit, and private sector resources that may be accessed to implement mitigation activities. These may include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.
  - The planning team can identify resources available through other government entities, such as counties or special districts that could provide technical assistance to communities with limited resources.
  - The community may have a recurring source of revenue beyond property, sales, and income taxes, such as stormwater utility or development impact fees, which may support local mitigation efforts, either independently or as the local match or cost-share often required for grant funding.
- Limitations or constraints on capabilities may include:
  - Limited staff resources; while staff members may have specific skills, they may not have the time to devote to additional work tasks.

The degree of intergovernmental coordination among

departments will also affect administrative capability; this may be either a constraint or strength.



Visual 3.6

Examples of Capabilities – Planning and Regulatory

Plans, policies, and ordinances such as:

- Comprehensive plans
- Capital improvement programs
- Transportation plans
- Emergency operations plans
- Zoning ordinances
- Building codes

Visual 3.7

Examples of Capabilities – Administrative and Technical

Staff and skills for planning and mitigation such as:

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

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 employed by each jurisdiction 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.

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

Visual 3.8

Examples of Capabilities – Financial

Resources available to fund mitigation actions such as:

- Operating budgets
- Stormwater utility fees
- Development impact fees

Financial capabilities are the resources that a jurisdiction has access to or is eligible to use to fund mitigation actions. While some mitigation actions, such as building assessment or outreach efforts, require little to no costs other than staff time and existing operating budgets, other actions, such as the acquisition of floodprone properties, could require a substantial monetary commitment from local, State, and Federal funding sources.

Visual 3.9

Examples of Capabilities – Education and Outreach

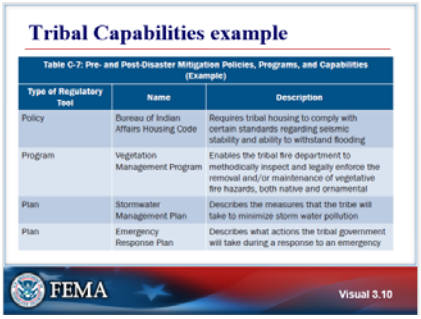
Existing programs that implement mitigation and communicate risk such as:

- School programs
- Firewise communities
- Storm Ready communities
- Hazard awareness campaigns (e.g., Tornado Awareness Month)
- Public Information Officer
- Community newsletter

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

Examples include fire safety programs that fire departments deliver to students 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.

Some communities have their own public information or communications office to handle outreach initiatives.



Visual 3.10

Tribal Capabilities Example

Visual 3.11

National Flood Insurance Program

Jurisdictions that participate in the NFIP are required to conduct activities for mitigating floods; these activities fall into these types:

- Floodplain Mapping
- Floodplain Management
- Flood Insurance

The plan must describe each jurisdiction's participation in the NFIP, and for participating jurisdictions, the local 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 Maps (FIRMs) 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.
- 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. 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.

FEMA's Community Rating System (CRS) program rewards communities that go beyond the minimum standards for floodplain management under the NFIP by providing flood insurance premium discounts for policy holders in the community. Developing a hazard mitigation plan is an activity that may be eligible for CRS credit. For more information, contact your State NFIP Coordinator.

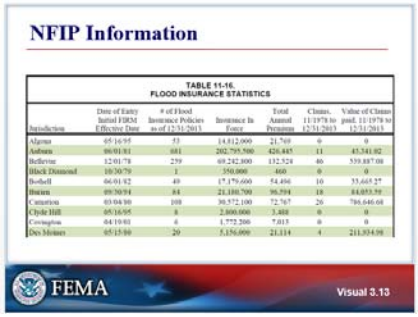
Visual 3.12

NFIP

Coordinate with local floodplain manager for:

- Information on community participation
- Repetitive loss properties

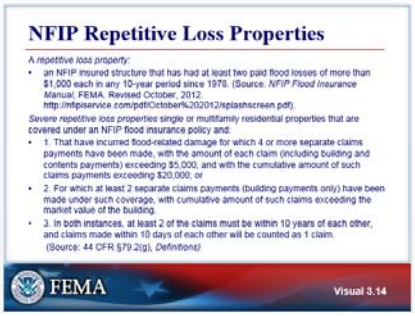
Mitigation opportunities



Visual 3.13

Example:

This is an example from King County, WA on how to present information on how community participates in the NFIP.



Visual 3.14

NFIP Repetitive Loss Properties

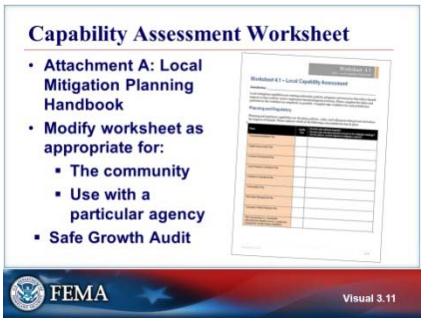
A repetitive loss property:

- An NFIP insured structure that has had at least two paid flood losses of more than $1000 each in any 10-year period since 1978.

Severe repetitive loss properties single or multi-family residential properties that are covered under an NFIP flood insurance police and:

1. That have incurred flood-related damage for which 4 or more separate claims payments have been made, with the amount of each claim (including building and contents payments) exceeding $5,000, and with the cumulative amount of such claims payments exceeding $20,000
2. For which at least 2 separate claims payments (building payments only) have been made under such coverage, with cumulative amount of such claims exceeding the market value of the building

In both instances, at least 2 of the claims must be within 10 years of each other, and claims made within 10 days of each other will be counted as 1 claim.



Visual 3.15

Capability Assessment Worksheet

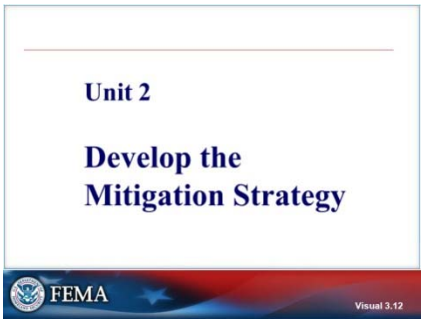
- Attachment A: Local Mitigation Planning Handbook, Worksheet 4.1
- Modify worksheet as appropriate for:

- The community
- Use with a particular agency
  - Safe Growth Audit

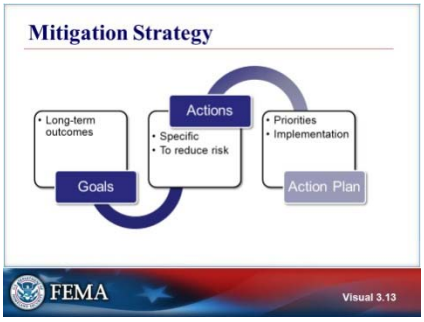
Refer to Handbook, Worksheet 4.1 Local Capability Assessment for an example of a way to gather information about community capabilities. To improve response rate, the worksheet could be modified for a particular community or when being distributed to a particular agency or department.

One way to assess the impact of planning and regulatory capabilities is to complete a safe growth audit. The purpose of the safe growth audit is to analyze the impacts of current policies, ordinances, and plans on community safety from hazard risks due to growth. Refer

to Handbook, Worksheet 4.2 Safe Growth Audit for basic safe growth audit questions.



Visual 3.16



Visual 3.17

UNIT 2: DEVELOP THE MITIGATION STRATEGY

At the end of this unit, participants will be able to:

- Set mitigation goals
- Identify mitigation actions based on the community's risk assessment
- Evaluate and prioritize mitigation actions
- Prepare a plan for implementation

Mitigation Strategy

- Goals:
  - Long-term outcomes
- Actions:
  - Specific
  - Reduce risk
- Action Plan:
  - Priorities
  - Implementation

The heart of the mitigation plan is the mitigation strategy, which serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The mitigation strategy describes how the community will accomplish the overall purpose, or mission, of the planning process.

The mitigation strategy is made up of three main components: mitigation goals, mitigation actions, and an action plan for implementation. These provide the framework to identify, prioritize, and implement actions to reduce risk to hazards.

Visual 3.18

Mitigation Goals and Actions

	Goals	Actions
	Broad, long-term, policy-type statements	Specific projects and activities that help achieve goals
Ex 1	Reduce losses due to flooding	Amend flood damage prevention ordinance to require elevation of first floor at least 1 foot above base flood elevation
Ex 2	Prevent damage to structures and infrastructure	Retrofit historic school for earthquake safety

The community will define long-term mitigation goals and will then develop a variety of corresponding mitigation actions that together constitute a mitigation strategy.

Mitigation goals are general guidelines that explain what the community wants to achieve with the plan. They are usually broad, policy-type statements that are long-term, and represent visions for reducing or avoiding losses from the identified hazards.

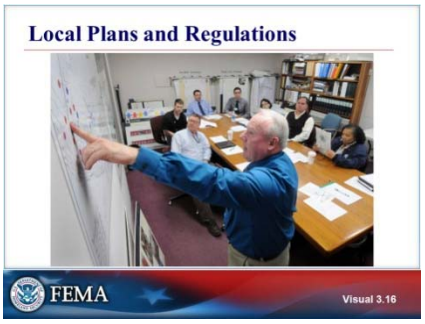
Mitigation actions are specific projects and activities that help achieve the goals. The implementation of actions helps achieve the plan's mission and goals. The actions form the core of the plan and are a key outcome of the planning process.

Visual 3.19

Types of Mitigation Actions:

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

The next four slides provide information about these four different types of mitigation actions.



Visual 3.20

Local Plans and Regulations

These include actions that pertain to government authorities, policies, or codes that influence the way land and buildings are developed and built. Actions may include modifying the local flood damage prevention ordinance to adopt higher standards for reducing flood damage than the minimum standards established by the NFIP.

Visual 3.21

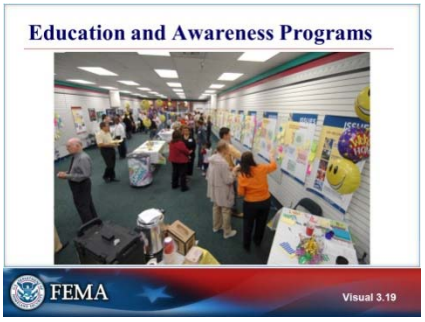
Structure and Infrastructure Projects

These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures, as well as critical facilities and infrastructure. Many of these types of actions are projects eligible for funding through FEMA Hazard Mitigation Assistance programs.

Visual 3.22

Natural Systems Protection

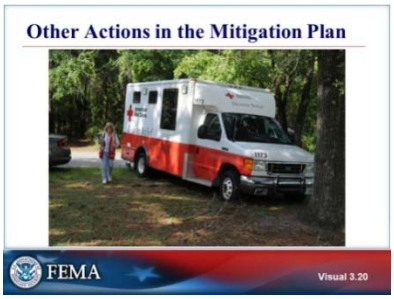
These are actions that minimize damage and losses and also preserve or restore the functions of natural systems. Actions may include sediment and erosion control or wetlands restoration projects.



Visual 3.23

Education and Awareness Programs

These are actions to inform and educate the public, elected officials, and property owners about hazards and potential ways to mitigate them. Actions may be posting hazard maps on a Web site or mailing information about a hazard to owners of properties in a hazard-prone area.



Visual 3.24

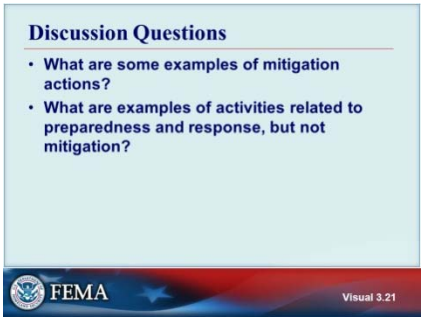
Other Actions in the Mitigation Plan

- The plan must include mitigation actions
- However, the plan may also propose actions to enhance
  - Preparedness
  - Response
  - Recovery

Mitigation actions reduce or eliminate long-term risk and are different from actions taken to prepare for or respond to hazard events. Mitigation activities lessen or eliminate the need for preparedness or response resources in the future. When analyzing risks and identifying mitigation actions, the planning team may also identify emergency response or operational preparedness actions.

For some hazards, such as tornadoes, it may be necessary and practical to include preparedness actions in the mitigation plan. The mitigation plan may be the best place for your community to capture and justify the need for these actions.

Although it may be appropriate for the mitigation strategy to include non-mitigation actions, these will not take the place of or meet the requirements for mitigation actions, so it is important that your planning team understand the difference and distinguish between mitigation and other emergency management activities.



Visual 3.25

Discussion Questions:

- What are some examples of mitigation actions?
- What are some examples of activities related to preparedness and response, but not mitigation?

Use the types of mitigation actions as prompters.

Instructor follow-up question, if needed: What has your community done in the past to mitigate the effects of hazards?

Potential responses include:

- Local Plans and Regulations: Examples include comprehensive plans, land use ordinances, building codes and enforcement, subdivision regulations, development review protocols, implementing NFIP CRS, capital improvement

programs, open space preservation, and stormwater management regulations and master plans that propose projects to mitigate the effects of hazards.

- Structure and Infrastructure Projects: Examples include acquisition or elevation of structures in floodprone areas, utility undergrounding, and structural retrofits. This type of action also involves building structures such as floodwalls, retaining walls, detention and retention structures, culverts, and safe rooms to reduce the impact of hazards.
- Natural Systems Protection: Examples include sediment and erosion control, stream corridor restoration, forest management, conservation easements, and wetland restoration and preservation.
- Education and Awareness Programs: Examples include radio or television spots, Web sites with maps and hazard information, real estate disclosure, presentations to school groups or neighborhood organizations, and mailings to residents in hazard-prone areas. These actions may also include participation in national programs such as Storm Ready or Firewise Communities.

What are some examples of activities related to preparedness and response, but not mitigation?

- Local Plans: Examples include emergency response plans and emergency operations plans prepared by emergency managers, emergency action plans prepared by dam owners, and evacuation plans.
- Projects: Examples include upgrading Reverse 911 systems, purchasing communications equipment, installing generators, and stocking emergency shelters with supplies.
- Education and Awareness Programs: Examples include holding training exercises to test emergency response protocols.

Visual 3.26

Visual 3.27

Visual 3.28

Steps for Developing a Mitigation Strategy

1. Develop Mitigation Goals
2. Identify Comprehensive Range of Mitigation Actions
3. Evaluate and Prioritize Actions
4. Develop Action Plan for Implementation

The next several slides will explain these four steps that are followed to develop a mitigation strategy.

1. Develop Mitigation Goals

- The plan must include mitigation goals consistent with the hazards identified in risk assessment
- Plan updates: Evaluate previous goals and reaffirm or change based on current conditions and priorities

The plan must include hazard mitigation goals that represent what the community seeks to achieve through mitigation plan implementation. The priority mitigation actions will be those that achieve the goals the planning team, elected officials, and public all agree on. Mitigation goals are required to be in the plan and must be consistent with the hazards identified in the risk assessment.

If you are updating a plan, the planning team should evaluate the previous goals and reaffirm or change them based on current conditions and priorities.

How to Develop Goals

- Risk assessment findings
- Outreach findings
- Community goals
- State Hazard Mitigation 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 Hazard Mitigation Plan 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 plan's goals.

Visual 3.29

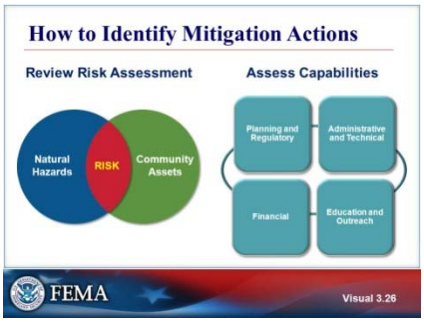
2. Identify Mitigation Actions

Each jurisdiction must:

- Identify and analyze a comprehensive range of specific mitigation actions to reduce the impacts of hazards identified in the risk assessment
- Consider actions that reduce risk to:
  - Existing buildings and infrastructure
  - New development and redevelopment

Each participating jurisdiction must identify and analyze a comprehensive range of specific mitigation actions and projects to reduce the impacts of the hazards identified in the risk assessment. The emphasis is on the "impacts," or vulnerabilities identified in the risk assessment, not on the hazards themselves. Some hazards may not have many impacts, or the impacts may already be mitigated. Therefore, fewer mitigation actions will be identified than for a hazard causing more frequent or severe impacts.

A comprehensive range means that communities evaluate different types of mitigation actions for each hazard. For example, building retrofits, infrastructure protection, and changes in local ordinances represent a mix of structural and non-structural approaches. In addition, jurisdictions must consider actions that reduce risk to existing buildings and infrastructure, as well as those that limit risk to new development and



Visual 3.30

redevelopment.

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.

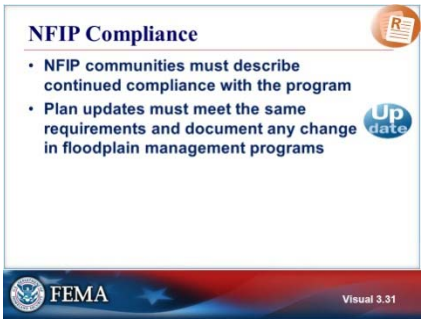
How to Identify Mitigation Actions

- Review Risk Assessment
- Assess Capabilities

Start with the problem statements from the risk assessment. For each problem statement, 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. However, the intent is to think broadly, or comprehensively, when identifying potential actions, and to consider future development.

Next, assess information on community 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



Visual 3.31

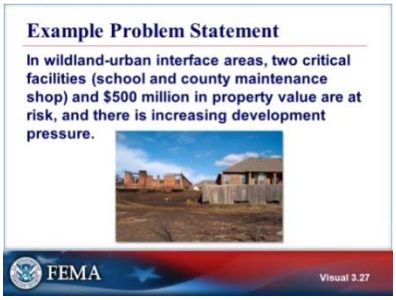
NFIP Compliance

- NFIP communities must describe continued compliance with the program
- Plan updates must meet the same requirements and document any change in floodplain management programs

For communities participating in the NFIP, the plan also must describe each jurisdiction's continued compliance with NFIP requirements to help demonstrate the flood mitigation activities that will be accomplished through the program. The mitigation plan must do more than state that the community will continue to comply with the NFIP.

Each jurisdiction must describe their floodplain management program and address how they will continue to comply with the NFIP requirements.

The plan does not need to have specific actions in the mitigation strategy for NFIP compliance, although areas of improvement, if identified, can be turned into future mitigation actions. These could include unmet needs in staff training, CAVs, CRS participation, or flood hazard mapping. Jurisdictions can also consider how to mitigate identified repetitive loss properties.



Visual 3.32

Example Problem Statement

After using the risk assessment to develop mitigation actions, an example problem statement might be:

- In wildland-urban interface areas, two critical facilities (a school and a county maintenance shop) and $500 million in property value are at risk, and there is increasing development pressure.

Visual 3.33

Comprehensive Range of Actions

- Adopt a wildfire mitigation code
- Retrofit school and maintenance shop with fire-resistant materials
- Identify land for acquisition by Parks Department for trails and open space
- Implement Firewise programs to educate property owners

Examples of potential actions to address the problem, from each of the categories of mitigation types, are the

following:

- Local Planning and Regulations: Adopt a wildfire mitigation ordinance to specify conditions for the use and development of wildfire hazard areas to mitigate risk to life and property.
- Structure and Infrastructure Projects: Retrofit the school and county maintenance shop with fire-resistant construction materials and create a defensible space around the perimeters of the buildings.
- Natural Systems Protection: Identify large tracts of vacant land in high-hazard areas for acquisition by the Department of Parks to develop trails and preserve open space.
- Education and Awareness Programs: Implement a program using Firewise Communities materials to educate property owners in the wildland-urban interface on actions they can take to reduce risk.
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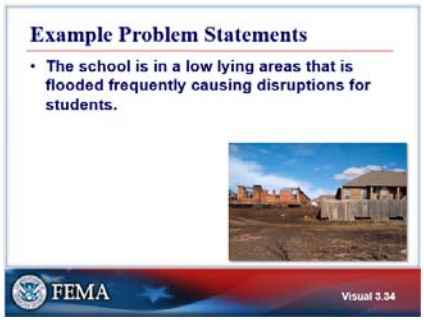
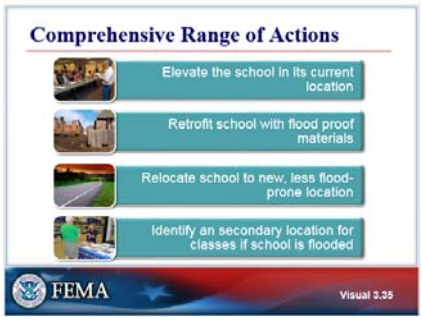


Visual 3.34

Example Problem Statements

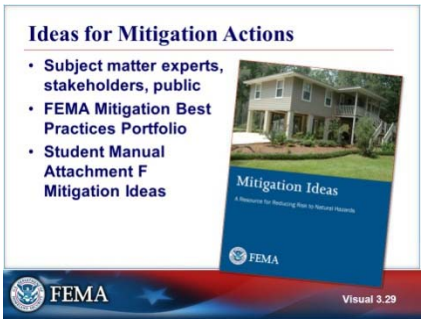
The school is in a low lying area that is flooded frequently causing disruptions for students



Visual 3.35

Comprehensive Range of Actions

- Elevate the school in its current location
- Retrofit school with flood proof materials
- Relocate school to new, less flood-prone location
- Identify a secondary location for classes if flooded.



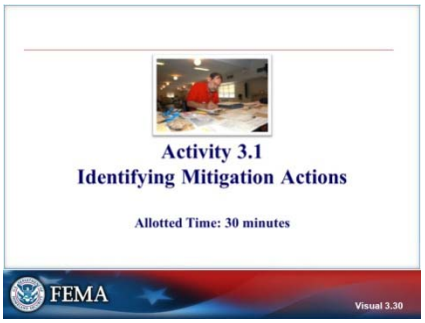
Visual 3.36

Ideas for Mitigation Actions

- Subject matter experts, stakeholders, public
- FEMA Mitigation Best Practices Portfolio
- Student Manual Attachment F: Mitigation Ideas

To find effective solutions, innovative ideas, and best practices for mitigating risks, consult the following resources:

- Ask subject matter experts – Experts on the planning team and among stakeholders can help evaluate 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 will have to ask an engineer to evaluate the flooding and recommend potential solutions.
- Collect ideas from stakeholders and the public – The outreach strategy provides opportunities for gathering ideas and input from the public. Surveys and questionnaires are effective tools for gathering information on 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.
- FEMA Mitigation Best Practices Portfolio – This resource found on our Web site provides mitigation success stories and case studies from communities across the country.
- Refer to Attachment F: Mitigation Ideas



Visual 3.37

Activity 3.1: Identifying Mitigation Actions

- Allotted Time: 30 minutes

Instructions

Consider the problem statements written for Activity 2.1 and identify at least three potential mitigation actions to address each problem. Write one mitigation action on each index card. If possible, identify mitigation actions that fall into different categories:

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

One person per group will read the identified mitigation actions to the class.

Purpose of Activity

This activity allows participants to develop a variety of mitigation actions relative to a particular problem.

It is important that planners consider a variety of potential mitigation actions that address problems or risks in the community so they can write a plan that can be implemented at the local level with or without Federal mitigation funding.

Overview of Activity

- Before beginning, the instructor must:

1. Amend or edit problem statements developed for Activity 2.1 so that they precisely describe a problem. Also, amend or edit problem statements so they are varied in type and hazard and will result in many different types of actions.
2. Write each amended problem statement on an easel or piece of paper for each small group. One problem statement per group.
3. Distribute at least 3 index cards to each small group.

- Participants will divide into small groups of six or fewer for this activity.
- Instructor will read the instructions in the Student Manual and advise participants to take approximately 15 minutes to develop at least

three mitigation actions for each problem statement. Participants will write one mitigation action on each index card.

- Instructor will ask that one person from each group read the problem statement and identified mitigation actions. Instructor will comment on actions that will reduce risk as well as on actions that are not mitigation actions (such as preparedness, response, or recovery actions).
- Instructor will collect the index cards for use in Activity 3.2.

Activity Materials

- Student Manuals, which contain instructions
- Easels with problem statements provided by instructor
- At least 4 index cards per group
- Pens for writing on index cards

Time Plan

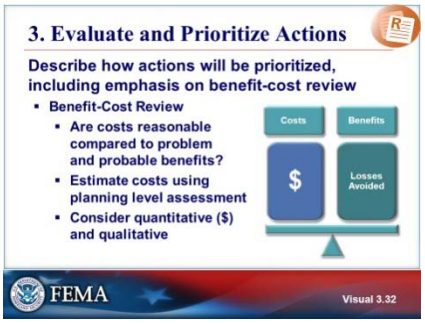
Task	Time
Introduce Activity	5 minutes
Work as Small Groups	15 minutes
Report by Small Group	10 minutes
Total	30 minutes

Sample Response

- Problem statement: Hundreds of new homes have been permitted and constructed in the wildland-urban interface, and new regulations have been adopted to reduce the likelihood of damage by wildfire.

- Possible Actions include:
  - Study the long-term effects of the new regulations to avoid unintended consequences
  - Bring pre-existing County buildings into compliance with the new regulations
  - Educate building inspectors on enforcement of the new regulations
  - Offer training on the new regulations to contractors and property owners of new and pre-existing structures

Using the sticky dots will generally show that this approach identifies some of the same top priority actions as the more quantitative ranking process illustrated in Activity 3.2. This approach also shows that some actions that were ranked low in Activity 3.2 are actually very important to the residents of a community.



Visual 3.38

3. Evaluate and Prioritize Actions

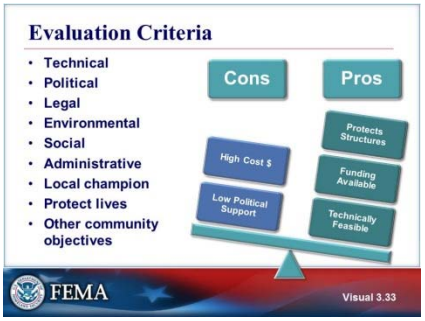
Describe how actions will be prioritized, including emphasis on benefit-cost review.

- Benefit-Cost Review
  - Are costs reasonable compared to problem and probable benefits?
  - Estimate costs using planning level assessment
  - Consider quantitative ($) and qualitative

Not all of the identified actions will be included in the final action plan because of technical feasibility, political acceptance, lack of funding, and other constraints. The planning team will need to evaluate the mitigation actions to prioritize which ones are most suitable for the community to pursue implementation.

The one criterion that must be part of the evaluation and prioritization process is 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. Qualitative benefits, such as quality of life and natural and beneficial functions of ecosystems can also be included in the review.



Visual 3.39

Evaluation Criteria:

- Technical
- Political
- Legal
- Environmental
- Social
- Administrative
- Local champion

- Protect lives
- Other community objectives

The planning team needs to agree upon the other criteria that will be used to analyze the mitigation actions. Here are some suggestions for criteria and examples of questions the planning team can use to evaluate each mitigation action alternative:

- 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.
- Political – Is there overall public support for the mitigation action? Is there the political will to support it?
- Legal – Does the community have the authority to implement the 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?
- Administrative – Does the community have the personnel and administrative capabilities to implement the action and maintain it or will outside help be necessary?
- Local Champion – Is there a strong advocate for the action or project among local departments and agencies that will support the action's implementation?
- Other Community Objectives – Does the action advance other community objectives, such as capital improvements, economic development, environmental quality, or open space preservation?

Visual 3.40

Action Prioritization

- Considers plan goals and hazards addressed
- Weighs the pros and cons
- Is appropriate for community capabilities

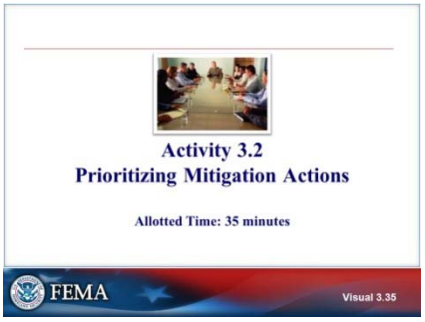
Develop a process for the planning team.

The evaluation and prioritization 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 at achieving the plan's goals and reducing impacts of hazards identified in the risk assessment.

However, the decision making process is not necessarily straightforward; it is highly specific to each jurisdiction. You will need to develop a process for identifying and prioritizing mitigation actions that is appropriate for the size, number, and capabilities of the communities involved.

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. The planning team can prioritize actions for implementation by assessing the importance of each item relative to the plan's goals and the hazards addressed.

Prioritization could be done by numerical ranking; high, medium, or low designation; chronologically by date of implementation; or other methods. Prioritization may change over time in response to changes in community characteristics and risks and to take advantage of available resources.



Visual 3.41

Activity 3.2 Prioritizing Mitigation Actions

- Allotted Time: 30 minutes

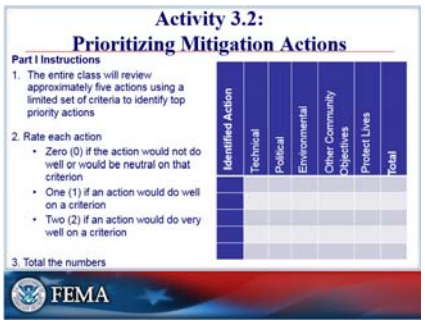
Instructions

The entire class will review approximately five actions using a limited set of criteria to identify top priority actions.

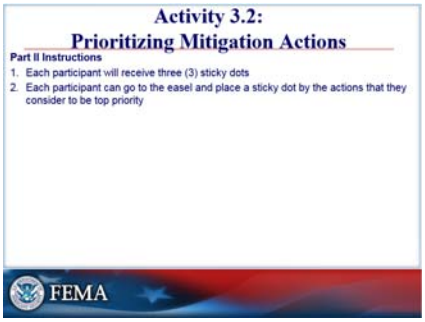
Purpose of the Activity

For this activity, participants will consider how they might facilitate a prioritization process in their own communities.

Prioritizing actions is a part of the planning process, and it is complicated by the inherent difficulty in comparing



Visual 3.42



Visual 3.43

dissimilar actions.

Different approaches can be useful for prioritizing mitigation actions.

Activity Overview

- Instructor reviews the index cards submitted as part of Activity 3.1 and selects approximately five that cover a variety of types of mitigation actions and, if possible, multiple hazards.
- Instructor uses one easel or whiteboard and makes a chart as shown below. Instructor writes the five selected actions in the left hand column of the chart and five evaluation criteria across the top row of the chart. Instructor may let the class choose which five criteria to use.

Action	Technical	Political	Environmental	Other Community Objectives	Protect Lives

- Instructor asks class to consider each action relative to each criterion and to rate the action as:

- Zero (0) if the action would not do well or would be neutral on that criterion
- One (1) if an action would do well on a criterion
- Two (2) if an action would do very well on a criterion

- Class determines rating for each action for each criterion and the instructor fills in the chart with ratings of 0, 1, or 2.
- Instructor totals the scores for each action across each row.

- Instructor and participants compare results to see how the actions rank and discuss the validity or meaning of the scores.
- Instructor explains that participants should not necessarily accept the results of this exercise as the best or only way to prioritize mitigation actions. The results must be reviewed to see if they make sense. If a number of actions scored equally, ask if that makes sense.
- Follow up question: Ask participants: What might happen that would change a lower priority action into a top priority action?

Potential responses include a loss or a disaster; a new, energetic local champion for an action; or the availability of funding for a particular action.

- Instructor gives three sticky dots to each participant.

- Instruct participants to go to the easel/whiteboard and place a sticky dot by the actions that they consider to be top priority actions.
- Instructor reconvenes the class and compares the assignment of dots to the rank assigned to actions as a result of Activity 3.2. Instructor points out that using the dots to identify preferred actions is another way of prioritizing actions in a local community.

Activity Materials

- Student Manuals, which contain instructions
- Easel with a chart prepared by the instructor and markers
- Sticky dots (3 per participant)

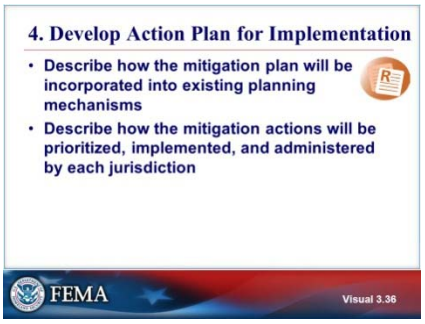
Time Plan

Task	Time
Introduce Activity	5 minutes
Assign scores as a class and sum scores for each action	10 minutes
Sticky dot instructions and activity; sum sticky dot scores	10 minutes
Discuss validity or meaning of the scores	5 minutes

Total	30 minutes

Sample Responses

Ratings may be reasonable or may appear to be unreasonable to the class. Explain that this is one approach that can be used with some success to prioritize actions, but that it is critical that the planning team review the results subjectively before presenting them in the plan.



Visual 3.44

4. Develop Action Plan for Implementation

- Integrating Mitigation: Describe how the mitigation plan will be incorporated into existing planning mechanisms
- Action Implementation: Describe how the mitigation actions will be prioritized, implemented, and administered by each jurisdiction

The Action Plan describes how the mitigation actions will be implemented and defines how those actions will be prioritized, administered, and incorporated into existing planning mechanisms in the community.

In a multi-jurisdictional plan, each jurisdiction must have an action plan specific to that jurisdiction and its vulnerabilities.

Visual 3.45

Integrating Mitigation

- Integrate plan goals with other community objectives
- Use the risk assessment to inform plans and policies
- Implement mitigation actions through existing mechanisms

Mitigation plans must describe the community's process to integrate the data, analysis, and mitigation goals and actions into other planning mechanisms. The plan also must identify the existing planning mechanisms where hazard mitigation information and actions may be incorporated.

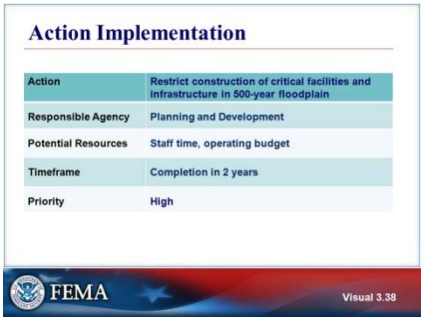
Planning mechanisms means governance structures that are used to manage local land use development and community decisionmaking. The review of community

capabilities described should provide this information.

Methods for integrating the mitigation plan with other planning mechanisms include:

- Integrate plan goals with other community objectives
  - The mission and goals for risk reduction may be incorporated into the objectives and policies of other plans. Goals and objectives can be included in the comprehensive plan and implemented through zoning and building codes, capital improvement programs, and permitting processes.
  - Examples of complementary goals and objectives are:
    - "Protect life and property in high hazard areas" and "Limit densities of new development"
    - "Limit the extension of public infrastructure in high hazard areas" and "Reduce sprawl"
    - "Reduce the vulnerability of future development in high hazard areas" and "Update development regulations"
- Use the risk assessment to inform plans and policies
  - The risk assessment provides data, analysis, and maps that can be integrated into other plans to inform policies and decision making. For instance, the risk assessment can form the basis for other emergency management program activities and plans, including the emergency operations plan, evacuations plans, and post-disaster recovery plans. 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.
- Implement mitigation actions through existing mechanisms
  - Where possible, the community should implement the identified mitigation actions through existing plans and policies that already have support from the community and policy makers. For instance, a

Community Wildfire Protection Plan, as defined by the Healthy Forest Restoration Act, identifies a community's priorities for wildfire fuel reduction projects. A capital improvements program outlines a jurisdiction's spending plan for capital projects that support existing and future development, such as roads, water, and sewer systems, usually over a 5-year period. Mitigation projects that could be included in the capital improvements plan include strengthening at-risk critical facilities or acquiring open space in identified hazard areas. Other implementation tools for mitigation actions could include staff work plans, permitting procedures, job descriptions, and training.



Visual 3.46

Action Implementation

Action	Restrict construction of critical facilities and infrastructure in 500-year floodplain
Responsible Agency	Planning and Development
Potential Resources	Staff time, operating budget
Timeframe	Completion in 2 years
Priority	High

The action plan also 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.

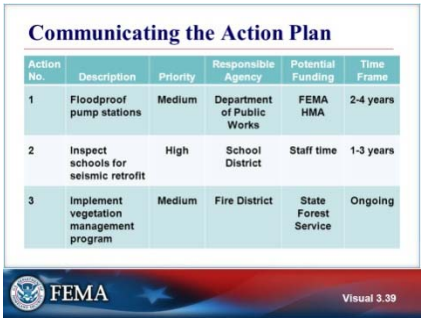
Assign responsible agency. Each jurisdiction must determine which department or agency is most appropriate to lead each action. If coordinating with other agencies will be necessary, this is a good time for them to provide input on the steps and timeframes necessary to carry out the actions.

Identify potential resources. 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, impact fees, special assessment districts, and more. Your State Hazard Mitigation Officer and the FEMA mitigation planning Web page can help identify potential State and Federal resources. 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 timeframe. Funding cycles will likely affect when you can begin implementing an action. The timeframe can detail when the action will be started, interim steps, and when it should be fully implemented.

Other implementation items that you may consider describing in the action 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. Attachment G: Action Implementation Example provides two examples of completed worksheets.



Visual 3.47

Communicating the Action Plan

Action No.	Description	Priority	Responsible Agency	Potential Funding	Time Frame
1	Flood-proof pump stations	Medium	Department of Public Works	FEMA HMA	2-4 years
2	Inspect schools for seismic retrofit	High	School District	Staff time	1-3 years
3	Implement vegetation management program	Medium	Fire District	State Forest Service	Ongoing

You will need to consider how to present the final action plan in a format that can be easily used and referenced by community members and officials. This 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, such as the example, can be a good format for summarizing information on the recommended actions.

Wildland Fire Mitigation Initiative Four: Review and upgrade existing building and land use codes to address landscape, fuel amounts and structure detail that reduces the incidence or spread of wildland fire in urban/rural interface areas. In the 2005 Plan, this initiative did not include implementation opportunities. The Mitigation Committee clarifies them for this Plan.

Implementation opportunities:	Actions taken since 2005:
Develop systems to regulate landscape, fuels and structure components for new construction.	Cities continue to require specific fire resistant components on new construction of subdivisions. County recently implemented similar system for subdivisions outside city limits. **Completed.** Will monitor and update.
Develop and adopt countywide defensible space standards.	Deschutes County has embraced the same standards as Senate Bill 360. **Completed.** County to formally adopt standards. **Deferred** to 2010 Plan.
Develop countywide classification system consistent with SB 360 to educate individual property owners and encourage compliance with defensible space standards.	**Completed** classification of all private property in Deschutes County.

Coordinating Organization: Deschutes County Community Development & County Forester. **Timeline:** 1-2 years **Plan Goals Addressed:** Protect Life and Property. **Potential Funding Sources:** Funding will be necessary to notify/educate property owners of their classification and recommended standards for defensible space. Obtain grant funding from federal and state programs. (From 2010 Deschutes County Natural Hazards Mitigation Plan)

Visual 3.48

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.

Here is an example from Deschutes County, Oregon

Wildland Fire Mitigation Initiative Four: Review and upgrade existing building and land use codes to address landscape, fuel amounts and structure detail that reduces the incidence or spread of wildland fire in urban/rural interface areas. In the 2005 Plan, this initiative did not include implementation opportunities. The Mitigation Committee clarifies them for this Plan.	
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Deschutes County, Oregon 2010 Natural Hazards Mitigation Plan

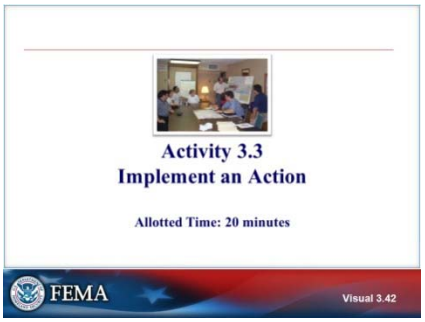
Visual 3.49

Steps for Developing a Mitigation Strategy

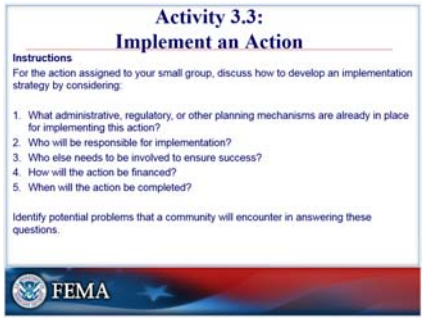
To review, the steps for developing a mitigation strategy are:

- Develop mitigation goals
- Identify a comprehensive range of mitigation actions for each hazard
  - Review risk assessment
  - Assess capabilities
- Evaluate and prioritize actions
- Develop an action plan for implementation

Visual 3.50



Visual 3.51



Visual 3.52

- Integrate with existing plans and procedures
- Describe implementation of actions

Are there any questions?

Activity 3.3: Implement an Action

- Allotted Time: 20 minutes

Refer to Attachment G: Action Implementation Example for this activity.

Instructions

For the action assigned to your small group, discuss how to develop an implementation strategy by considering:

- What administrative, regulatory, or other planning mechanisms are already in place for implementing this action?
- Who will be responsible for implementation?
- Who else needs to be involved to ensure success?
- How will the action be financed?
- When will the action be completed?

Identify potential problems that a community will encounter in answering these questions.

Purpose of Activity

For this activity, participants will develop a strategy that will be approvable by FEMA by describing how the action will be implemented.

The activity also provides an opportunity to use another approach for prioritizing mitigation actions.

The mitigation strategy is the heart of the plan and must describe how a jurisdiction will carry out a proposed action.

Activity Overview

- Instructor will write questions on a white board or flip chart for the class ahead of time.
- Participants will divide into small groups of six or less for this activity.
- Instructor will assign one action from the actions listed on the chart in Activity 3.2 to each small group.
- Each small group will have approximately 10 minutes to discuss the development of an action plan for a single jurisdiction by responding to the five questions listed in the Student Manual.
- Instructor will ask each group to discuss observations based on the exercise, such as the difficulty in developing an action plan, potential obstacles to implementation that were discussed, or experience with implementing a similar action.

Activity Materials

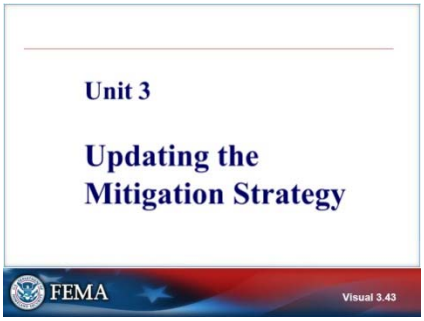
- Student Manuals, which contain instructions

Time Plan

Task	Time
Introduce Activity	5 minutes
Discuss implementation of action	10 minutes
Discuss observations	5 minutes
Total	20 minutes

Sample Response

Difficulty in implementing an action plan may be due to staff being busy with other activities, constantly changing priorities in a local community setting, or lack of interest in mitigation by community leaders. Potential obstacles to implementation may include a lack of funding, lack of expertise, or the need to conduct environmental reviews before a project can begin, which will change the timeframe.



Visual 3.53

UNIT 3: UPDATING THE MITIGATION STRATEGY

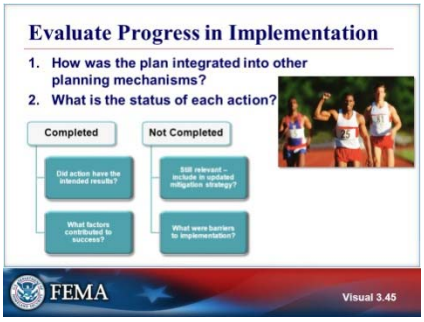
At the conclusion of this unit, participants will be able to update the mitigation strategy.

Visual 3.54

Update the Mitigation Strategy

- Evaluate progress in plan implementation
- Describe changes in priorities

To continue to be an effective representation of the jurisdiction's overall strategy for reducing risk to 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. The mitigation strategy should be revised following a disaster to determine if the recommended actions are still appropriate given the impacts of the event.



Visual 3.55

Evaluate Progress in Implementation

- How was the plan integrated into other planning mechanisms?
- What is the status of each action?
  - 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?

<u>Integration of Hazard Mitigation</u>

The updated plan must explain how the jurisdiction(s)

incorporated the previous mitigation plan, when appropriate, into other planning mechanisms over the last 5 years as a demonstration of progress in local mitigation efforts. The updated plan must continue to describe how the current mitigation strategy, including the goals and hazard mitigation actions, will be incorporated into other planning mechanisms over the next 5 years.

Completion of Mitigation Actions

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 3.56

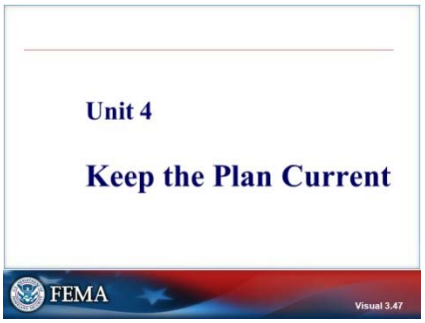
How Have Priorities Changed?

- Identify new actions based on updated risk and capability assessments
- Reprioritize with remaining actions from previous plan
- Factors influencing changes:
  - 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

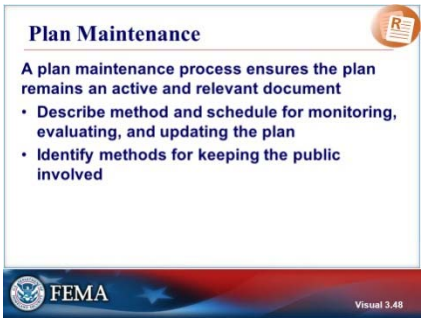
- Changing local resources, community needs, and capabilities
- New State or Federal policies and funding resources
- New hazard impacts identified in the updated risk assessment
- Changes in development patterns that could influence the effects of hazards
- New partners that have come to the table



Visual 3.57

UNIT 4: KEEP THE PLAN CURRENT

At the conclusion of this unit, participants will be able to document the planning process, including how the plan will be implemented and how progress will be monitored over time.



Visual 3.58

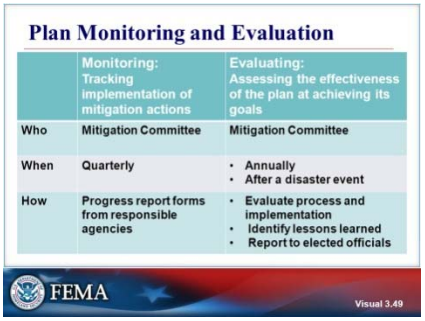
Plan Maintenance

A plan maintenance process ensures the plan remains an active and relevant document

- Describe method and schedule for monitoring, evaluating, and updating the plan
- Identify methods for keeping the public involved

The planning team's responsibilities do not stop after the plan is adopted; they continue through implementation. To ensure that the plan, and specifically the action plan, remains current and relevant, the planning team will need to establish procedures and coordinate maintenance of the plan.

To do this, the plan must describe the method and schedule for keeping the plan current by monitoring, evaluating, and updating the plan within a 5-year cycle. The plan must explain how each community will keep the public engaged in the process as actions are implemented.



Visual 3.59

Plan Monitoring and Evaluation

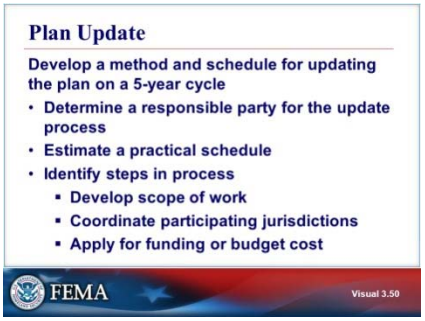
- Monitoring: Tracking the implementation of mitigation actions
- Evaluating: Assessing the effectiveness of the plan at achieving its goals

Monitoring may include a system for tracking the status of the identified hazard mitigation actions. The lead office coordinates with other agencies responsible for implementing mitigation actions identified in the plan to maximize the opportunities to implement actions, track progress on actions that have been initiated, identify and address any barriers to implementation, and take advantage of grant opportunities. A method and

schedule for regular monitoring can include reports or other deliverables and expectations for meeting attendance. Monitoring becomes part of the regular, administrative function of the offices or positions to which it is assigned.

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 planning team should also establish tasks to complete following a hazard event. For example, the method for monitoring and evaluation may include recording lessons learned from a particular event, which can be used to improve the risk assessment in the plan. Additionally, mitigation priorities can change after a disaster, and additional funding sources might become available.



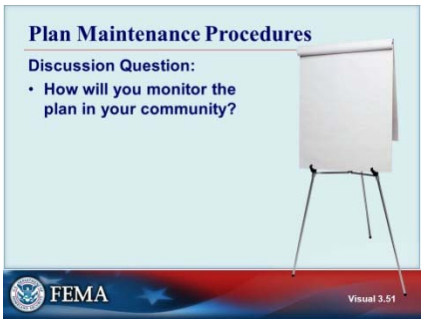
Visual 3.60

Plan Update

Develop a method and schedule for updating the plan on a 5-year cycle.

- Determine a responsible party for the update process
- Estimate a practical schedule
- Identify steps in process:
  - Develop scope of work
  - Coordinate participating jurisdictions
  - Apply for funding or budget cost

The plan must identify how, when, and by whom the plan will be updated. Updating means reviewing and revising the plan at least once every 5 years, though there are tasks that can be accomplished more frequently to make the 5-year update easier. Documentation may require only a simple explanation of the update procedures expected during the planning cycle. It may be appropriate to include a schedule of activities that allows sufficient time for a complete planning process before the



Visual 3.61

plan expires.

The planning team can also establish procedures for updating the plan following a disaster event. Your community's vulnerabilities and mitigation priorities often change following a disaster.

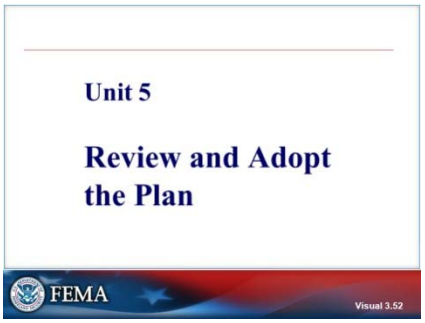
Plan Maintenance Procedures

Discussion Question:

- How will you monitor the plan in your community?

Potential responses include:

- Monthly, annual, or bi-annual meetings that include department heads
- Forms that are completed by project managers and submitted monthly or annually to the office responsible for the mitigation plan



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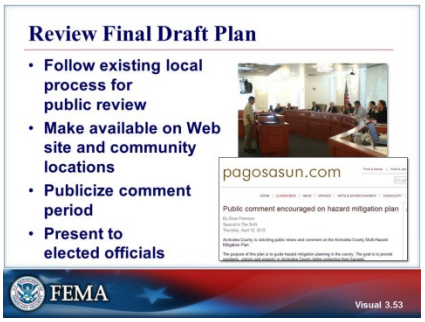

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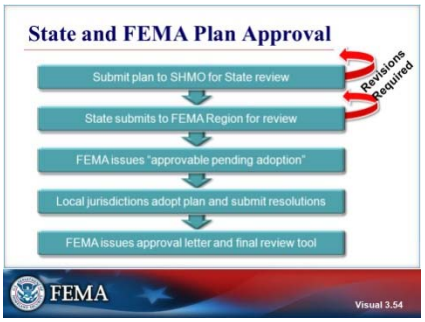


Visual 3.64

UNIT 5: REVIEW AND ADOPT THE PLAN

At the conclusion of this unit, participants will be able to understand the steps required for FEMA approval and community adoption once the plan is complete.

Review the Final Draft Plan

- Follow existing local process for public review
- Make available on Web site and community locations
- Publicize comment period
- Present to elected officials

When the plan has reached a final draft stage, the planning team may complete the FEMA Local Mitigation Plan Review Tool's Regulation Checklist found in the Local Mitigation Plan Review Tool. This internal review can confirm the plan meets Federal requirements prior to submitting the plan to the State.

Prior to submittal, the public should be given an opportunity to review and comment on the final draft of the mitigation plan.

Whether the plan is introduced on the agenda of a public meeting, posted online, or made available through any other mechanism, make sure the public is given enough time to comment.

Refer to Attachment B: Local Mitigation Plan Review Tool

State and FEMA Plan Approval

Submit the Plan

Once the planning team is confident the plan meets the required elements and includes all supporting documentation, forward the plan to the State Hazard Mitigation Officer (SHMO). The SHMO will review the plan and respond with any required revisions. Once the State is satisfied that the plan meets the requirements, the SHMO will forward the plan to your FEMA Regional office for 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 SHMO may contact you to discuss additional revisions to the plan to ensure that it meets the Federal mitigation planning regulations.

Approvable Pending Adoption

Once FEMA determines the plan is in compliance with the regulations, FEMA will notify the SHMO that the plan is "approvable pending adoption" (APA). APA is a recommended and potentially time-saving process by which the community submits the final draft of the mitigation plan to the State and FEMA for review prior to formal adoption by the elected officials or other authorized governing body. If FEMA determines the plan is not approvable, and revisions are needed, the community will be able to make revisions before taking the plan through adoption, thereby avoiding unnecessary delays in plan approval.

Plan Adoption

The final plan must include documentation that it has been formally adopted by the governing body of the jurisdiction(s) requesting approval. The governing bodies are typically the town board, city council, or county commission. Adoption by the local governing body demonstrates the community's commitment to implementing the mitigation strategy and authorizes responsible agencies to execute their responsibilities.

Plan Approval

Upon receiving the record of adoption from the State, FEMA will issue an official approval letter stating which jurisdictions have adopted the plan and the expiration date. Attached to the approval letter will be a FEMA-completed Local Mitigation Plan Review Tool that describes the strengths of the plan, recommends how the plan could be improved in future plan updates, and suggests how to implement the mitigation strategy.

Visual 3.65

FEMA Plan Approval: Tribal Plans

Note that the lighter highlighted area "Submit to the State for Review" only occurs if the Tribal government chooses to work with the state. Tribes can either work directly with FEMA or states depending on what works best.

Once the planning team is confident the plan meets the required elements and includes all supporting documentation, they forward the plan to the State Hazard Mitigation Officer (SHMO), or FEMA, depending on who the tribe is working with. If the plan is sent to the SHMO, they will review the plan and respond with any required revisions.

Once the state is satisfied that the plan meets the requirements, the SHMO will forward the plan to the FEMA Regional office for approval. FEMA will conduct its review within 45 days, if possible, and return the completed Tribal Plan Review Crosswalk to the State or Tribe, as applicable. The FEMA Regional office and /or the SHMO may contact you to discuss additional revisions to the plan to ensure that it meets the Tribal mitigation planning regulations.

Approvable Pending Adoption

Once FEMA determines the plan is in compliance with the regulations, FEMA will notify the SHMO or the Tribe that the plan is "approvable pending adoption" (APA). APA is a recommended and potentially time-saving process by which the community submits the final draft of the mitigation plan to the State and/or FEMA for review prior to formal adoption by the Tribal Council or other authorized governing body. If FEMA determines the plan is not approvable, and revisions are needed, the Tribe will be able to make revisions before taking the plan through adoption, thereby avoiding unnecessary delays in plan approval.

Plan Adoption

The final plan must include documentation that it has been formally adopted by the governing body of the jurisdiction(s) requesting approval. Adoption by the local governing body demonstrates the Tribe's commitment to implementing the mitigation strategy and authorizes responsible agencies to execute their mitigation strategy.

Plan Approval

Upon receiving the record of adoption, FEMA will issue

an official approval letter stating that the Tribe has adopted the plan and the expiration date. Attached to the approval letter will be a FEMA completed Tribal Mitigation Plan Review Crosswalk. Tribes should contact their FEMA Region to discuss ways in which their plan could be approved during the next update.

Plan Adoption

All jurisdictions seeking plan approval must adopt the plan and submit the documentation for final plan approval.

Adoption must take place within 1 year of receipt of FEMA's APA letter. At least one of the participating jurisdictions must adopt within 1 year from the APA

notice; however, it is recommended that jurisdictions coordinate the adoption process as soon as the plan has received APA status to ensure that all participants are covered by a plan for the full 5 years.

Visual 3.66

Plan Adoption

All jurisdictions seeking plan approval must adopt the plan and submit the documentation for final plan approval.

Adoption must take place within 1 year of receipt of FEMA's APA letter. At least one of the participating jurisdictions must adopt within 1 year from the APA notice; however, it is recommended that jurisdictions coordinate the adoption process as soon as the plan has received APA status to ensure that all participants are covered by a plan for the full 5 years.

Visual 3.67

Keep in Mind

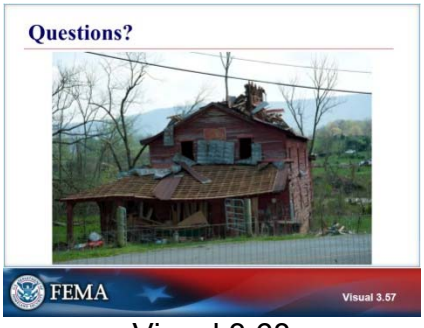
- Communicate often with your State planners
- Keep local decision makers informed of the plan's progress
- Allow time for State and FEMA review and local adoption
- Celebrate your success!

Here are a few additional considerations related to the plan review and approval process:

- Communicate with your SHMO early and often when approaching submittal. Discuss with your SHMO whether it would be appropriate to

share drafts of the plan or portions of the plan prior to a formal review, to ensure the plan is complete. Also, you will want to ensure your plan meets any additional State requirements.

- The relationships you have already established with stakeholders, elected officials, and government agencies will be important assets during the adoption process. To facilitate adoption of the plan, periodically brief community decision makers throughout the planning process on the progress of the planning team's efforts.
- Build time into your planning process to meet State and FEMA procedures for review. Your local governing body may meet only once a month and may require agenda items to be submitted well ahead of time.
- Celebrate and publicize the adoption and approval of the plan:
  - Post a notice on the community's Web site
  - Issue a press release on plan adoption and approval to local media outlets
  - Distribute notices of approval to stakeholders
  - Announce the first project or projects 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



Visual 3.68

Are there any questions?

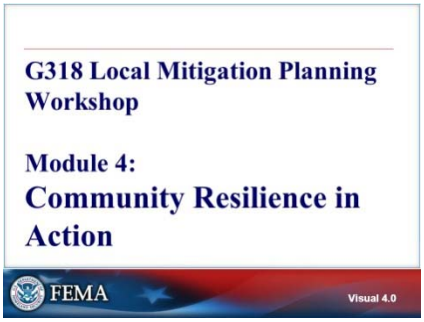
MODULE 4: COMMUNITY RESILIENCE IN ACTION

OBJECTIVES

Participants will be able to identify opportunities for implementing a mitigation plan.

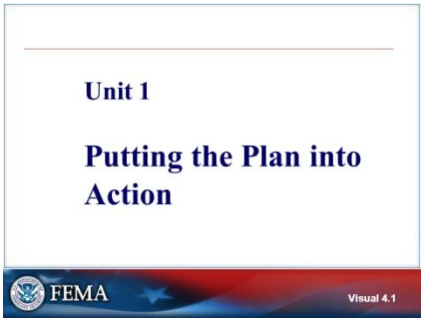
METHODOLOGY

This section includes lecture, discussion questions, and a tabletop activity, and provides an opportunity for participants to ask questions.



Visual 4.0

Module 4: Community Resilience in Action



Visual 4.1

UNIT 1: PUTTING THE PLAN INTO ACTION

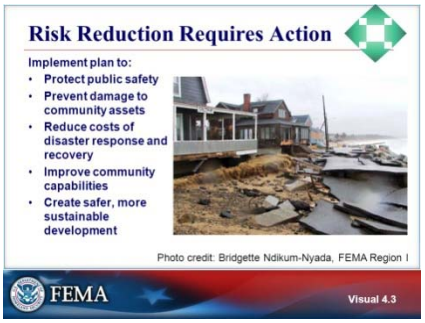
At the end of this unit, participants will be able to identify some of the benefits of planning as well as some of the obstacles to plan implementation.

Visual 4.2

Planning Has important Benefits

Engages the whole community in a process to:

- Assess vulnerabilities and risks
- Identify policies and actions to reduce risk
- Build partnerships
- Increase awareness of hazards and risks
- Communicate priorities
- Align with other community objectives

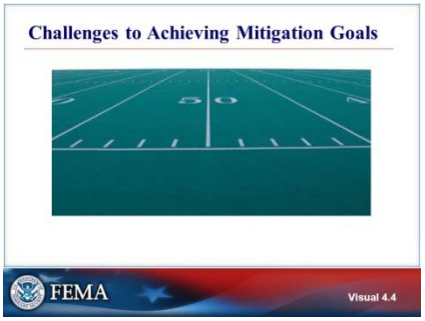


Visual 4.3

Risk Reduction Requires Action

Implement plan to:

- Protect public safety
- Prevent damage to community assets
- Reduce costs of disaster response and recovery
- Improve community capabilities
- Create safer, more sustainable development



Visual 4.4

Challenges to Achieving Mitigation Goals

Turning your mitigation plan into action can be difficult. Community officials make difficult decisions every day and must balance competing priorities for local resources, funding, and staff time. Multiple, competing priorities can be a major challenge to implementing the plan and accomplishing your community's mitigation goals.

Visual 4.5

Discussion Question

What are some of the challenges to implementing mitigation actions in your community?

Potential responses include:

- Lack of budget
- Need to address more pressing issues
- City leadership does not understand purpose of mitigation
- Local staff wear many hats and have many responsibilities

Visual 4.6

Common Challenges

- Competing priorities
- Apathy, loss of interest
- Lack of funding and resources
- Limited local capability or capacity
- Insufficient political will
- Disconnect with day-to-day operations

There are several potential common challenges to implementing mitigation actions.

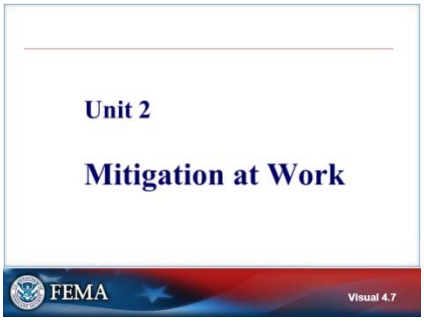
If several years have passed without a significant hazard occurring, the community may exhibit apathy as the result of "disaster amnesia" or the perception that "nothing ever happens here."

The planning team, stakeholders, and the public may exhibit a loss of interest or meeting fatigue after the mitigation planning and adoption process ends.

A community may lack the technical expertise needed to accomplish some of the recommended mitigation actions.

There may be insufficient political support for addressing the more complicated problems or for implementing a potentially controversial solution.

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.



Visual 4.7

UNIT 2: MITIGATION AT WORK

At the end of this unit, participants will be aware of some of the mitigation accomplishments of local jurisdictions.

Visual 4.8

Local Success Stories

- St. George, Utah
- Wichita, Kansas
- Colorado Springs, Colorado
- Rock Springs, Wyoming

Communities of various sizes and with a wide variety of capabilities have successfully implemented mitigation actions. Each of these communities has overcome a variety of challenges or obstacles. Obstacles have included insufficient funding, competing priorities, and political hardships. While there are many examples of successful mitigation achievements, four are presented

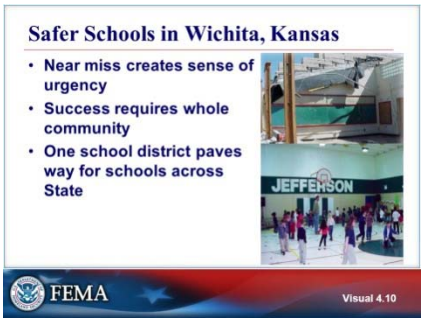
in this workshop.

Visual 4.9

Happy Trails in St. George Utah

- Potential high risk development converted to open space
- Flood mitigation creates popular trail system
- Initial FEMA funds spur State and local investment
- Mindset of community altered by win/win solution

See Attachment H: Mitigation Planning Case Studies for additional information



Visual 4.10

Safer Schools in Wichita, Kansas

- Near miss creates sense of urgency
- Success requires whole community
- One school district paves way for schools across State

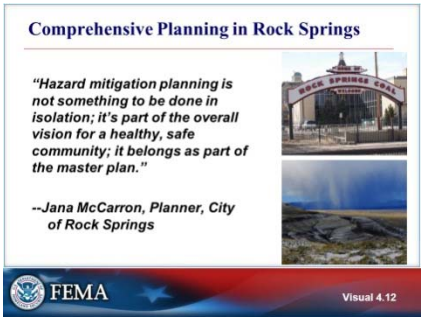
See Attachment H: Mitigation Planning Case Studies for additional information

Visual 4.11

Owners' Actions Save Homes in Colorado

- Local champion's passion for mitigation results in millions for City
- Firewise creates a structure for neighborhood projects and builds awareness
- Property owners' sweat equity is secret to success

See Attachment H: Mitigation Planning Case Studies for additional information



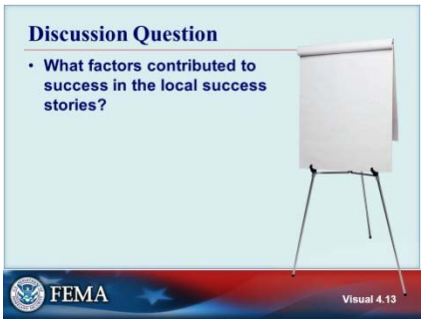
Visual 4.12

Comprehensive Planning in Rock Springs

"Hazard mitigation planning is not something to be done in isolation; it's part of the overall vision for a healthy, safe community; it belongs as part of the master plan."

--Jana McCarron, Planner, City of Rock Springs

See Attachment H: Mitigation Planning Case Studies for additional information



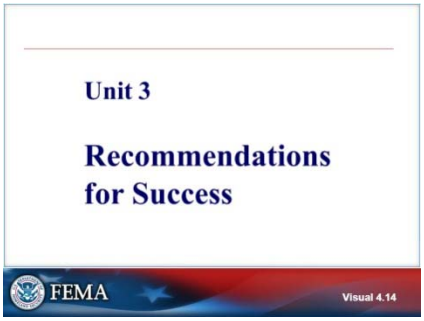
Visual 4.13

Discussion Question

- What factors contributed to success in the local success stories?

Potential responses include:

- There was a local champion
- There was local involvement and leadership; the project was not initiated by the State or FEMA
- People realized that they would save money and/or lives in the long-run
- There was a local contribution



Visual 4.14

UNIT 3: RECOMMENDATIONS FOR SUCCESS

At the end of this unit, participants will understand five factors that can contribute to the success of a hazard mitigation program.

Visual 4.15

Recommendations for Success

- Use post-disaster window of opportunity
- Focus on quality over quantity
- Build on existing strengths
- Encourage local champions
- Develop strong messaging

Visual 4.16

Use Post-Disaster Window of Opportunity

- Take advantage of public interest and political will
- Funding opportunities to address problems
- Chance to re-invent community

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 be through State and Federal sources as well as through volunteers and donations.

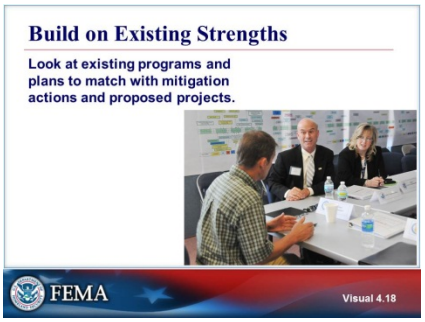
Redevelopment may provide a chance to re-invent the community by implementing features of community economic development, environmental protection, land use, growth management, or other plans.4

Visual 4.17

Focus on Quality over Quantity

- Balance staff available and the time allotted to the project
- Plans can always be updated to include future projects
- Identify and focus on projects that target the highest risks and greatest community needs

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. These could be low cost actions that can be implemented quickly or a single high-priority project. Demonstrating progress can go a long way in gaining the support needed to implement more complex actions in the future.

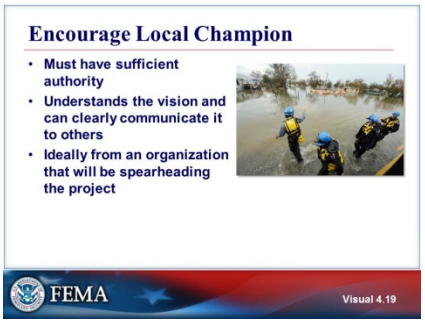


Visual 4.18

Build on Existing Strengths

Look at existing programs and plans to match with mitigation actions and proposed projects.

Instead of re-inventing the wheel or starting from scratch, consider the programs, policies, and people that have already been successful in your 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 in your community.



Visual 4.19

Visual 4.20

Encourage Local Champion

- Must have sufficient authority
- Understands the vision and can clearly communicate it to others
- Ideally from an organization that will be spearheading the project

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.

Develop Strong Messaging

- Stakeholders need to see personal value
- Community officials want to see the financial benefit
- Agency leads want to see the benefit to their goals and objectives
- Businesses want to see how the plan will protect their investments
- The public wants to see how it will protect their lives and property

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.

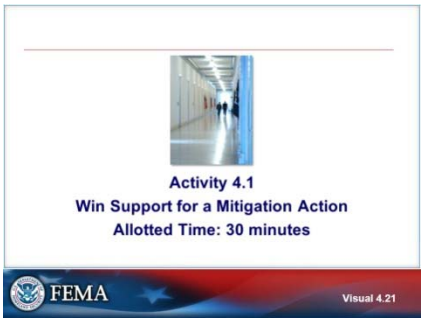
You should consider the unique concerns of various groups and identify ways mitigation can address their concerns. You will need to make a convincing case for the long-lasting benefits of mitigation.

For each proposed action, you should be prepared to clearly and succinctly explain how well the action supports multiple other community objectives, such as by providing social, economic, or environmental benefits.

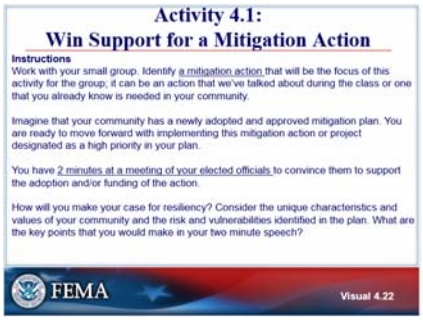
For each proposed action, identify key selling points such as:

- 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 4.21



Visual 4.22

Activity 4.1: Win Support for a Mitigation Action

- Allotted Time: 30 minutes

Instructions

Work with your small group. Identify a mitigation action that will be the focus of this activity for the group; it can be an action that we've talked about during the class or one that you already know is needed in your community.

Imagine that your community has a newly adopted and approved mitigation plan. You are ready to move forward with implementing this mitigation action or project designated as a high priority in your plan.

You have 2 minutes at a meeting of your elected officials to convince them to support the adoption and/or funding of the action.

How will you make your case for resiliency? Consider the unique characteristics and values of your community and the risk and vulnerabilities identified in the plan. What are the key points that you would make in your two minute speech?

Write one key point on each index card in your small group.

Purpose of Activity

This activity provides participants an opportunity to consider how they might convey the key benefits of a mitigation action to elected officials.

Obtaining the support of elected officials is necessary for implementing the recommendations or proposals of the mitigation plan.

Activity Overview

- Before starting this activity, instructor will place a sticky dot on the back of four or five blank index cards.
- Instructor will hand one index cards (some with a sticky dot on the back and others without a sticky dot) to each participant.
- Participants will divide into small groups of six or less for this activity.
- Instructor will read the instructions from the Student Manual and advise participants to take approximately 10 minutes to identify key points and write one point on the back of each card.
- When students have completed the task, the instructor asks the students to turn their cards over and check for a dot. Students with a dot will read the messages they wrote.
- Instructor will ask the class for the strengths of each key point shared.
- If there is time, the instructor will ask for other volunteers to present their key points and allow the class to discuss the strengths of these key points.

Activity Materials

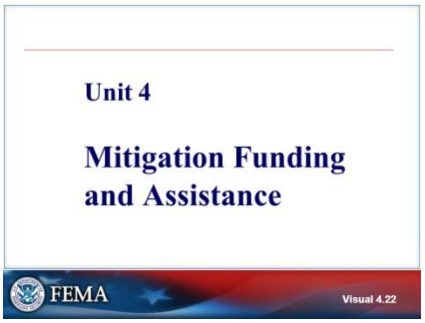
- Student Manuals, which contain instructions
- Index cards (one per participant)
- Four or five sticky dots

Time Plan

Task	Time
Introduce Activity	5 minutes
Work as Small Groups	10 minutes
Read and discuss key points	15 minutes
Total	30 minutes

Sample Response

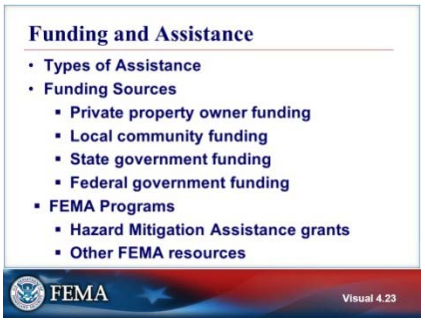
Installing larger twin culverts along Main Street will save the community at least $3 million over the next 5 years, as the main thoroughfare through town will no longer be closed when we have heavy rains and we will no longer be required to detour heavy trucks through residential streets and, as a result, be required to repair both the main thoroughfare and the residential streets repeatedly.



Visual 4.23

UNIT 4: MITIGATION FUNDING AND ASSISTANCE

At the end of this unit, participants will be able to identify several potential sources of funding for hazard mitigation actions.



Visual 4.24

Funding and Assistance

- Types of Assistance
- Funding Sources
  - Private property owner funding
  - Local community funding
  - State government funding
  - Federal government funding
    - FEMA programs
  - Hazard Mitigation Assistance grants
  - Other FEMA resources

This slide outlines the material covered on the next several slides.

Visual 4.25

Types of Mitigation Funding Available

- Grants
- Loans
- Local revenue
  - Bonds
  - Taxes
- Technical assistance
- In-kind services and materials

Mitigation projects can be funded with grants, loans, and through regular local revenue sources such as bonds or taxes. Mitigation projects may require technical assistance or training that can be provided by State and Federal agencies. Mitigation projects can be supported with in-kind services including volunteer labor and donated materials.

Visual 4.26

Private Property Owners

Homeowners or property owners may be asked to 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 a homeowner or property owner is voluntary. However, if an owner of private property elects to participate, the owner may be asked to contribute to the project such as by funding part of the cost of elevation or of building a safe room. This contribution to the total project cost may be all or a portion of the non-Federal share. Contributions by property owners may increase the likelihood of buy-in or commitment to mitigation goals.

Visual 4.27

Local Funding

Some local resources that are often leveraged as grant matching funds and can be used to fund mitigation projects:

- General fund
- Capital improvement budget
- Special revenue sources

Local financial resources can fund all or part of mitigation projects. For example, the general fund can be used to pay staff to enforce regulations that mitigate risk; the capital improvements budget can be used to construct needed government facilities that incorporate mitigation measures into their design; or special revenue sources such as special district taxation can provide funds to pay for mitigation measures in a particular part of a jurisdiction.

Visual 4.28

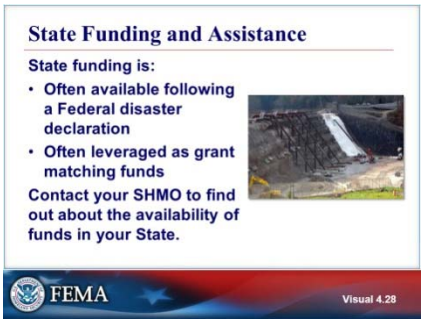
Tribal Funding

Tribal funding resources can be used to fund mitigation projects or provide non-federal cost share for grants.

These funds can be used for mitigation to tribal housing, infrastructure, facilities, resources, or other priorities identified in the plan.

Sample tribal funding resources:

- General fund
- Capital improvement budget
- Special revenue sources



Visual 4.29

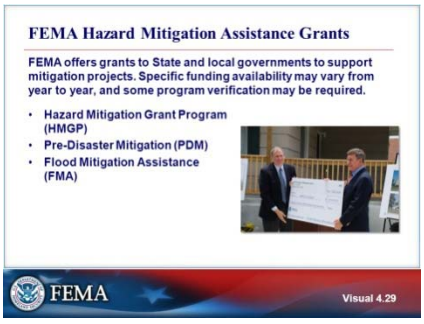
State Funding and Assistance

State funding is:

- Often available following a Federal disaster declaration
- Often leveraged as grant matching funds

Contact your SHMO to find out about the availability of funds in your State.

State government may receive Federal government funds from FEMA as well as from other Federal agencies as part of a post-disaster recovery and rebuilding effort. As a result, the State can sometimes provide the non-Federal match to a mitigation grant. The SHMO will have information about availability and regulations governing the use of such funds.



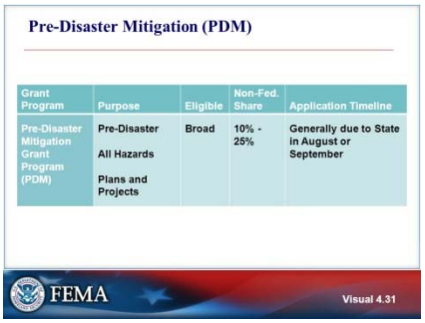
Visual 4.30

FEMA Hazard Mitigation Assistance Grants

FEMA offers grants to State and local governments to support mitigation projects. Specific funding availability may vary from year to year, and some program verification may be required.

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)

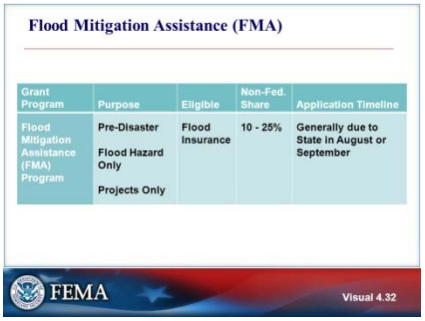
FEMA publishes information on eligibility and application procedures for the three mitigation grant programs. Each program is administered by the State.



Visual 4.31

Pre-Disaster Mitigation (PDM)

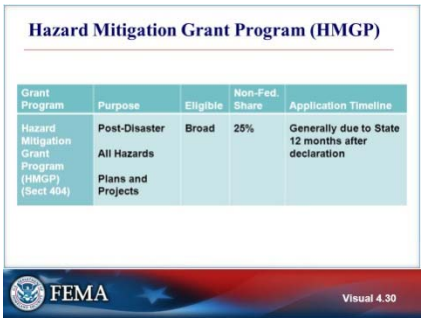
The purpose of PDM is to provide mitigation funding. PDM funds are available annually, depending on appropriations. PDM funds can be used to mitigate any natural hazard and can be used for planning as well as for a project. The non-Federal share ranges from 10 percent to 25 percent. Applications for PDM funds are generally due to the State in August or September.



Visual 4.32

Flood Mitigation Assistance (FMA)

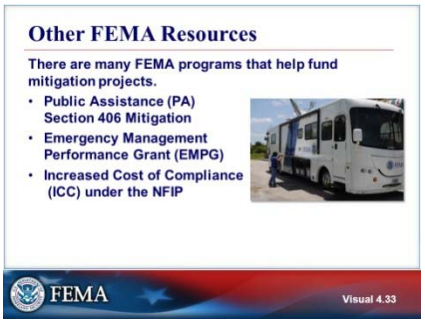
The purpose of FMA is to provide funds to mitigate the effects of flooding. FMA is available annually depending on appropriations. FMA is used to mitigate the effects of flooding. FMA can be used to fund projects, but not plans. The non-Federal share ranges from 10 percent to 25 percent. Applications for FMA grants are generally due to the State in August or September.



Visual 4.33

Hazard Mitigation Grant Program (HMGP)

The purpose of HMGP is to provide post-disaster funding. HMGP funds can be used to mitigate any natural hazard and can be used for planning as well as for a project. The non-Federal share is 25 percent. Local jurisdictions must generally apply to the State for HMGP funds within a year of a disaster declaration.



Visual 4.34

Other FEMA Resources

There are many FEMA programs that help fund mitigation projects.

- Public Assistance (PA) Section 406 mitigation
- Emergency Management Performance Grant (EMPG)
- Increased Cost of Compliance (ICC) under the NFIP

Visual 4.35

Are there any questions?

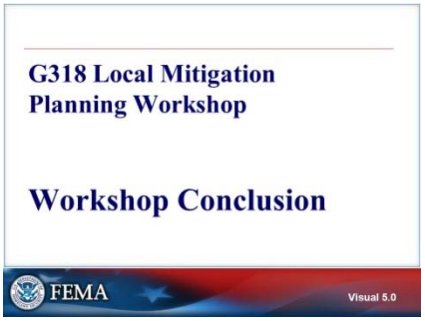
CONCLUSION

OBJECTIVES

Participants will review workshop topics.

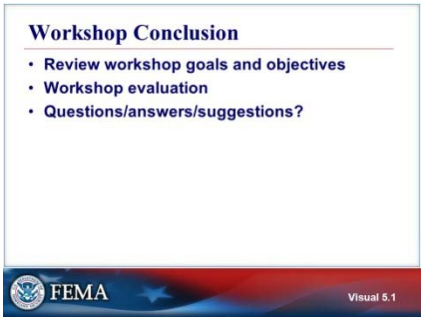
METHODOLOGY

This section includes lecture and provides an opportunity for participants to ask questions.



Visual 5.0

Workshop Conclusion



Visual 5.1

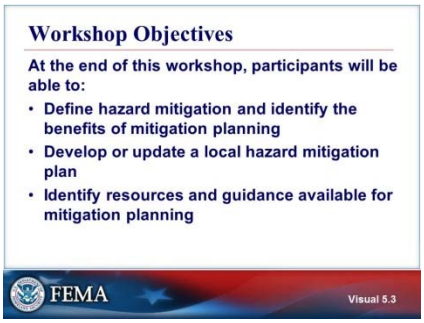
Workshop Conclusion

- Review workshop goals and objectives
- Workshop evaluation
- Questions/answers/suggestions?

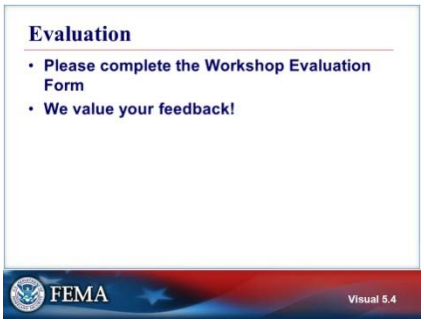
Visual 5.2

Workshop Goal

To provide plan developers with the information necessary to prepare and implement a local hazard mitigation plan



Visual 5.3



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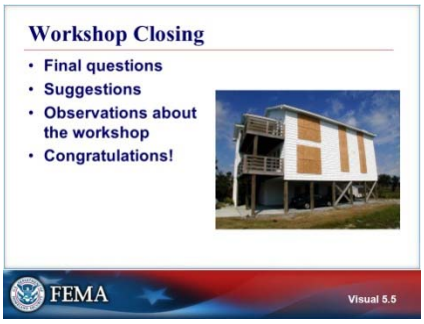

Visual 5.5

Workshop Objectives

At the end of this workshop, participants will be able to:

- Define hazard mitigation and identify the benefits of mitigation planning
- Develop or update a local hazard mitigation plan
- Identify resources and guidance available for mitigation planning

Evaluation

- Please complete the Workshop Evaluation Form
- We value your feedback!

Workshop Closing

- Final questions
- Suggestions
- Observations about the workshop
- Congratulations!