

# Planning for a Resilient Community

A 4-Hour Workshop for Planners



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# Welcome and Introductions

# Administrative Notes



Restrooms



Exits



Cell phone courtesy

# Please Introduce Yourself

- Name
  - Job Title
  - Employer
- Describe the natural hazard that:
- ▶ poses the greatest risk where you live or work

OR

- ▶ has had the greatest impact on you personally or professionally

# Purpose of This Workshop

To enhance the effectiveness of community planners and officials in creating safe, resilient communities through hazard mitigation



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# Learning Objectives

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

- ▶ **Identify the role of the community planner in making communities more resilient**
- ▶ **Strengthen connections between mitigation and the goals of other local plans**
- ▶ **Explain the value of mitigation in improving community resilience**

# Organization of the Workshop

- Introduction
- Background
- Role of Community Planner in Risk Reduction
  - ▶ Plan
  - ▶ Mitigate
  - ▶ Advocate
- Planning during Disaster Recovery
- Conclusion



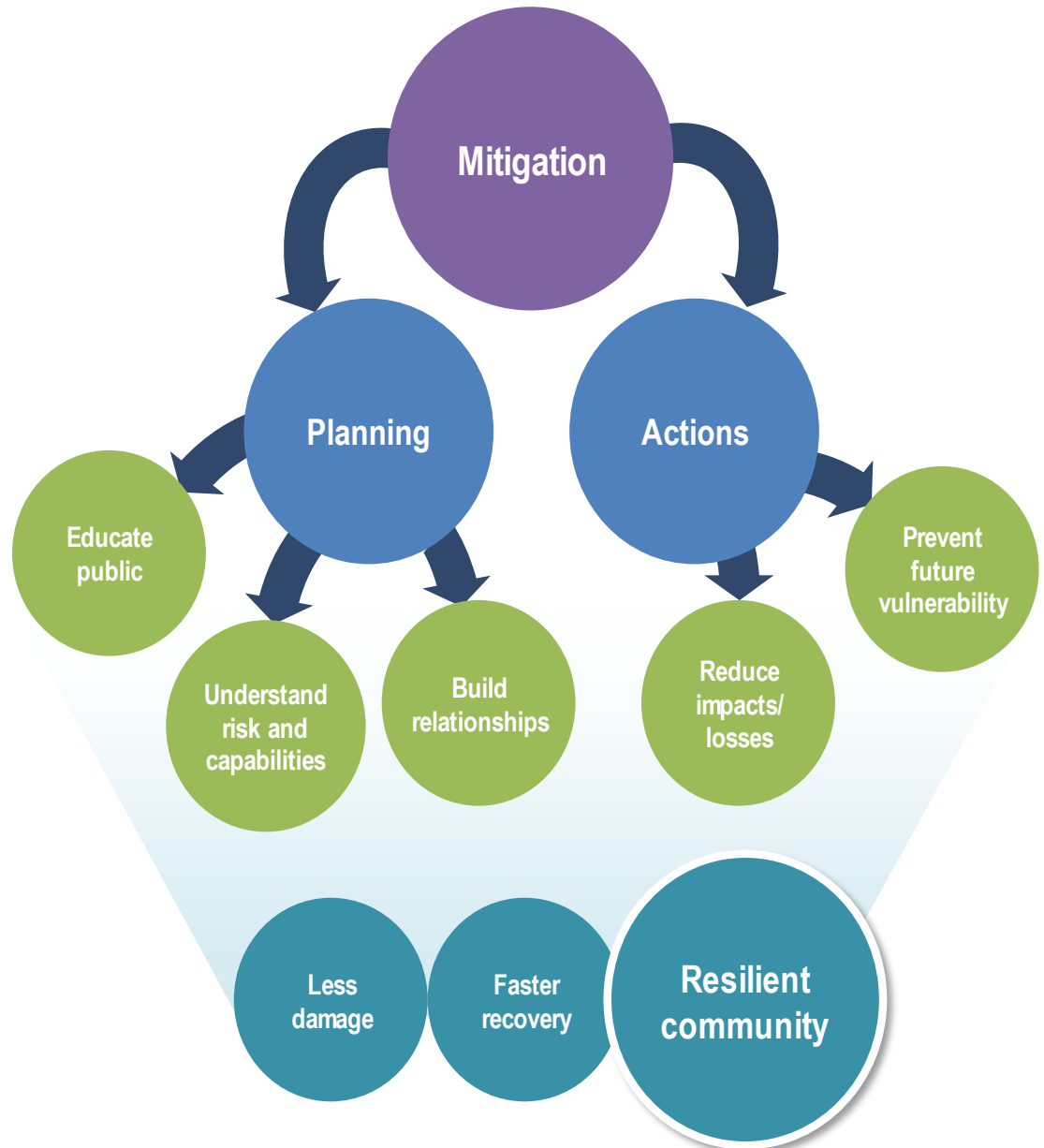
# A Resilient Community

- Makes proactive investment and policy decisions
- Communicates risk and vulnerability to all
- Builds public and private sector capabilities and partnerships
- Resumes normal operations and recovers rapidly after hazard events

**What are other features of a resilient community?**



# Mitigation Increases Resiliency



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## Critical Connection

**Community Design**



**Natural Hazard Impacts**



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# Background

# Natural Hazards

Hazards are  
sources of harm  
or difficulty



**FLOODING**



**WILDFIRE**



**EARTHQUAKE**



**TORNADO**



**LANDSLIDE**



**SUBSIDENCE**



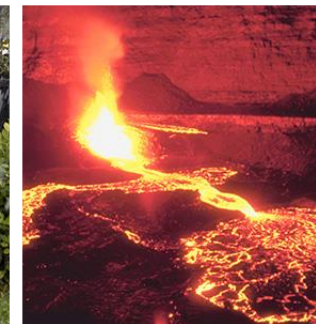
**TSUNAMI**



**EROSION**



**HAIL**



**VOLCANO**



**AVALANCHE**



**OTHER**

# Risk

**Risk is the potential for damage, loss, or other impact created by the intersection of natural hazards with development**



**Location**

**Construction**

**Site Design**

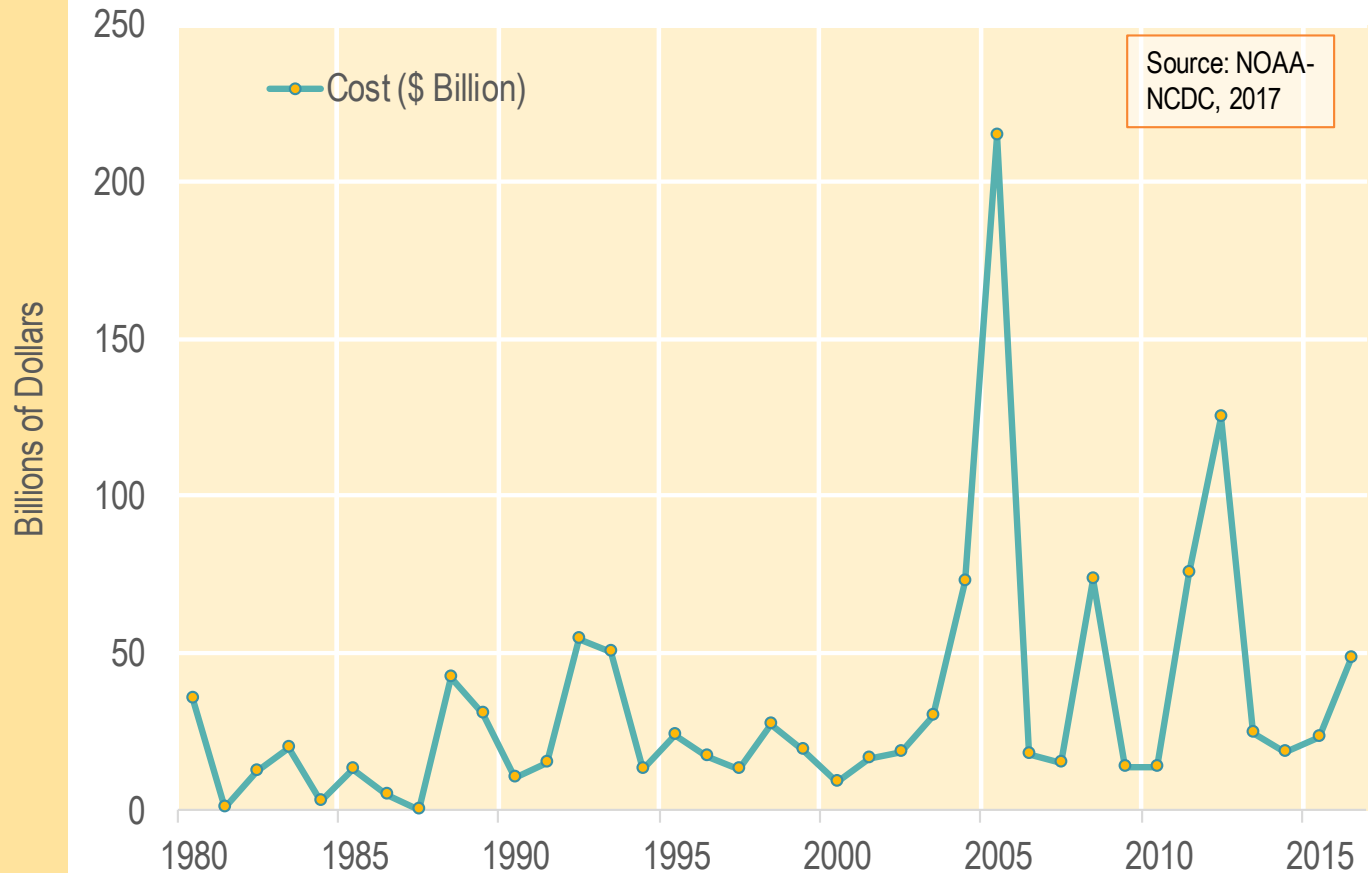
**Infrastructure**



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Disaster is the result of a hazard causing extensive damage

# Disaster Losses 1980-2016



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# Resilience

**Resilience is the ability to adapt to changing conditions and prepare for, withstand, and rapidly recover from disruption caused by a hazard**

“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



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# Mitigation

Mitigation is the reduction or elimination of long-term risk to human life and property from hazards

ONGOING

**DISASTER**

DAYS

WEEKS–MONTHS

MONTHS–YEARS

**Preparedness**

*Short-Term  
Response*

*Intermediate  
Recovery*

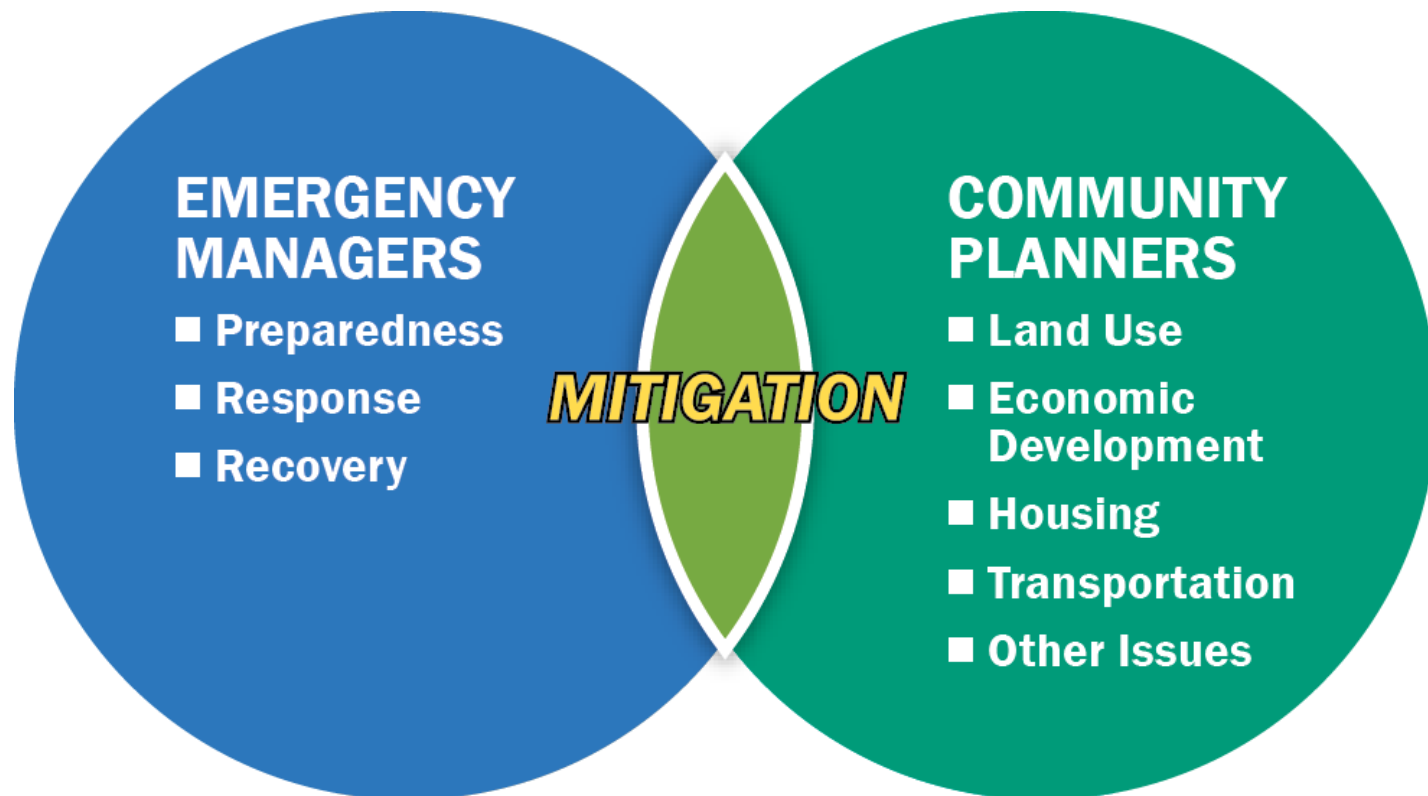
*Long-Term  
Recovery*

**MITIGATION**

**MITIGATION**

Emergency Management Activities

# Mitigation Provides Opportunities for Coordination



# Examples of Mitigation Actions: Local Plans and Regulations

## Comprehensive planning



## Revise zoning ordinance



## Update building code



# Examples of Mitigation Actions: Structure and Infrastructure Projects

## Construct tornado saferoom



## Improve drainage to reduce flood threat



## Acquire and demolish structures in hazard-prone areas



# Examples of Mitigation Actions: Natural Systems Protection

**Implement erosion  
control measures**



**Create defensible  
space regulations**



**Protect and preserve  
natural areas**

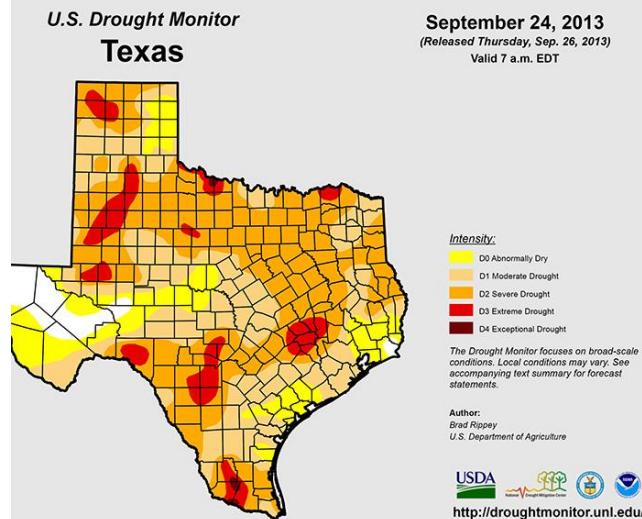


# Examples of Mitigation Actions: Education and Awareness Programs

## Incentivize drought tolerant landscaping



## Publish Web sites and maps



## Educate the public about risks



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# Disaster Mitigation Act of 2000

- Purpose is to reduce:
  - ▶ **Loss of life and property**
  - ▶ **Human suffering**
  - ▶ **Economic disruption**
  - ▶ **Disaster assistance costs**
- Requires mitigation plan approved by FEMA for mitigation grant eligibility
- Requires plan update every five years

## **The Act focuses on:**

- **Natural hazards**
- **Reducing the potential for damage to existing and future structures and infrastructure**



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# 44 Code of Federal Regulations (CFR) 201

**201.4 and 201.5**

**State Mitigation Plans**

**201.6**

**Local Mitigation Plans**

**201.7**

**Tribal Mitigation Plans**



# Observed Challenges for Mitigation Planning

## Lack of active participation in the process by

- ✓ Local land use planners
- ✓ Local leaders

## Proposed mitigation measures

- ✓ Focus on emergency preparedness and response
- ✓ Not connected to other local planning efforts or ongoing programs

# Experience

**Have you been involved in developing a hazard mitigation plan in your community?**



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# The Planner's Role in Risk Reduction

# What can a planner do?

## Plan

**Participate in development of mitigation plan.**

## Mitigate

**Integrate policies and implement actions.**

## Advocate

**Champion mitigation goals.**



# Plan

# Purpose of the Mitigation Planning Process



To **identify policies** and actions that will permanently reduce the risk of damage and loss



To **improve the welfare** of people and their communities



To **enhance the ability** of communities to recover from disasters



To **establish partnerships** for community resilience

# The mitigation planning process is not new, not different

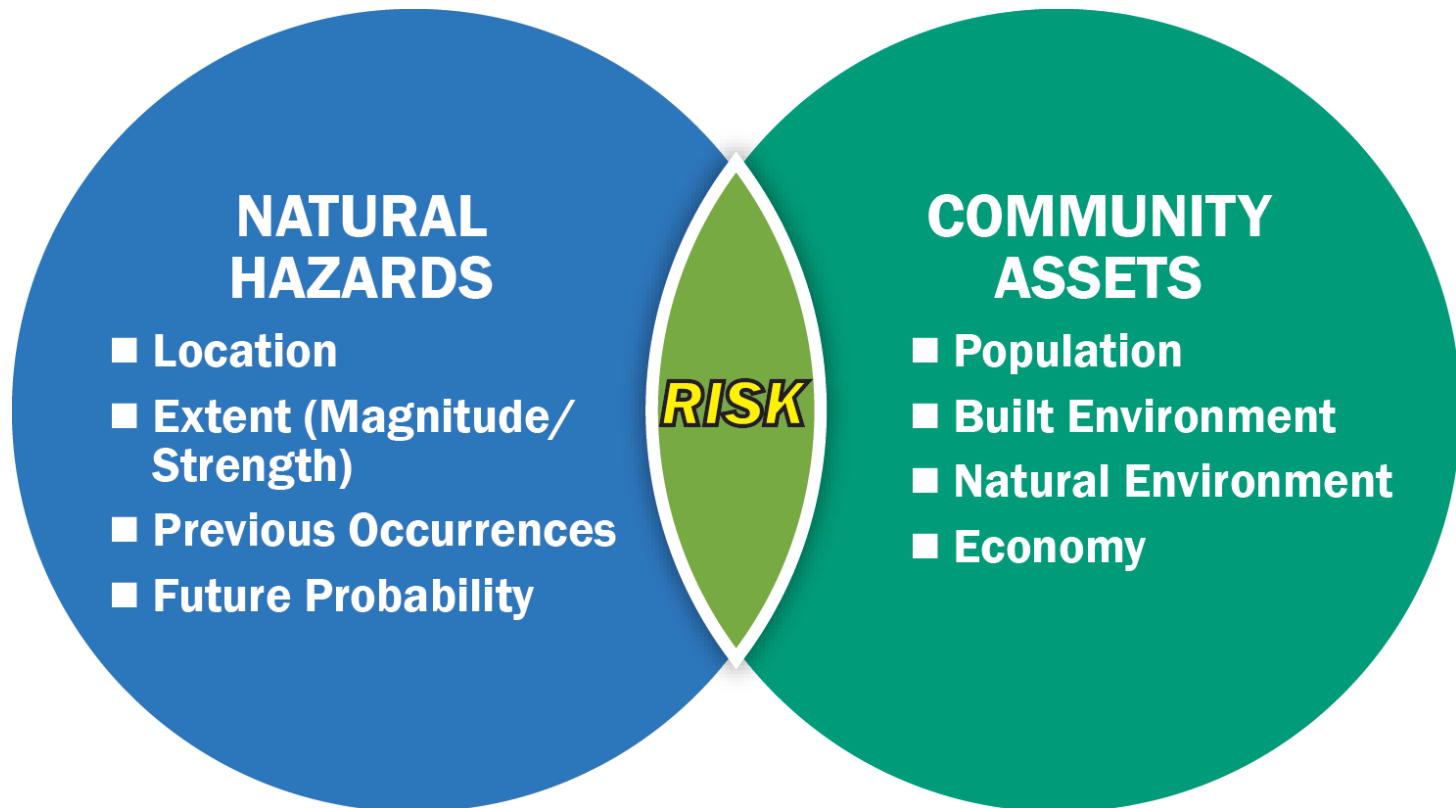
1. **Build** on existing data
2. **Involve** the public
3. **Identify** problems
4. **Propose** solutions
5. **Adopt** the plan
6. **Implement** and monitor
7. **Evaluate** and update

# 1. Facilitate the Planning Process

- Participate in all aspects of mitigation planning from goal setting through implementation of proposed mitigation actions
- Determine ways to coordinate with other local agencies and departments
- Ensure opportunities for public involvement are provided



## 2. Assess Existing and Future Vulnerabilities



Note: Adapted from U.S. Geological Survey and Oregon Partnership for Disaster Resilience Models.



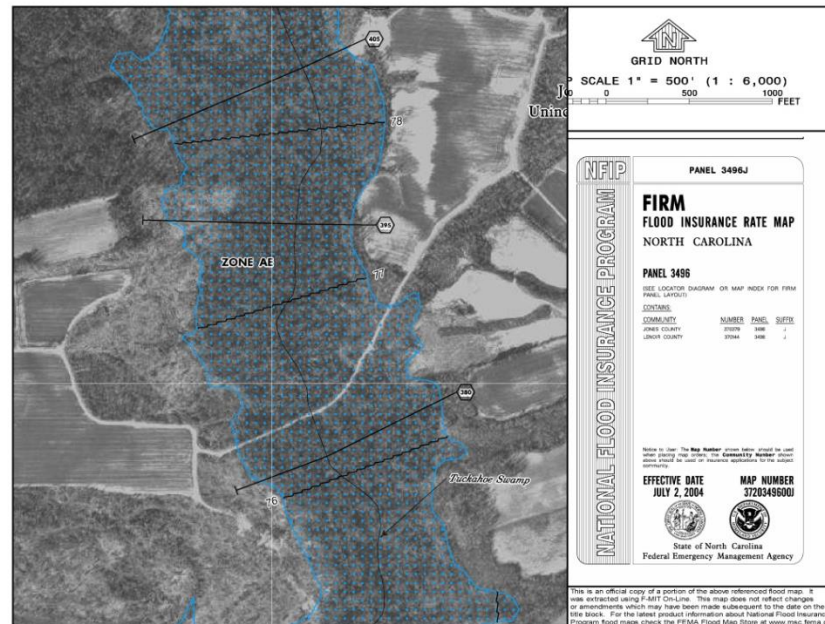
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# Risk Assessment

## Step 1: Describe Hazard

- Location
- Extent
- Past events
- Future probability

How would you go about collecting this information for hazards that impact your community? What sources would you use?

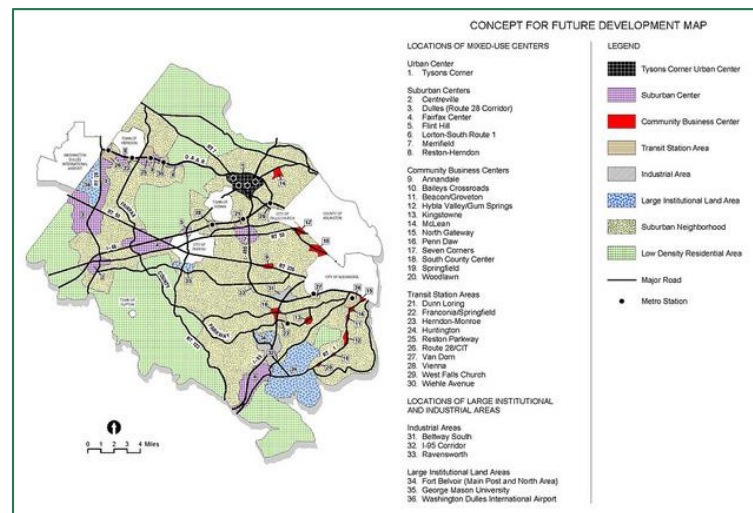


# Risk Assessment

## Step 2: Identify Community Assets

- People
- Economy
- Structures and infrastructure
  - ▶ Existing
  - ▶ Future
- Natural systems

What information can planners contribute to the identification of community assets?



# Risk Assessment

## Step 3: Analyze Risk

Exposure analysis

Historical analysis

Scenario analysis



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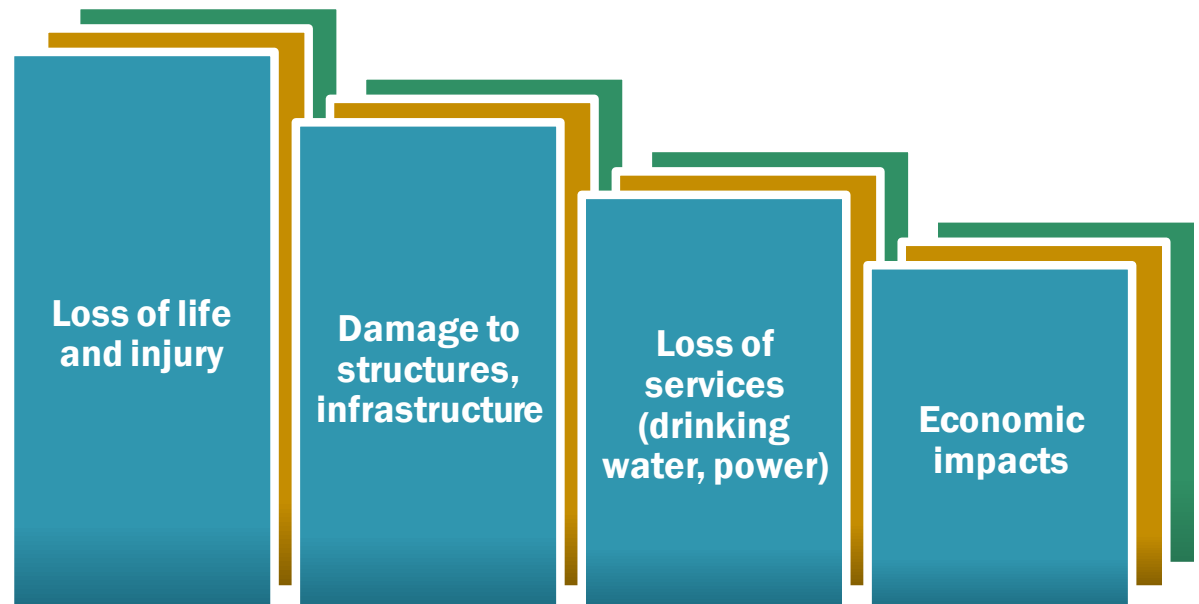
# Risk Assessment

## Step 4: Summarize Vulnerability

Compare estimated losses across hazards.

Determine:

- Most significant problems
- Information that will be useful for decision-makers



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**In what ways are structures and infrastructure in your community susceptible to damage from natural hazards?**



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# 3. Assess Community Capabilities

Assess capabilities to understand:

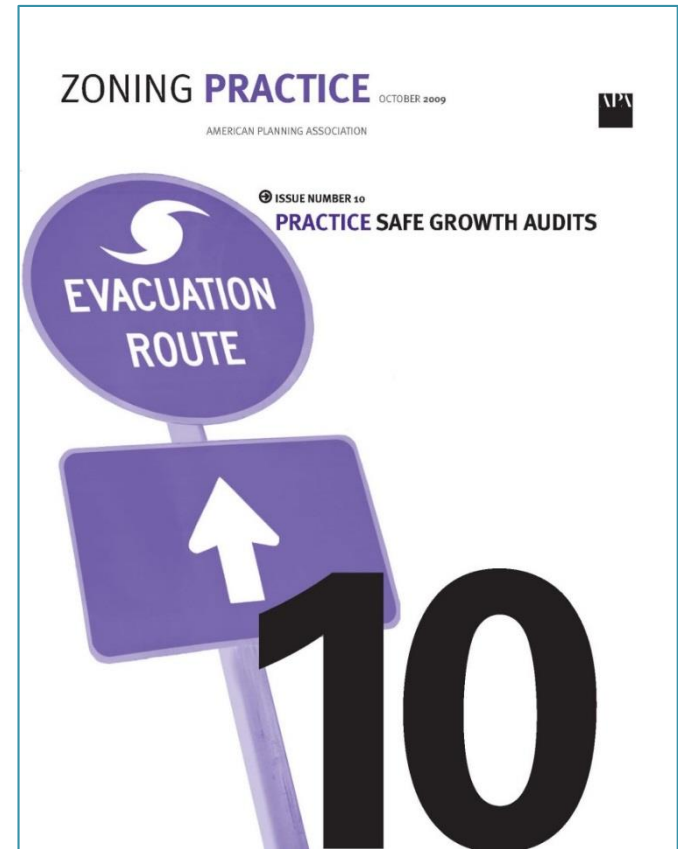
- Existing capabilities that mitigate risk
- Gaps or shortfalls in capabilities

Examples of capabilities:

- Plans
- Regulations
- Programs and policies
- Resources
- Enforcement
- Studies and data

# Safe Growth Audits

- Consider impact of existing policies, ordinances, and plans on community safety
- Identify changes that would reduce vulnerability
- Resources:
  - ▶ Worksheet 4.2 in Local Mitigation Planning Handbook
  - ▶ APA Zoning Practice (2009)
  - ▶ Hazard Mitigation: Integrating Best Practices into Planning (2010)



## 4. Identify Potential Solutions

**FIRST**



**Understand risk and  
community capabilities**

**THEN**



**Propose mitigation actions  
to reduce risk**



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# Evaluate a Comprehensive Range of Potential Solutions

**Local plans and  
regulations**

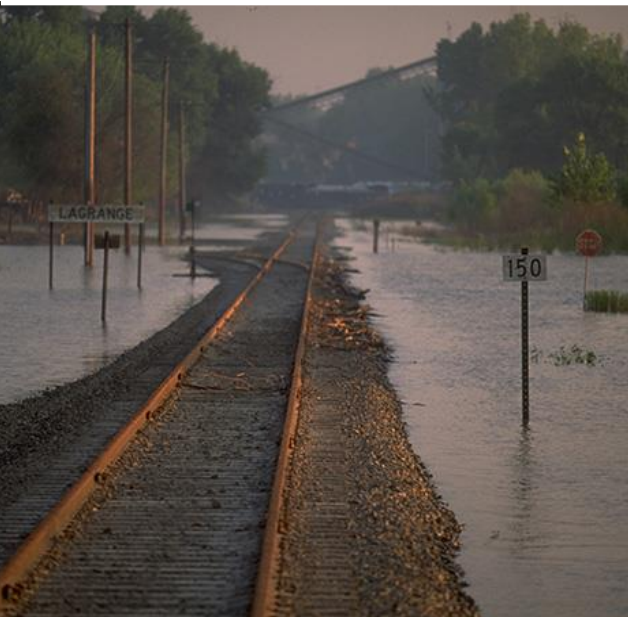
**Structure and  
infrastructure  
projects**

**Natural systems  
protection**

**Education and  
awareness  
programs**



**Activity:** Develop a comprehensive range of actions for an assigned problem statement



# Mitigation Planning Outcomes

## Direct Outcomes

- ✓ Understanding of risk and vulnerability
- ✓ Action plan for reducing risk
- ✓ Eligibility for FEMA mitigation assistance grants

## Indirect Outcomes

- ✓ Improved communication and coordination
- ✓ Increased public awareness of risks
- ✓ Enhanced opportunities for other project grants
- ✓ Increased capacity

# Evaluate Progress and Keep Plan Current

**Develop a coordinated process to determine:**

- **How changes in development affect risk**
- **If mitigation activities are being implemented as planned**
- **If community priorities have changed**
- **When the plan should be updated**



# Mitigate

# Benefits of Integrating Plans

- **Leverage resources**
- **Achieve multiple objectives**
- **Increase political acceptance of mitigation objectives**
- **Send consistent message**

# Planner's Role in Implementation

## Mitigation Projects

- ✓ **Permitting**
- ✓ **Designing**
- ✓ **Grant writing**

## Regulatory Strategies

- ✓ **Develop language**
- ✓ **Guide through approval process**
- ✓ **Ensure consistency with other plans and policies**

# Comprehensive Land Use Plan

- Provides three opportunities for integration
  - ▶ Integration of natural hazard information into the comprehensive plan
  - ▶ Collaborative planning and implementation
  - ▶ Coordinated plan reviews and updates



# Integration with Community History or Future Land Use Elements



- Community history



- Future land use



# Integration by Plan Element

- How might the hazard mitigation plan be related to one of these elements of the comprehensive plan?
- Conservation and natural resources
- Public facilities and services
- Transportation
- Housing
- Historic preservation
- Economic development
- Recreation and open space
- Environment
- Public safety
- Hazards

**What does it mean  
for a community to  
mitigate to an  
acceptable level of  
risk?**

**Who decides what  
level of risk is  
acceptable?**



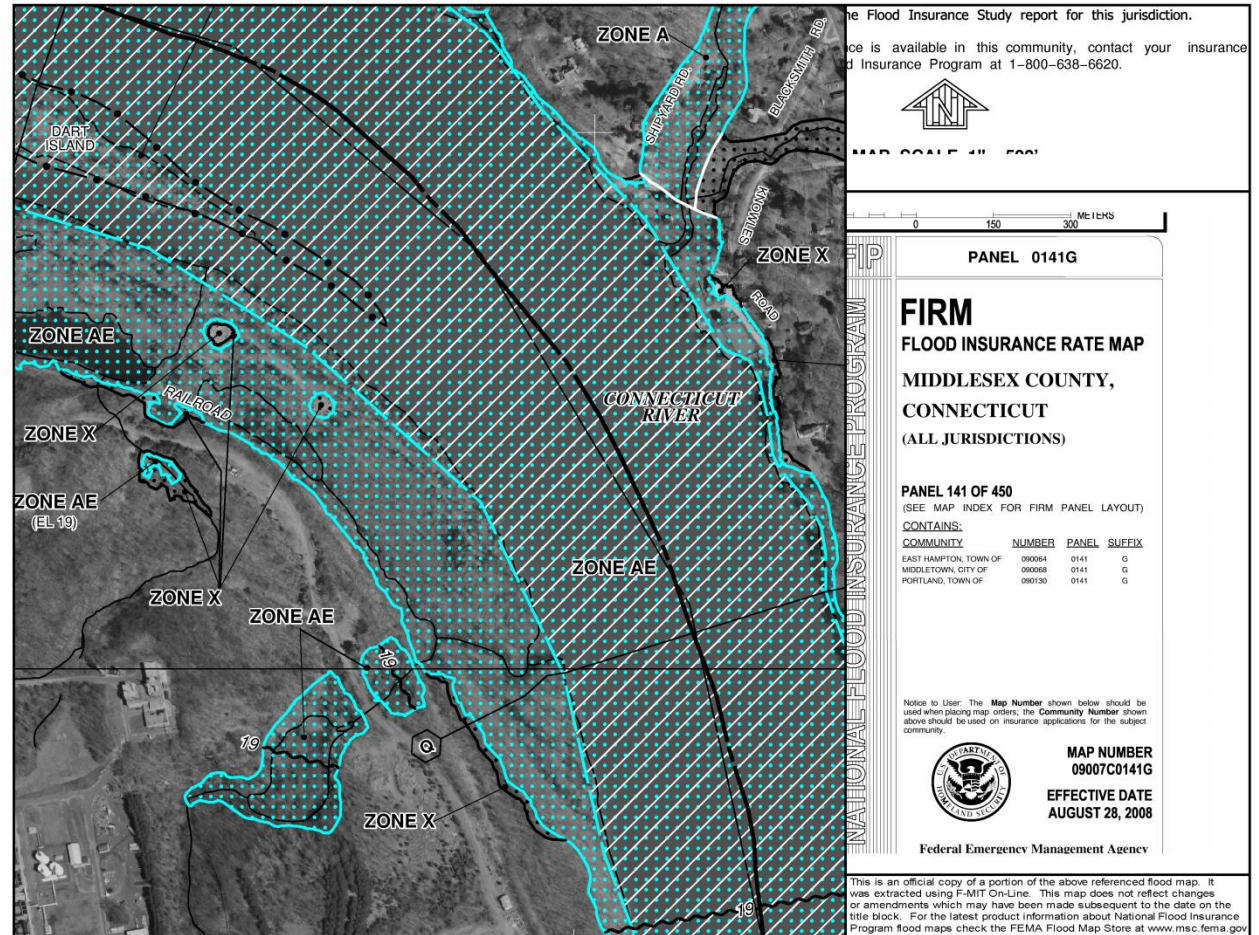
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# Zoning or Development Ordinance



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In what ways  
can enforcing  
floodplain  
development  
regulations be  
challenging?



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# Building Code



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# Government Expenditure Plans

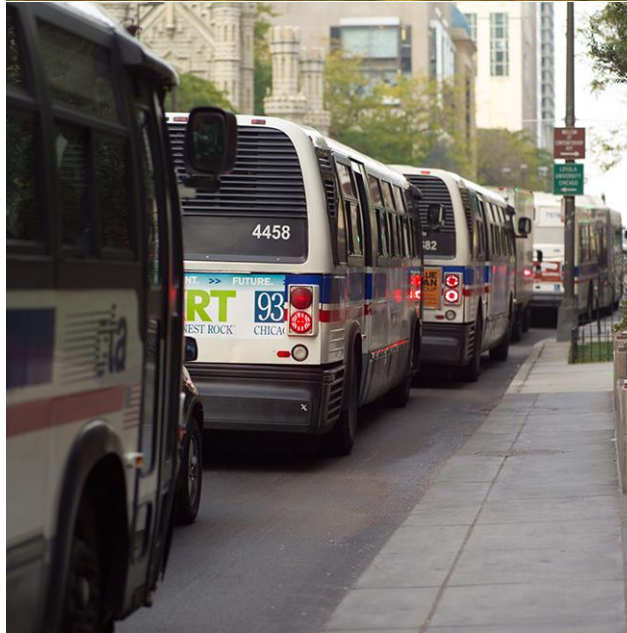
- **Use the Capital Improvement Plan to implement mitigation actions pertaining to infrastructure, public buildings**
  - ▶ **Identify locations and estimate cost of hurricane straps, lightning rods, safe rooms**
- **Recommend financial incentive (e.g., tax break) for private property owners that incorporate hazard mitigation techniques into structure design**

**Please share an example of a community that uses the Capital Improvement Plan or annual budget to support mitigation activities**



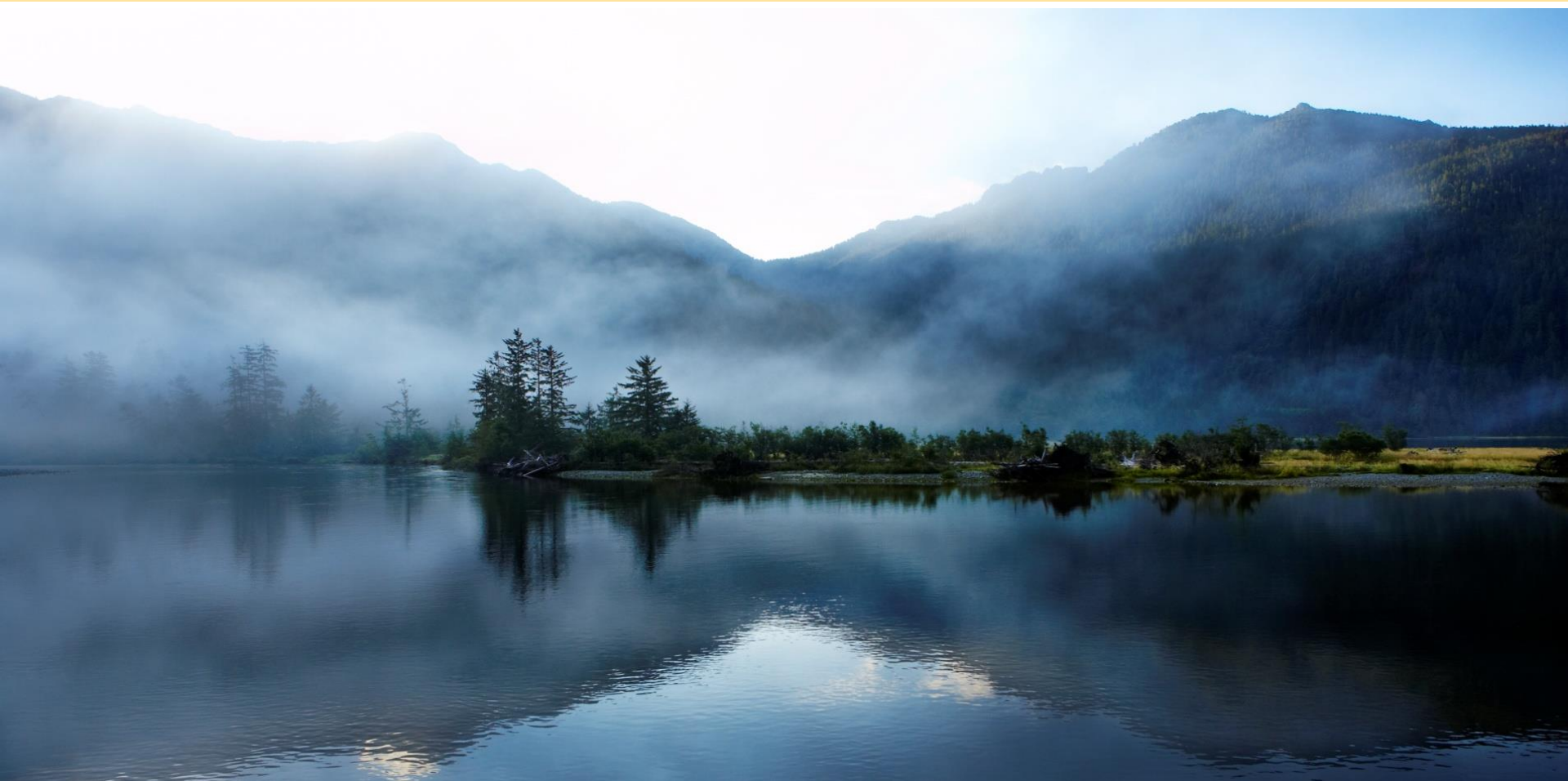
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# Transportation Plan



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# Water Quality Plan



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**How effectively do your  
existing plans  
incorporate mitigation  
concepts?**

**Which plans provide the  
most practical  
opportunities for  
integration?**

**What benefits do you  
see in integration?**



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# Advocate

# Develop Strong Message

- Identify and articulate issues related to risk
- Explain potential benefits and costs of actions
- Explain the potential sources of funding
- Align message with community values and other planning goals

## Provide Leadership



**Educate  
constituents**

**Build  
partnerships**

**Institutionalize  
concepts in  
planning  
discussions**

**Influence policy  
and decision-  
making**



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# Activity: Win Support for a Mitigation Action



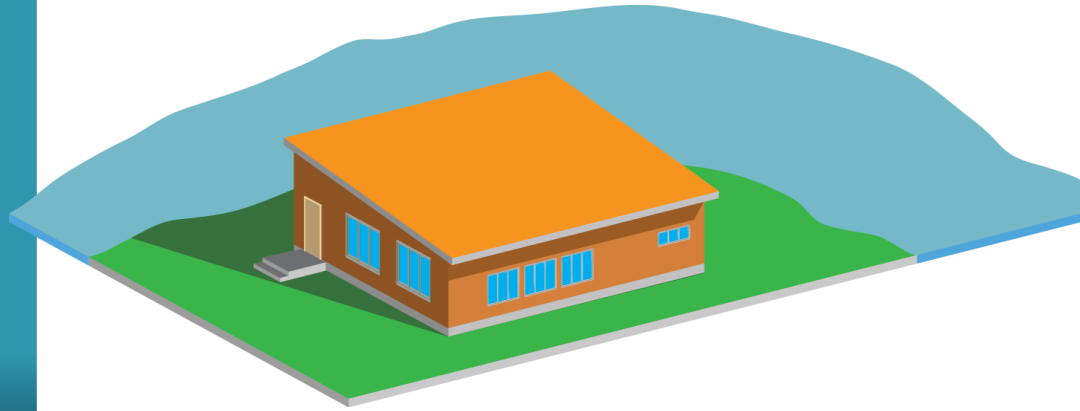
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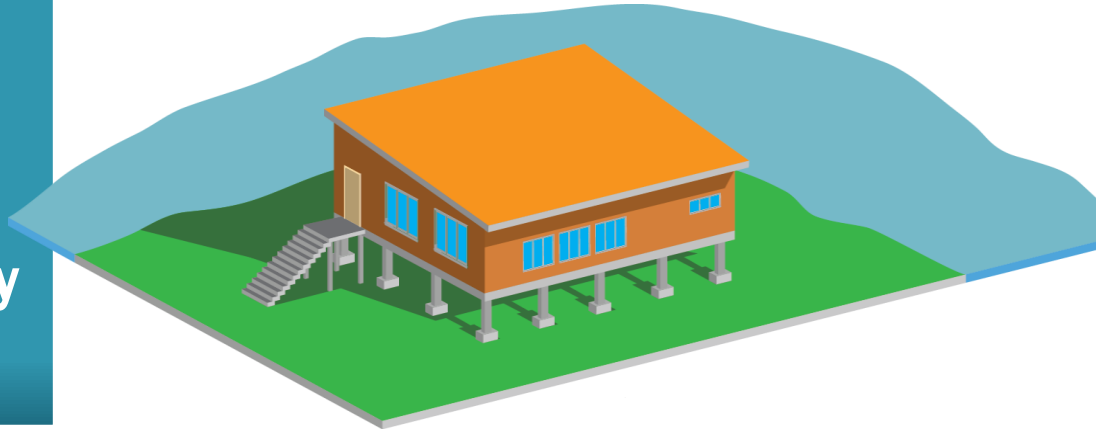
# Planning During Disaster Recovery

# Community Decision- making

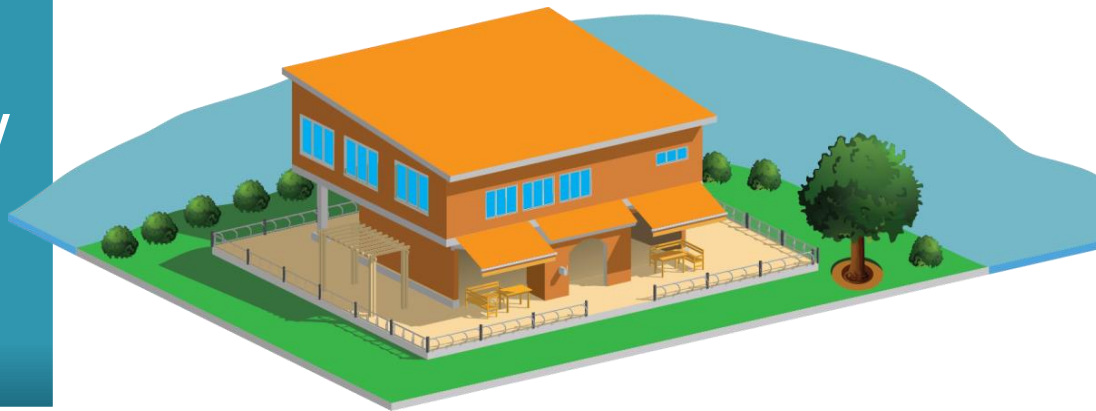
**Return to  
normal**



**Reduce  
future  
vulnerability**



**Seize  
opportunity  
to achieve  
multiple  
objectives**



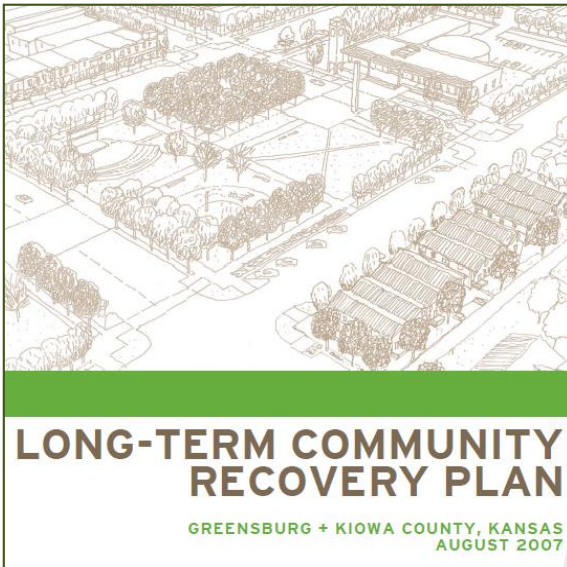
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# Planner's Role in Disaster Recovery

**Plan**

**Mitigate**

**Advocate**



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# Mitigation During Recovery Increases Future Resilience

**Prevent repetitive  
damage**

**\$1 spent on  
federal mitigation  
grants saves \$6**



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# Case Study: Happy Trails, St. George Utah



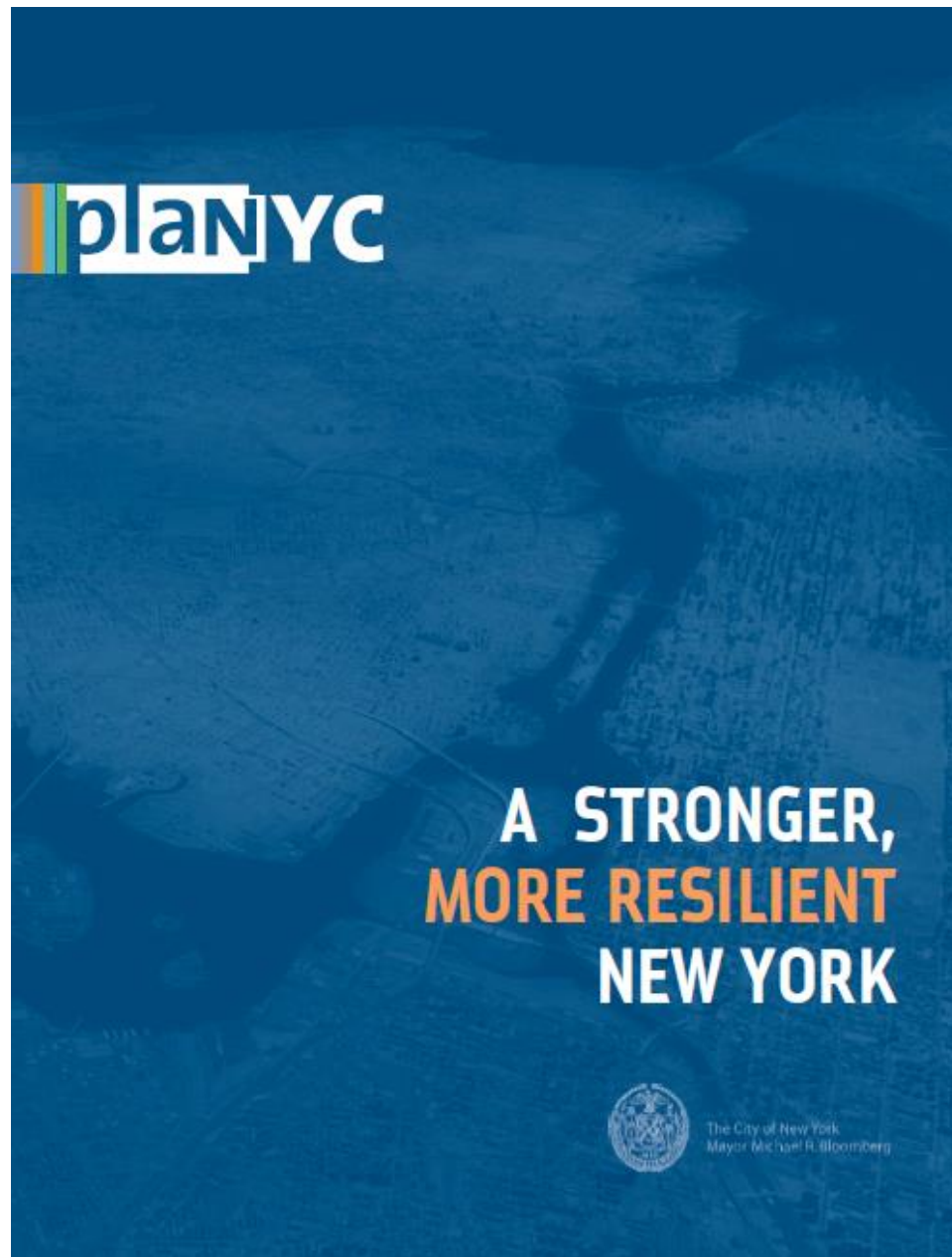
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# Post-Disaster Mitigation Opportunities and Challenges



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# Disaster Recovery Example



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# Planning Now for Post- Disaster Recovery

- Hazard Mitigation Plan
- Post-Disaster Recovery Plan
- Post-Disaster Recovery Ordinance
- FEMA Emergency Management Institute (EMI) Community Disaster Simulation Courses

## PRE-DISASTER HOUSING STOCK PROFILE AND POST-DISASTER STRATEGIES

May 2013



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## Conclusion

# Review Learning Objectives

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

- ▶ **Identify the role** of the community planner in making communities more resilient
- ▶ **Strengthen connections** between mitigation and the goals of other local plans
- ▶ **Explain the value** of mitigation in enhancing community resilience

# Resources



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# Questions?



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# Course Evaluation



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