Applying Mitigation to Build Resilient Communities
The Hazards Around Us

Think about the natural hazard that . . .

poses the greatest risk to where you live or work

OR

has had the greatest impact on you personally or professionally
Types of Hazards

- Flooding
- Wildfire
- Earthquake
- Tornado
- Landslide
- Subsidence
- Transportation
- Erosion
- Hail
- Drought
- Winter Storm
- Infrastructure
Definitions

HAZARD  Event or incident with the potential to cause injury, loss of life or damage to structures and infrastructure

RISK  Exists where there is the potential for a hazard(s) to adversely affect development or impact quality of life

DISASTER  Result of hazard causing extensive damage and destruction

MITIGATION  Actions taken to reduce the potential for future damage

RESILIENCE  The ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions
Resilient Communities

What features of a community contribute to its resiliency?

- Makes proactive investments and policy decisions
- Effectively communicates risk and vulnerability to citizens
- Builds public and private sector capabilities and partnerships
- Implements smart changes and makes necessary improvements when given the opportunity
- Other?
Increasing Trends in Losses Due to Natural Hazards
Purpose of Planning

To identify the policies, actions and steps necessary to reduce risk and make a community more resilient
Purpose of the Planning Process

To understand the risks posed to the community

To establish partnerships for community resilience

To improve the welfare of people and their communities

To enhance the capabilities of communities to recover from disasters

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

**Direct Outcomes**
- ✔ Understanding of risk and vulnerability
- ✔ Action plan for reducing risk
- ✔ Eligibility for state and federal assistance

**Indirect Outcomes**
- ✔ Improved communication
- ✔ Increased public awareness of risks and support for mitigation
- ✔ Enhanced opportunities for other project grants
- ✔ Increased capacity
- ✔ Improved quality of life
Components of Plan Development

1. Facilitate the planning process
2. Assess existing and future risks and vulnerabilities
3. Assess and build community capabilities and capacity
4. Identify solutions and preventative measures
Facilitate the Planning Process

- Participate in various aspects of mitigation planning from goal setting through implementation of proposed mitigation actions
- Determine ways to coordinate with other local agencies and departments
- Engage additional local stakeholders, such as the business community, NGOs, financial services and higher education
- Ensure opportunities for public involvement are provided
Risk is linked to development choices

Location

Types of Construction

Site Design

Infrastructure

Future Probability and Development
Critical Connection

Community Values

Natural Hazard Impacts
Assess Existing and Future Vulnerabilities

NATURAL HAZARDS
- Location
- Extent (Magnitude/Strength)
- Previous Occurrences
- Future Probability

COMMUNITY ASSETS
- Population
- Built Environment
- Natural Environment
- Economy

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

Examples of capabilities that create opportunities for risk mitigation

- Policies
- Programs
- Resources (staff, funding)
- Regulations
- Studies and data
- Community organizations and networks
Identify Potential Solutions

**FIRST**

Understand risk

**THEN**

Propose mitigation strategies to reduce risk
Identify a Comprehensive Range of Potential Solutions

- Local plans and regulations
- Structure and infrastructure projects
- Natural systems protection
- Education and awareness programs
Examples of Mitigation Strategies: Local Plans and Regulations

- Improved building standards
- Revise land use regulations
- Comprehensive planning
Examples of Mitigation Strategies: Structure and Infrastructure Projects

- **Safe Rooms**
- **Improve drainage to reduce flood threat**
- **Acquire and demolish structures in hazard-prone areas**
Examples of Mitigation Strategies:
Natural Systems Protection

- Erosion control
- Create defensible space regulations
- Protect and preserve natural areas
Examples of Mitigation Strategies: Education and Awareness Programs

- Require real estate disclosure
- Web sites and maps
- Provide public education about risks
Strategy Decisions are Local

- Communities typically focus on hazards with greatest potential to cause:
  - Loss of life
  - Destruction
  - Damage
  - Disruption

- Communities knowingly accept some level of risk:
  - Resources are limited

- Plans propose mitigation actions that are appropriate for your individual community based on capabilities and capacity
Why is implementation important?

- Reduce risk and limit both public and private losses
- Increase resiliency and public safety
- Prove fiscal responsibility and benefits
- Improve confidence in the plan
- Strengthen support for future plan updates
Available federal and state resources

Technical assistance

Funding

Training

Building Resilient Communities
FEMA Mitigation Grant Programs

- Hazard Mitigation Grant Program
- Pre-Disaster Mitigation Program
- Flood Mitigation Assistance Program
- Public Assistance 406
FEMA Climate Resilient Mitigation Activities

- Aquifer Storage and Recovery
- Floodwater Diversion and Storage
- Floodplain and Stream Restoration
Federal Partners in Mitigation and Resiliency

Meet quarterly to collaborate and prepare for state lead teams’ efforts to mitigate floods

- improve information sharing by share relevant program and project information
- agency collaboration and
- enhance state hazard risk assessments
Implementation

- USACE
- HUD
- EPA
- NOAA
- DOT
- USDA
- USGS
- State Funding
- Local Funding
- Private Funding

Mitigation Ideas
A Resource for Reducing Risk to Natural Hazards

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Links to other federal resources

Catalog of Federal Domestic Assistance

- [https://www.cfda.gov/?s=main&mode=list&tab=list](https://www.cfda.gov/?s=main&mode=list&tab=list)

Compressive List of Federal Grants.


Climate Resilient Mitigation Activities


Risk MAP

Benefits of Integrating Plans and Processes

- Leverage resources
- Achieve multiple objectives
- Increase political acceptance of mitigation objectives
- Send consistent message
- Public participation
Integration with Other Planning Activities

- Comprehensive Plans
- Building codes & zoning
- Capital improvement plans
- Annual budgets
- Water and Stormwater Management Plans
- Development regulations and zoning
- Transportation plan
- Economic development
- Recovery plan
- Climate Change Adaptation plan
- Other local plans
Develop Strong Message

- Identify primary public information sources and use them to disseminate message broadly
- Articulate issues related to risk
- Explain potential benefits and costs of actions
- Align message with community values and other planning goals
Provide Leadership

Initiate planning process in your community

Identify a champion as part of the process

Institutionalize concepts in planning

Influence policy and decision-making
Post-Disaster Opportunities and Challenges
Benefits of mitigating when rebuilding
Questions?