Background

- 2012-13 federally declared fires and floods devastated many Colorado communities

- Planning for Hazards guide project initiated to:
  - Inform impacted local governments’ long term recovery efforts
  - Help all communities proactively plan to reduce risks through land use planning strategies

- Clarion Associates hired to develop the guide with input from an Advisory Committee

- Funded with CDBG-DR Resilience Planning grant
Why Planning for Hazards is Important to Colorado
Why Colorado?

- The population is growing
- We are no stranger to hazards (and they are increasing in frequency and severity)
- Many Colorado communities face hazards
  - Riparian areas (floodways)
  - Forested areas (wildland-urban interface)
  - Ridgelines (great views/steep slopes)
Colorado Resiliency Framework

- Governor adopted in 2015
- Establishes a vision and definition of resilience
- Outlines concrete strategies, including this guide
- A “call to action” for Colorado communities

coresiliency.com
What is Resiliency?

“The ability of communities to rebound and positively adapt to or thrive amidst changing conditions or challenges—including disasters and changes in climate—and maintain quality of life, healthy growth, economic vitality, durable systems and conservation of resources for present and future generations.

— 2018 Update to the Colorado Disaster Emergency Act
Planning for Hazards
General Principles
General Principles

Avoidance

The most effective way to protect development from hazards is simply to prohibit development in known hazard areas.

But that’s not always possible………
General Principles

- Prevent development in hazardous areas
- Direct future growth to safer areas
- Strengthen existing development in hazardous areas
Consider Community Context

- Size and geographic location
- Technical, administrative, and financial capacity
- Community goals and political will
Consider the Interrelatedness of Hazards

For example:

- Drought ☑️  Fire
- Lightning ☑️  Fire
- Fire ☑️  Flooding
- Fire ☑️  Debris Flow
- Flooding ☑️  Soil Hazards
Consider Climate Change

- *Colorado Climate Plan (2018)* suggests that Colorado temperatures will increase another 2.5 to 5 degrees Fahrenheit by 2050

- Longer and more severe droughts
- Faster and earlier snowmelt
- More frequent periods of extreme heat
Planning for Hazards – A Collaborative Approach

- Land use planners
- Emergency managers
- Elected and appointed officials
- Public works officials
- Community advocates
- Business owners
- Developers
- Citizens
Overview of the Planning for Hazards Guide
Overall Goals

- Communicate to multiple audiences
- Ensure all content is accessible in a variety of formats
  - **Printed guide**
    - User-friendly exploration of major planning tools
    - All content, plus internal and external links
  - **Website**
    - Essential content from all chapters (background, framework, resources, examples)
    - Multiple ways (entry points) to access information
    - Multimedia content
    - Foundation for future updates
Outline:

- Introduction and Summary
- Planning Framework
- Hazard Identification and Risk Assessment
- Planning Tools and Strategies
- Moving Forward
- Appendix– Hazards in Colorado
The Hazards Lineup

- Avalanche
- Drought
- Earthquake
- Extreme Heat
- Flood
- Hazardous Material Release
- Landslide, Mud/Debris Flow, and Rockfall
- Severe Winter Storm
- Soil Hazards
- Wildfire
- Wind Hazards
# Planning Tool Profiles

## Addressing Hazards in Plans and Policies
- Comprehensive Plan
- Climate Plan
- Community Wildfire Protection Plan (CWPP)
- Hazard Mitigation Plan
- Parks and Open Space Plan
- Pre-Disaster Planning

## Strengthening Incentives
- Community Rating System
- Density Bonus
- Development Agreement
- Transfer of Development Rights

## Protecting Sensitive Areas
- 1041 Regulations
- Cluster Subdivision
- Conservation Easement
- Land Acquisition
- Overlay Zoning
- Stream Buffers and Setbacks

## Improving Site Development Standards
- Stormwater Ordinance
- Site-Specific Assessment
- Subdivision and Site Design Standards
- Use-Specific Standards

## Improving Buildings and Infrastructure
- Building Code
- Critical Infrastructure Protection
- Wildland-Urban Interface (WUI) Code

## Enhancing Administration and Procedures
- Application Submittal Requirements
- Post-Disaster Building Moratorium
What’s in the Tool Profiles?

- How it Works
- Implementation
- Where It’s Been Done
- Advantages and Key Talking Points
- Challenges
- Model Code Language and Commentary (for some)
- Key Facts
- Examples and More Information
Purpose of the Guide

Learn how the Hazard Mitigation Guide can help your community address risks and integrate hazard mitigation into policies, regulations, and standards.

Intro

This guide provides detailed, Colorado-specific information about how to assess a community’s risk level to hazards and how to implement several land use planning tools and strategies for reducing a community’s risk.

Read the Guide

To explore this guide or specific chapters in the traditional format, Page-by-Page from start to finish, look for the purple Table of Contents on the top right and the previous/next buttons on the bottom of each page.
Overlay zoning is used by communities to apply area-specific standards and/or conditions. A base zoning district (such as residential or mixed-use) determines the types of uses permitted and the minimum dimensional requirements of lots and buildings. An overlay district (or overlay zone) applies an additional layer of standards to all

Hazards Addressed

- Avalanche
- Flood
- Landslide, Mud/Debris Flow, and Rockfall
- Soil Hazards
- Wildfire
Colorado Case Studies
Subdivision and Site Design Standards

Pagosa Springs, Colorado

Sensitive Area Protection Standards

- Land Use and Development Code
  - Slopes
  - Natural features
  - Areas of special flood hazard
  - Geologic hazard areas
  - Wildfire hazard areas
  - Riparian setbacks
  - Perimeter fencing (for wildlife migration)
Subdivision and Site Design Standards

Pagosa Springs, Colorado

Sensitive Area Protection Standards

Example: Subdivisions in Geologic Hazard Areas must meet several conditions, including:

- Will not create undue financial burden on future residents or the community
- Structures designed for occupancy shall be constructed to prevent risk to life and property
- Permitted land uses shall avoid or mitigate geologic hazards at initial construction
Boulder County Comprehensive Plan

Goals -

L.1 Inappropriate development in natural hazard areas should be reduced as much as possible or eliminated in order to minimize potential harm to life, health and property.

L.2 Efforts to mitigate existing areas at risk to the impacts of natural hazards and disasters should be made to minimize the potential for harm to life, health, and property.
Tools and Integration of Hazards

- Plans - Comprehensive Plan, Hazard Mitigation Plan, Watershed Master Plans, CIP, etc.....

- Regulations – Applies to new and upgrades/changes to existing
  - Zoning
  - Subdivision
  - Floodplain
  - Building Code

- Programmatic – Can apply retrospectively to existing development
  - Wildfire Partners
  - BOCO Strong
  - Acquisition Program
  - Housing

Boulder County
Pre Disaster for Post Disaster/ Plan your disaster/ be ready

Article 19

- Moratorium – time to make decisions/enact specific rebuilding regulations
- Temporary Emergency Uses – debris yards, temporary housing, critical response facilities
- Temporary Emergency Repairs: "temporary emergency repairs" includes temporary roof repairs to prevent further water damage, temporary stabilization to shore up structures, temporary stabilization involving earthwork to avoid imminent collapse of structures or property, and temporary restoration of public recreational facilities such as trails and trailhead parking areas.
- Deconstruction/Demolition – make take immediate action but still need a permit
- Hazard Mitigation Review

Boulder County
Mitigating Floodplain Hazards
Identify Risks, Potential Actions, Prioritize

1) Use hazard information and infrastructure information to identify risks

2) In partnership with community:
   a. Identify floodplain management and mitigation goals and objectives (e.g. Room for the River)
   b. Identify and prioritize possible actions including outreach, regulations, programs, to mitigate risks to existing and future development

3) Implement activities intelligently as time and resources allow
Video Interviews

- Real life examples of planning for hazards
- Description of tools

Hazard Mitigation Planning in Manitou Springs, CO
An interview with Karen Berchtold

Boulder County - Flood Mitigation Planning
Putting the Guide into Action
Putting the Guide into Action

- Developed facilitator and participant workbooks to convene workshops
- Piloted project with Milliken and Manitou Springs
- Developed and held workshops in 2018
- New tools and model codes added to site
Forming a Network

- Identify subject matter experts
- Find examples from other communities and best practices
- Harness political leadership
- Recruit local champions
Questions & Discussion
Thank You

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