Executive Summary
And
Introduction

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Envisioning a Better Outcome

• The situation:
  – Communities are overwhelmed with issues, policies, and regulations that need to be addressed.
  – Each demands time and investment to resolve.
  – Dealing with low probability-high consequence hazard events is often a low priority unless recent events focus community interests.

• The way forward:
  – Resilience planning allows community recovery to be rapid and even improve the built environment.
  – It should be part of normal planning and operations.
Envisioning a Better Outcome: Cedar Rapids, Iowa

- The city has multiple hazards, including floods and tornadoes.
- The city is downstream from a nuclear power plant, so evacuation plans were developing in case there was ever an event at the plant.
- A flood crested at 31 Feet in 2008, well above the 500-yr flood level.
- The evacuation plan was used to move all residents to safety during the flood of 2008 – no lives were lost.

- Following the flood, the community developed a Recovery and Reinvestment Plan, with 3 focus areas:
  - Improve (mitigate) flood protection - with an interim and long term plans
  - Reinvest – improve housing, neighborhoods, businesses to make area highly attractive
  - Rebuild – rebuild better with construction that is flood resistant and sustainable

The Resilient Community

- Community resilience requires a governance structure that sets direction and provides services, and a built environment that supports the community’s social institutions.
- Short term plans for emergency and interim solutions can be implemented if the event occurs tomorrow.
- Long term plans provide the roadmap for achieving community resilience.
- Resilience begins by envisioning a better outcome, understanding your community, developing a resilience plan, and initiating implementation.
Community Capitals Framework

Based on: Flora et al, 2008
Community Resilience of the Built Environment

• Built environment includes
  – Buildings and facilities
  – Physical infrastructure for power, communication, transportation, water, wastewater systems

• Framework addresses the performance of all physical systems at the community level and how they support social functions, especially during recovery
  – Prior - planning, preparedness, mitigation, design, construction
  – Post - response, reconstruction, relocation, recovery of function
Community Resilience and Other National Programs

• **FEMA Mitigation Planning**
  – Plans prepared for FEMA by emergency management office for mitigation grant requests.

• **DHS National Preparedness – Roles and Responsibilities of local, state, federal programs**
  – Prevention, Protection, Mitigation, Response, Recovery

• **NIST Disaster Resilience Framework**
  – Transformative process for the community
  – Prioritized development and recovery plan for built environment
  – Supports social needs during recovery
Resilience Concept

- Maintain acceptable levels of functionality during and after disruptive events
- Recover full functionality within a specified period of time

Adapted from Bruneau, 2003 and McDaniels, 2008
Developing a Community Resilience Plan

• Striving for community disaster resilience need not be expensive, but the process is unique for each community and will take time both to implement and to accrue benefits.

- Establish Core Resilience Team
- Characterize Social Community
  - Identify key social needs
- Characterize Built Community
  - Identify key physical infrastructure clusters
- Develop Community Resilience Plan
  - Establish community performance goals based on social community
  - Identify hazards and levels
  - Determine anticipated performance
  - Complete performance matrix
  - Identify and prioritize gaps in performance
- Implement Non-Construction Strategies
- Implement Construction Strategies
Framework - Overview Chapters

• Executive Summary
• Ch. 1: Introduction
• Ch. 2: The Social Context for Community Resilience
  – Social Community and Links to the Built Environment
• Ch. 3: Community Disaster Resilience for the Built Environment
  – Performance Goals
  – Mitigation and Recovery Strategies
• Ch. 4: Dependencies and Cascading Effects
  – Internal, External, Time, Space, Source
• Ch. 10: Community Resilience Metrics
Framework - Infrastructure Chapters

• Ch. 5: Buildings
  – Systems (Schools, Healthcare, Governance…)
  – Performance Goals
  – Regulatory Environment, Codes and Standards
  – Strategies for Implementation

• Ch. 6: Transportation Systems
• Ch. 7: Energy Systems
• Ch. 8: Communications and Information Systems
• Ch. 9: Water and Wastewater Systems
Breakout Topics

• Executive Summary
  – Clear understanding of Framework goals and benefits
  – Actions required
  – What is needed to encourage your community to use the Framework