

**Report Out Slides  
Fort Collins, CO  
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**Buildings and Facilities Committee**

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National Institute of  
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U.S. Department of Commerce





# COMMUNITY RESILIENCE PANEL

FOR BUILDINGS AND  
INFRASTRUCTURE SYSTEMS

## Scenario Team Preliminary Results

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- ***Identify areas of deficiencies in codes and standards which prevent making buildings and facilities more resilient.***
  - Current Standards do not fully define the design loading conditions that need to be considered for resilient design of buildings & facilities.
    - Tornadoes are not considered in typical building design
    - Long-duration earthquakes are not considered. Aftershocks are not considered.
    - Storm water inundation in Zone C Flood areas is not published. Flood maps MRIs are not consistent with other hazards. Base flood elevation in not a resilient assumption.
    - Wildfire not typically considered/adopted.
  - Need to provide an upgrade threshold trigger for existing buildings within the building code. Risk-based upgrade requirements need to be further developed.
  - Standards need to consider functionality in development of their provisions.
  - Design standards need to move to more performance-based provisions.
  - Climate change needs to be considered in future editions of the design standards

- ***Identify policies that need revision or recommendations for implementation of new policies.***
  - Building officials/special inspection need to be more involved in the overall design requirements and construction inspection process.
    - Critical facilities need to be subject to higher review and design standards.
  - Participate in the code development land-use ordinance processes to ensure policies support and enhance resiliency.
  - Set standards for rebuilding/upgrades to current code, Stafford Act 323 for critical facilities
  - Training & Communication:
    - For local governments, with federal support, *in addition to* improved access to recovery planning tools.
    - Local building officials are the messenger and not the instigator of increased regulations that are causing resentment in the community
    - Communication with general public on expected performance, how to achieve resilient performance, and the risks associated with non-compliance, risk management techniques
  - National standardization of hazard warning systems

- ***Share best practices and applications aligned with the Guide. What is the most critical interdependency for your community?***
  - Practical tools and webinars (solutions) to help the small communities implement the guidelines, more examples and guides
  - More resilience sessions at professional events (AIA, ASHE, NFPA, ASCE, NAHB, etc.)
  - Look at communities that have gone through disasters and apply learned lessons.
    - Moore, OK rebuilt with Community Shelters dispersed throughout.
  - For most locations the ‘critical interdependency’ was transportation.
    - Moore & Palm Beach are bedroom communities and thus loss of critical services (healthcare, etc..) were their critical interdependency.
  - What each community valued - *LOCATION*

- ***What first steps has the committee taken with the goal of providing products that support the six-steps in the NIST Community Resilience Planning Guide?***
  - Reviewed the Guide process with the Scenario Team activity.
    - Still need to review final data to determine products that need to be developed from this activity.
  - Started to look at guides to help communities to understand their building inventory in regards to resiliency.
  - Training or communications of resiliency goal guides need to be developed for building owners. We have not started, but we recommend the Fellows work on this task.

- ***What are the gaps that the standing committee has identified as potential areas to contribute additional products to support communities in becoming more resilient?***
  - Found that most of the smaller communities do have Disaster Plans, but very few have Recovery Plans.
    - Many smaller communities need to develop their plans on a more regional basis because they do not have the resources to develop their own plans.
    - Guides for starting a regional team need to be developed.
  - Performance based design standards that provide disaster risk reduction for all hazards
  - Need to incorporate climate change into the standards
  - Design standards need to include ‘return to function’ considerations for the design of buildings

- ***How is your committee planning to address the gaps? (i.e., What products are already being developed? What will be developed? What are your next steps?)***
  - Outside resources are currently being determined for review.
    - Review these outside resources for inclusion on the RKB
    - Review outside resources to determine where the gaps are. This will take a huge effort.
  - Outside committees are currently being compiled for association and interaction with our committee.
    - Interact with the other associations to develop standards to support resilience



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