

Buildings & Facilities Report Out Slides

Presented To: Community Resilience Panel

Date: November 9, 2015



Gaps and Needs in Sector

- What are the largest gaps and needs within your sector that need to be addressed in resilience planning and guidance products?
 - Need Methodology to determine criticality (functions determine criticality) to drive design criteria. Define “critical” – level of importance is highly personal
 - Determine how threats are selected (i.e. 100 year event). Netherlands uses 10,000 years.
 - Provide training for post-disaster building assessments, code official (damage evaluations)
 - Encourage states to adopt Good Samaritan Laws and use EMAC for resources
 - Communicate all hazard risks and where
 - Create land use and transportation planning and policy, informed by risk and resilience
 - Consider life cycle of building with regards to risks and climate change (i.e., communication of ...)
 - Improve imbalance in federal programs for resilience. Expenditures in mitigation are less than response.
 - Train emergency managers in Mitigation, not just Response
 - Improve code adoption and enforcement. Hold special inspections for quality assurance.
 - Code Plus
 - Code is not resilience
 - Need more than life safety – need to consider general health and wellbeing of whole community
 - Short and long-term performance are both important
 - Complete cost-benefit analysis of building resilience to also reflect community value (dependencies)
 - Perform more research on true resilience (unintended consequences vs. public health)

Gaps and Needs in Sector (cont. 2)

- What are the largest gaps and needs within your sector that need to be addressed in resilience planning and guidance products? (cont.)
 - Assign more personnel in sector (code officials, inspectors)
 - Disconnect community development and emergency managers
 - Provide actionable climate science for project level (design decisions); unintended consequences
 - Perform asset inventories to understand interdependencies
 - Documents are disaster-centric, with no way to address the "upside" of things. What advancements in technology can be leveraged?
 - Codes and standards are focused on the extreme event; don't address other aspects of resilience.
 - In managing the life cycle of a facility, its functionality deteriorates; deferred maintenance increase risk and reduces overall resilience.
 - Need additional guidance beyond codes and standards to assist facility manager with understanding and applying resilience concepts.
 - What is the public's perception of the safety of a building or community? Need effective risk assessment tools to determine acceptable level of risk and cost of implementing risk mitigation measures. The community has to agree to the balance.
 - Huge gap between the code requirements and the enforcement of the codes.
 - Need to be able to assess the long-term advantages of expenditures for resilience.

Gaps and Needs in Sector (cont.3)

- What are the largest gaps and needs within your sector that need to be addressed in resilience planning and guidance products? (cont.)
 - The public is not aware of the level of protection afforded to residential structures. Important to inform decision makers as to what level of protection/resilience has been provided to them.
 - Need educational products in addition to informing the public; need a sales pitch.
 - How can we incentivize a community to take steps above and beyond the minimum code requirements?
 - Insurance incentives
 - Tax breaks
 - What are the tools that have been used for other issues that could be used for resilience (energy, etc.).
 - Gap in the decision making between the design of shelters (school district) and the emergency management official.
 - Need to split tables between the use/criticality of the structure and the populations at risk.
 - Codes and standards do not address the use/operation of the building after the event during recovery.

Gaps and Needs in Sector (cont. 4)

- Identify significant interdependencies and gaps with other sectors that impact resilience.
 - Asset inventory. Need unified performance goals and design criteria from source to use. Can't guarantee performance of a building without them (and critical infrastructure standards)
 - Codes are developed in silos (see group's breakdown of sectors).
 - Codes are written as prescriptive standards, but resilience requires performance standards.
 - Codes are based on historic data and are a minimum performance standard.
 - Need performance modeling based on hazards and other impacts
 - Individual choices cause social benefits and costs to others.
 - Vulnerability assessment design tools; also consider surge capacity for emergency use
 - Addressing the [existing] built environment in regulations: Codes are triggered to existing buildings based on voluntary upgrades. Communicate risks.
 - Adaptation strategies and resilience strategies
 - Creation vs. adoption of codes timeline (technology, lessons learned)
 - Awareness and education of risk to public and property managers
 - Commercial & government cost-share in recovery
 - Standards and education for shelter-in-place and continued operations for basic and critical needs facilities

How do we solve the problems?

- How do we address the needs and gaps we identified?
 - Include all community needs in planning (including equity)
 - Optimize use of existing community rating systems (e.g. CRS Rating System)
 - Risk analysis with Resilience Building Performance Score like credit score
 - Resilience to drive Bond Rating or PACE (Property Assessed Clean Energy)
 - Learn from sustainability movement - development certification?
 - Promote and advocate for policies and practices that reduce climate impacts (e.g., green infrastructure)
 - Need insurance incentives or other immediate rewards
 - NIBS MMC Incentivizing resilience – review
 - Be the voice of the built environment
 - Education and coordinated communication
 - Land use opportunities and promote community service redundancies: incentive development to meeting community vision and goals
 - Invest more [federal, etc.] dollars ahead of the disaster

How do we solve the problems? (cont.)

- Are there others we need to engage to help us address these needs? Others may include SMEs/groups not at the meeting in your sector or SMEs/groups from other sectors.
 - Broaden participation with associations representing commercial sector (cities, counties too)
 - Emergency responders and VOADs:
 - Faith-based, non-profit, NGOs (other community leaders)
 - Chambers of Commerce, business improvement districts, corporations
 - Rockefeller's 100 Resilient Cities shared lessons learned

Existing Guidance/Ongoing Efforts for Resilience in Sector

- What are existing codes, standards, guidance, goals, and/or protocol that have been published, or are in-process, in your respective sectors?
 - See TISP list
 - See NIBS MMC
 - ANSI
 - Homeland Security Panel standards
 - ULI report
 - OARS
 - RELi
 - ASTM committee E06 – resilience standards for buildings
 - Passive House
 - NFPA 1616 – mass evacuation and sheltering (NFPA 1600 series & NIST)
 - IBHS Fortified
 - NIST Community Resilience Planning Guide