FEMA – Promising Practices

a webinar

2016.09.08

brian baer  ra  leed ap  ncarb

The Elevated Studio
What is the call to action?

We need to promote the principles of Universal Design during the first 3-4 months of the disaster’s Relief phase

NOT

Into year 3 or 4 of Recovery. It is a collaborative process across service areas.
We see a beautiful place...
Every hurricane in North America…

…over the last 170 years
HURRICANE SANDY

- 80+ US Casualties
- 7.5 million people without power
- 14 feet average storm surge
- effected 5 million residents
- $90 billion in losses
- largest hurricane on record
Federal Disaster Declarations since 1953

Foresight: the trends
Where is the Risk?

What are the issues that face us in this region?

- Aged built environment
- Aging in place population
- I want what I want
Where is the Risk?

New York City incorporated floodproofing requirements into the Building Code in 1983.

- 94% of red-tagged buildings built before 1983
- 98% of destroyed buildings built before 1983

84% of buildings in flood zones were built before 1983.
Where is the Risk?

Metropolitan Statistical Area
US Rank: 1
Total Population: 20.1MM

Population Increases
60 years or older: 14.1% or 2.8MM

In 2020: Projected 14.8%
In 2030: Projected 18.1%
Where is the Risk?

I want what I want. (And that is…)

basement safety back in my home
security my life back accessibility
a well-built home to be made whole to elevate
my home a garage more space
Where are the Holes? Opportunities?

**When** do people think about accessibility at the residential level?

- Once there is an issue *(reactive)*
- When someone else tells me to think about it *(also reactive)*

**What** do they think about?

- How am I going to get into my home?
- Once I’m in, how do I…use the bathroom? Cook? Clean? Move around the house?
Where are the Holes? Opportunities?

Lack of education and miss-information

**RESIDENT**: What do they understand? About themselves? How do they adapt to their new world? How will they sustain their life? How does resilience come into play?

**ARCHITECTS**: Should be one of the several professionals to **teach and guide** the resident about the opportunities. How can the profession be more proactive than being more reactive? How frequently does the profession use cost as a deciding factor? How often does the profession use design constraints as a rationale for exclusion?

The opportunity to the residence/resident is challenging, as both change at a different rate of time.
Where are the Holes? Opportunities?

How do we resolve the accessibility issues when we’re talking about elevating a residence?
Where are the Holes? Opportunities?

- Community / Services
- Planning
- Natural Systems
- EMS / Disaster Response & Recovery
- Infrastructure / Buildings
- Global Climate / International Impacts
- Real Estate / Development
- Codes & Standards / Insurance
Where are the Holes? Opportunities?

Past
- Existing towns not resilient

Present
- Rebuilding not cohesive; ruins character

Future
- Coastal communities should be cohesive

Past
- Existing towns not resilient

Present
- Not planned

Future
- Resilient and planned
Where are the holes? Opportunities?

What should we do?

• Review current population in affected region who have some functional need;
• Review building codes and holes to fill;
• Work with constituencies to modify codes;
• FEMA / HUD “Program in a Box” should require single family housing stock to adapt or be made using U.D. principles.
When Universal Design meets Elevation

Design Professionals → Owners

Construction Professionals →

Jurisdictions →
Universal Design is...

Education     Advocacy     Collaboration

- ADA & POLICY
- HOMEOWNERS/RESIDENTS
- DESIGN PROFESSIONALS
- BUILDING CODE
Uncoupling the Myths

**Myths:**
- Universal design is incredibly expensive.
- Universal design is only for the mobility disabled.
- Universal design is hard to make aesthetically pleasing.
Truths: Implementing Universal design principles during the design phase shows little to now increase in cost over “traditional” construction (~0 - 3%), however less expensive over the life cycle of the building and the tenant. **Universal design is for all.** While mobility challenges can present opportunities, the Americans with Disabilities Act identifies also includes wide range of individuals with constant, chronic or in-remission conditions. (Just because someone is HIV+ and able-bodied, doesn’t mean that they should be discriminated against in the built environment). **Designing with all people in mind presents a multitude of design opportunities rather than challenges.** It allows the design professional to exercise their design muscle to solve the problem... **technically, efficiently, and artistically.**

Uncoupling the Myths
Universal Design is...

designing products and spaces so that they can be used by the widest range of people possible. Universal Design evolved from Accessible Design, a design process that addresses the needs of people with disabilities. Universal Design goes further by recognizing that there is a wide spectrum of human abilities. Everybody, even the most able-bodied person, passes through childhood, periods of temporary illness, injury and old age. By designing for this human diversity, we can create things that will be easier for all people to use.
Universal Design is...

- **Equitable Use**: The design is useful and marketable to people with diverse abilities.
- **Flexibility in Use**: The design accommodates a wide range of individual preferences and abilities.
- **Simple and Intuitive Use**: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
- **Perceptible Information**: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- **Tolerance for Error**: The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- **Low Physical Effort**: The design can be used efficiently and comfortably with minimum fatigue.
- **Size and Space for Approach and Use**: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

*Developed by Ronald L. Mace cc*
Why is this important?
Our Strategy

Sustainable
Mitigation
Adaptation
Resilience
Timeless
Why is this important?

“(today)... **Every dollar spent** reducing people’s vulnerability to disasters **saves around seven dollars** in economic losses. Investing in prevention not only increases the resilience of countries to future disaster, but protects economic growth and other development achievements from being lost in a single catastrophic event.”

- United Nations Development Program

10 years ago, it was **1 in 4.**
Design Like You Give A Damn
Case Study #1 – Long Beach, NY
Case Study #1 – 72’-0” long ramp
Case Study #1 – Existing plan
Case Study #1 – Existing Elevations
Case Study #1 – Proposed Lower Plan
Case Study #1 – Proposed First Floor
Case Study #1 – Proposed Second Floor
Case Study #1 – Proposed front
Case Study #1 – Proposed rear
Case Study #2 – Babylon, NY
Case Study #2 – Babylon, NY
Case Study #2 – Existing Plan
Case Study #2 – Proposed Plan
Case Study #2 – Proposed Front
Case Study #2 – Proposed Rear
We see a beautiful place...