Resiliency in the Face of Disaster:
The Role of Transportation

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WHAT IS RESILIENCE?

- National Academies of Science =
  To adapt to stress …so that it may continue to function, or quickly recover its ability to function, during and after stress.”(14)

- The ability of groups, such as communities and cities, to withstand hazards or to recover from such disruptions as natural disasters. Building and maintaining resilience depend on the ability of a group to monitor changes and to modify its plans to deal with adversity appropriately.”(14)

- Coles and Buckle =
  Community participates fully in the recovery process and … it has the capacity, skills and knowledge to make its participation meaningful.”
Hallmarks of Resiliency

- Prepare for the identified hazards
  - Natural hazards
    - Weather, seismic
    - Fire
    - Disease- human, plant, animal
  - Technological hazards
    - Hazardous material, transportation, power outage, infrastructure failure
  - Human-caused hazards
    - Crime, terrorism
Hallmarks of Resiliency

- **Mitigation**
  - Physical mitigation
  - Planning
  - Education
  - Insurance

- **Preparation**
  - ICS/NIMS training, exercises
  - Hazards education in the K-12 curriculum
  - Car kits, family kits
  - School/day camp supplies for children
  - Hospital and nursing home shelter-in-place/evacuation plans and exercises

- **Engagement**
  - All community approach to emergency planning and business continuity planning means every sector has a role
Role of the Transportation Sector

1. All disasters are local
   - Collaborate with local governments on emergency planning
   - Don’t want to meet in the parking lot of a disaster!
   - Establish common expectations of transportation sector’s roles
   - Agree on reimbursements, who is responsible for what paperwork: FHWA/FEMA, MAP-21 impacts

2. No roads, no codes
   - Bridge Inspection
   - Debris removal – how many lanes are “emergency” restoration, MAP-21 impacts
   - Rapid repairs- road surface, culverts, drainage
   - Overweight permits
Role of the Transportation Sector

3. Evacuation

- Legal authority to call for evacuation
- Legal authority to call for contraflow
  - Plan in place that includes one lane in opposite direction for emergency vehicles - police, fire, ambulance, gas trucks
  - Who has barricades, signage; who blocks entrances at local streets?
- Plans for towing, repairs, gas – only expressway gas stations? Plans to boost supply in advance of evacuation? Payments? Price gouging?
- Destination?
  - South Jersey Transit – plenty of entry points but what is exit point? Only Philadelphia?
- Shelters?
  - Who provides support enroute? – restrooms, diapers, water, food, medical care (heart attack, stroke, labor, asthma attack, allergic reaction)
Role of the Transportation Sector

4. Logistics

- Collaborate with the private sector – “whole community” – Walmart EOC is 24/7 monitoring roads, other “big box”
- Rolling stock to support the emergency response
  - School busses, paratransit, airport busses, public busses, commuter rail
  - Courier trucks, specialty trucks, plows, crane
- Goods by shortest route after disaster – may be different than before disaster
  - Use GPS, road sensors, HAM radio/CB radio reports, traffic cameras
  - Information coordination is role for Transportation EOC
- First responders to the disaster sites
  - Police, fire, EMS, hospital medical personnel
  - Staging areas?
  - Who requests that people be transported? 9/11 problem.
  - Problem of credentials, self-dispatching
Role of the Transportation Sector

✦ Conclusion

✦ Transportation is the key to all disaster response
✦ Resiliency requires rigorous inter-agency planning before the event
✦ The whole community has to participate in developing the plan, and in executing it when needed
A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action

Building Community Disaster Resilience through Private-Public Collaboration
http://www.nap.edu/catalog/13028.html

Coles and Buckle, Developing community resilience as a foundation for effective disaster recovery

California Resiliency Alliance Disaster Assistance Registry http://www.caresiliency.org/
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