

# Report Out Slides

Presented To: Community Resilience Panel

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## 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?
  - Infrastructure specific: New vs existing, aging infrastructure
  - Jurisdictional Issues: Funding, community to community connections
  - How can the conversation be preventative not reactive
  - Public perception, acceptable level of risk, what is the goal for a community?
  - Land Use Planning
  - Consistent Inputs including hazards
  - Unknown probabilities, changing vulnerabilities with climate change
  - Level of risk driven by policy not standards
  - Standards are sector/asset specific (rail, port, highway, etc) not at a system's level
  - Operational capabilities
  - Cyber interdependencies

## Gaps and Needs in Sector

- Identify significant interdependencies and gaps with other sectors that impact resilience.
  - Transportation Dependencies
    - Power supply
    - Cyber
    - Communications
    - ROW/Adjacent services, co-location of infrastructure
    - Drainage
    - Supply chain
  - Dependent on Transportation
    - Emergency Management
    - Energy (personel)
    - Water
    - Supply chain
    - Intermodal dependencies

# How do we Solve the Problems?

- How do we address the needs and gaps we identified?
  - Acceptable risk performance framework/model including:
    - Identify operational capabilities
    - Identify key parameters
    - Provide forward looking climate inputs for use in planning/design
    - Incorporating full useful life of an asset
    - Service time – valuing downtime and recovery
  - Identify interdependencies – data gaps, private vs. public ownership, site specific dependencies. May not be solved by standards.
  - Tabletop exercises
  - Threat analysis benchmarking (crude by rail as an example)
  - Early assessment to identify issues
  - Procurement methodologies for quicker purchasing (recovery)

## How do we Solve the Problems?

- 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.
  - Multi-stakeholder/Multi-model – systems analyst/logistics
  - Learn from other models (LEED, nuclear, seismic)
  - Risk communication – including social scientists, economist
  - Need to identify other international transportation frameworks (Denmark)

# 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?
  - NEPA
  - MPO's
  - AASHTO
  - AREMA
  - ASCE 7/24
  - Storm modeling
  - Asset Management Systems
  - FRA/FTA mandated risk assessment
  - FEMA
  - FHWA – earthquake
  - FHWA – security
  - NFPA
  - RAMCAP
  - Transportation Resilience Framework from New Zealand
  - TRB (ACRP, NCHRP, TCRP)