System Optimization for Mitigation, Response and Recovery

Panel 17

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Moderator – Thomas Wakeman, Stevens Institute of Technology

Inland Waterway Transportation System's Role in Mitigation, Response and Recovery

Heather Nacthmann, Univ of Arkansas

- Emergency operations planning assumes that all transport means are available after an event; this can be ensured by including all modes in initial planning including air and waterway modes.
- Inland waterways can provide emergency response services and supplies to a large U.S. geographic region following a disaster.
- A decision support methodology has been developed that allows planners to effectively allocate inland waterway resources (barges) to implement a emergency response system.

Architecting Cognitive Port Processes and Port Resilience

Ali Mostashari, Stevens Institute

- There is an immense amount of sensor information floating among a diverse set of port stakeholders (public & private).
- Cognitive technologies (architecture & process) can help facilitate collaborations in rapid response to port security threats.
- Cognitive seaports promise a paradigm for improving learning across ports nationally.

Optimizing the Transportation System's Response Capabilities

Christos Cassandra, Boston University

- Uncertainty Management strategies include Estimate-and-Plan (too rigid) versus Hedge-and-React (flexible and efficient)
- Human Factors concerns important – Need to get people to trust an automatic mechanism that provides guarantees including fairness.
- Recognize Stable & Volatile Situations – Use a systems level approach to assess what applies.

Disaster Relief Safe Routing Software

Blaine Fahey, Univ of Illinois

- Working to help first responders make quick decisions on routing based upon constantly changing information.
- Allow first responders to share information to avoid problem areas.
- Intelligently augment existing routing appliction to immediately create value.