



Risk Management : U.S.A.Highway Security

Dr. Anthony Kane

- American Association of State Highway and Transportation Officials(AASHTO)
- Director of Engineering and Technical Services
- akane@aaashto.org



Presentation Overview

- **USA Perspective**
- **Risk Management Approach**
- **National Analyses**
- **The State of Wisconsin Example**
- **Next Steps and Lessons Learned**



USA Perspective

- **A Federal System of Government—50 semi-independent States**
- **Vast Size and Amount of Infrastructure**
- **Highways: 6.6 million KM; 19% owned by states ; 81% by more than 3,000 counties & hundreds of thousand of cities / towns**
- **State DOTs are all different in terms of ownership and responsibilities of different modes of transport**
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- **The USA was severely and alarmingly impacted and awakened on September 11, 2001**



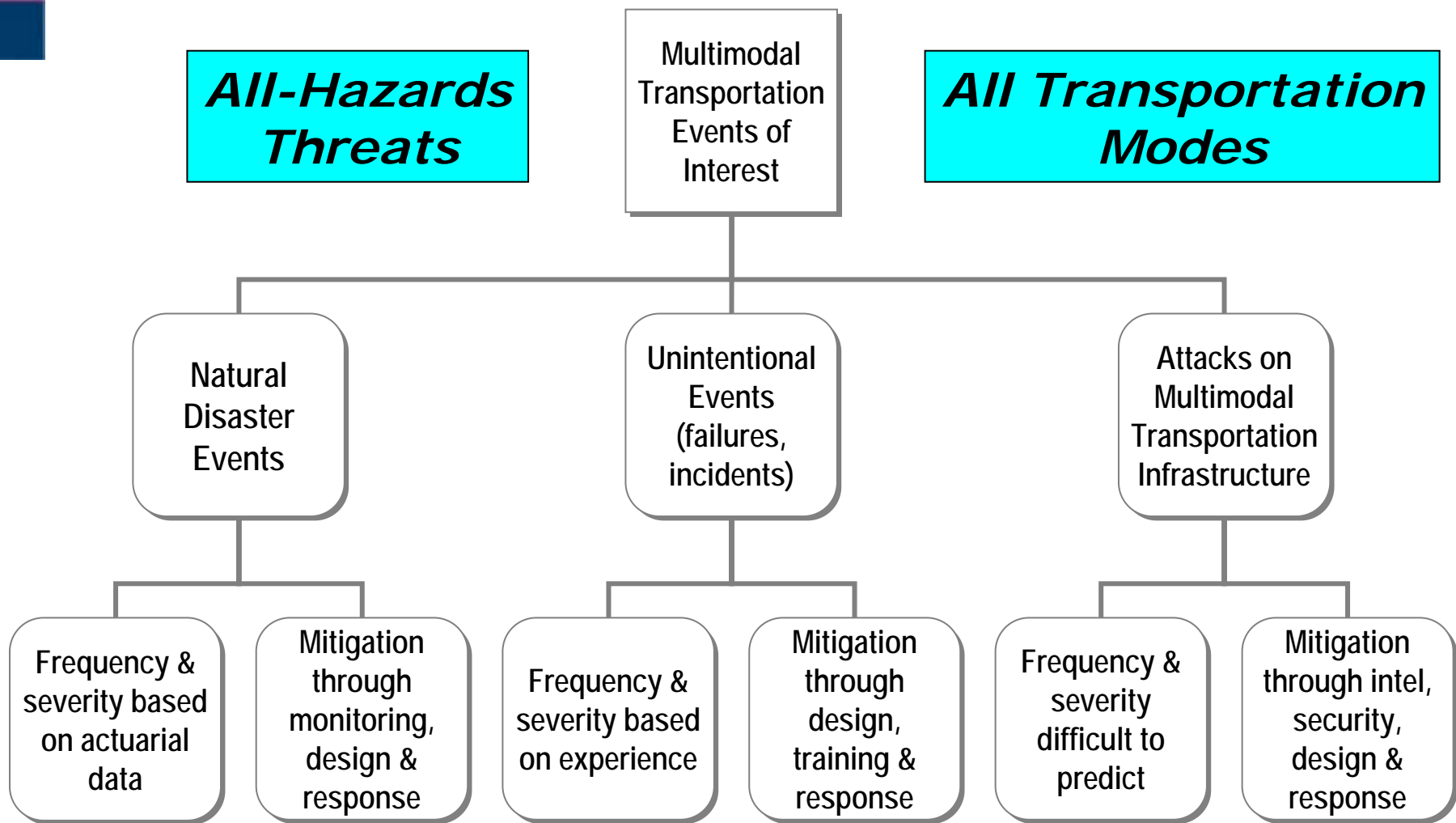
Risk Management Methodology NCHRP 20-59(17)

AASHTO Assessment Tool: A Guide to Risk Management of Multimodal Transportation Infrastructure

- **All-Hazards Tool / All Transportation Modes ... highway, maritime, rail, airports, etc.**
- **Eight Step Methodology – Microsoft Excel Spreadsheet**
- **User Inputs – Assets, Threats, Consequences**
- **Master Countermeasure Database**
- **Output: Candidate Countermeasures**
- **Interactive Model**

Risk Management Taxonomy

NCHRP 20-59(17)



Transport Targets of Attack

- **Buses (32%), tourist and school buses (8%) and bus terminals (7%) = 47%**
- **Subways and trains (26%), stations (12%), and rails (8%) = 46%**
- **Bridges and tunnels (5%) and other (2%) = 7%**

(Source: Mineta Transportation Institute, 2007)



Terrorist Threat Has Focused on People Not Infrastructure

- **Jihadists have contemplated attacks on bridges and tunnels (New York 1993, Brooklyn Bridge scheme in 2003) however...**
- **No terrorist attacks on bridges, tunnels, or roads**
- **Only five percent of 900 surface transportation attacks involve bridges or tunnels**
- **Almost all in on-going conflict zones where smaller bridges have been blown up**

(Source: Mineta Transportation Institute, 2007)



Department of Homeland Security (DHS) Direction

Executive Order 13416: Strengthening Surface Transportation Security

Homeland Security Presidential Directive-7

National Strategy for Transportation Security (NSTS)

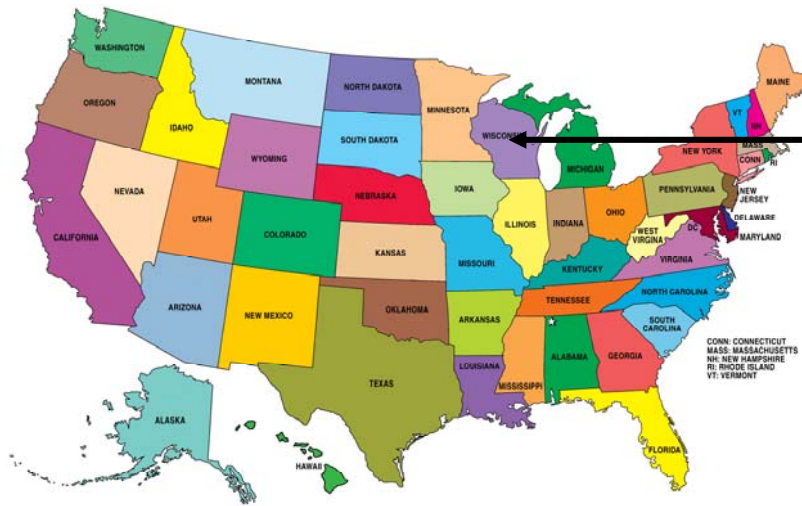
National Infrastructure Protection Plan (NIPP)

Transportation Specific Sector Plan (TSSP)

Example USA National Security Analyses

- **Making the Nation Safer: The Role of Science and Technology in Countering Terrorism**
(NRC, June 25, 2002)
- **Blue Ribbon Panel on Bridge and Tunnel Security Report**
(September 2003)
- **National Needs Assessment for Ensuring Transportation Infrastructure Security, Etc.**
- For these and other security reports see:
www.trb.org/NA_Security_Products
www.TRB.org/SecurityPubs
security.transportation.org

State of Wisconsin Example



Wisconsin (WI)

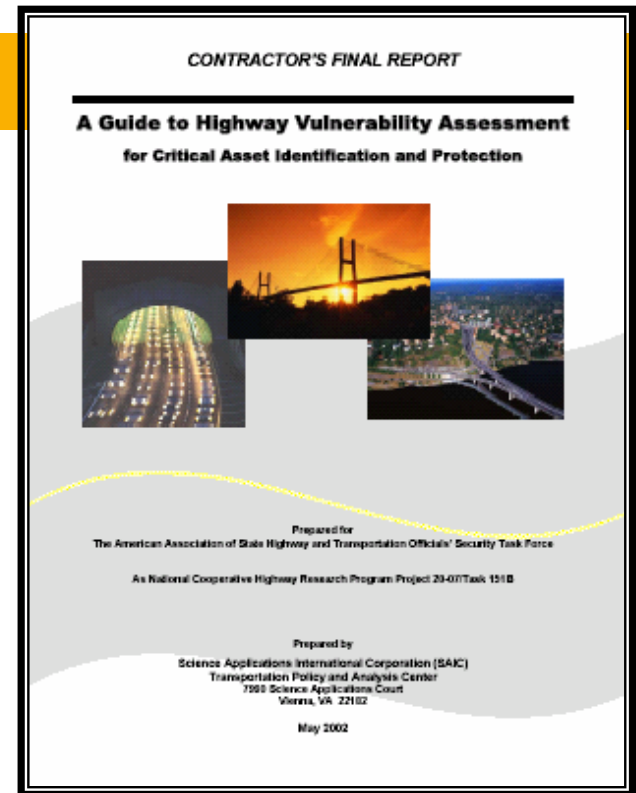
- State of Wisconsin has 14,000 Bridges
- Using the AASHTO Guide WI completed an assessment of these Bridges.
- The Highest Consequence Bridges were identified in three (3) Tiers.

State of Wisconsin Example

- **Bridge Tiers (74 Bridges)**
 - Tier 1 – 19 Bridges
 - Tier 2 – 25 Bridges
 - Tier 3 – 30 Bridges

- Wisconsin is mitigating the vulnerability of these 74 bridges with a priority placed on Tier 1 Bridges.

- Mitigation includes: site improvements, operational procedures and bridge design.



Next Steps and Lessons Learned

- **Update National Level Highway Security \$ Needs and Secure Funding**
- **Ballot and Publish Two Key Guides:**
 - ➔ Risk Management
 - ➔ Emergency Transport Operations
- **Threat is Real; Quantification is Difficult**
- **Emergency Management with an “All Hazards Approach” is the only Cost-effective strategy**