Transportation Response to Flooding in the United States

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Overview

- Flooding in the United States
- Transportation Impacts
- Case Study: Red River Flood 2009
Flooding in the United States

• Can occur during any season
• Since 1964
  – 1,944 Major Disaster Declarations
  – 1,244 flooding or flood-related
• 2009
  – 59 Major Disaster Declarations
  – 41 flooding or flood-related
Flooding in the United States

Presidential Disaster Declarations
January 1, 1965 to June 1, 2003

Disasters By Type

**Other Hazards include: Drought, Volcano, Other, Freezing, Mud/Landslide, Typhoon, Human Cause, Terrorist, Dam/Levee Break, Toxic Substances

Source: FEMA’s National Emergency Management Information System

* Prior to January 1, 1965, 185 declarations did not have county designations. Therefore, of the total declared disasters (1,399), only 1,214 are included in the Mapped Total.
Transportation Impacts: Highways and Roads

- Road and bridge damage
- Federal money to assist states
- Alternate routes
- Transportation waivers

Aerial view of Nashville (AP Jeff Roberson)
Transportation Impacts: Airports and Airspace

• Increased traffic in airspace
• Airports usually not Federally-owned
• Temporary Flight Restrictions

Image courtesy of NOAA
Case Study: Red River of the North
Case Study: Red River of the North

- 885 KM long
- Border between North Dakota and Minnesota

Image courtesy of NASA Earth Observatory
Case Study: Red River of the North

- 2009 Flood
  - Crested at 12.44 meters; Flood Stage is 5.49 meters.
- Declared Major Disaster March 25, 2009 (FEMA-1907-DR)

Image courtesy of NASA Earth Observatory
Case Study: Red River of the North

- Mitigation Efforts include transportation and other infrastructure
- Coordination with Canada on downstream effects
Conclusion

• Response requires coordination of local, state, private, tribal and Federal resources
• DOT provides assistance, advice and legal authorities
• Can expect floods to happen again