

19th National Conference on Rural Public  
and Intercity Bus Transportation

# The Role of Transit in Emergency Evacuation

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# Today's Objectives

- ▶ The need for transit involvement
- ▶ Key parts of a good plan
  - Mitigation
  - Preparedness
  - Response
  - Recovery
- ▶ Local experience relating to the Red River Flood of 2009 in Fargo, North Dakota

# TRB Special Report

## Special Report 294; The Role of Transit in Emergency Evacuations

- FEMA database by type for the years 1953 through 2007. Severe storms account for two-thirds (66 percent) of the total number of Presidential declared emergencies.

The Role of Transit in Emergency Evacuation, Transportation Research Board, 2008

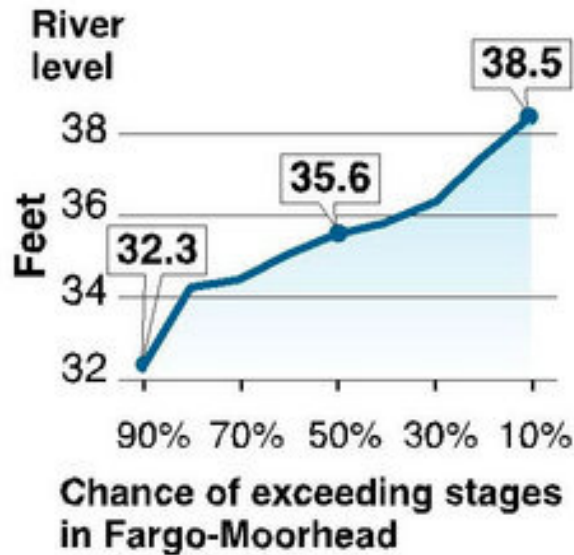
<http://onlinepubs.trb.org/onlinepubs/sr/sr294.pdf>

# Community Risk Assessment

A good emergency management plan begins with a hazard or risk assessment to determine what types of incidents an area is most likely to experience.

# Chance of exceeding stages

The Red River at Fargo-Moorhead has a flood stage of 18 feet. In the next 90 days there is a 50 percent chance the river will rise above 35.6 feet and a 10 percent chance it will rise above 38.5 feet.



Source: National Weather Service

## Historical crests of the Red River in Fargo-Moorhead:



The Forum



# Less than 10% chance



*Photo by Allen  
Fredrickson/REUTERS*



By 5:15 a.m. on March 29, 2009, the river had risen to 40.8 feet, about 22 feet above the flood stage and several inches above the previous record of 40.1 feet, set in 1897.

*Photo by Allen  
Fredrickson/REUTERS*



# What's at risk in your community?

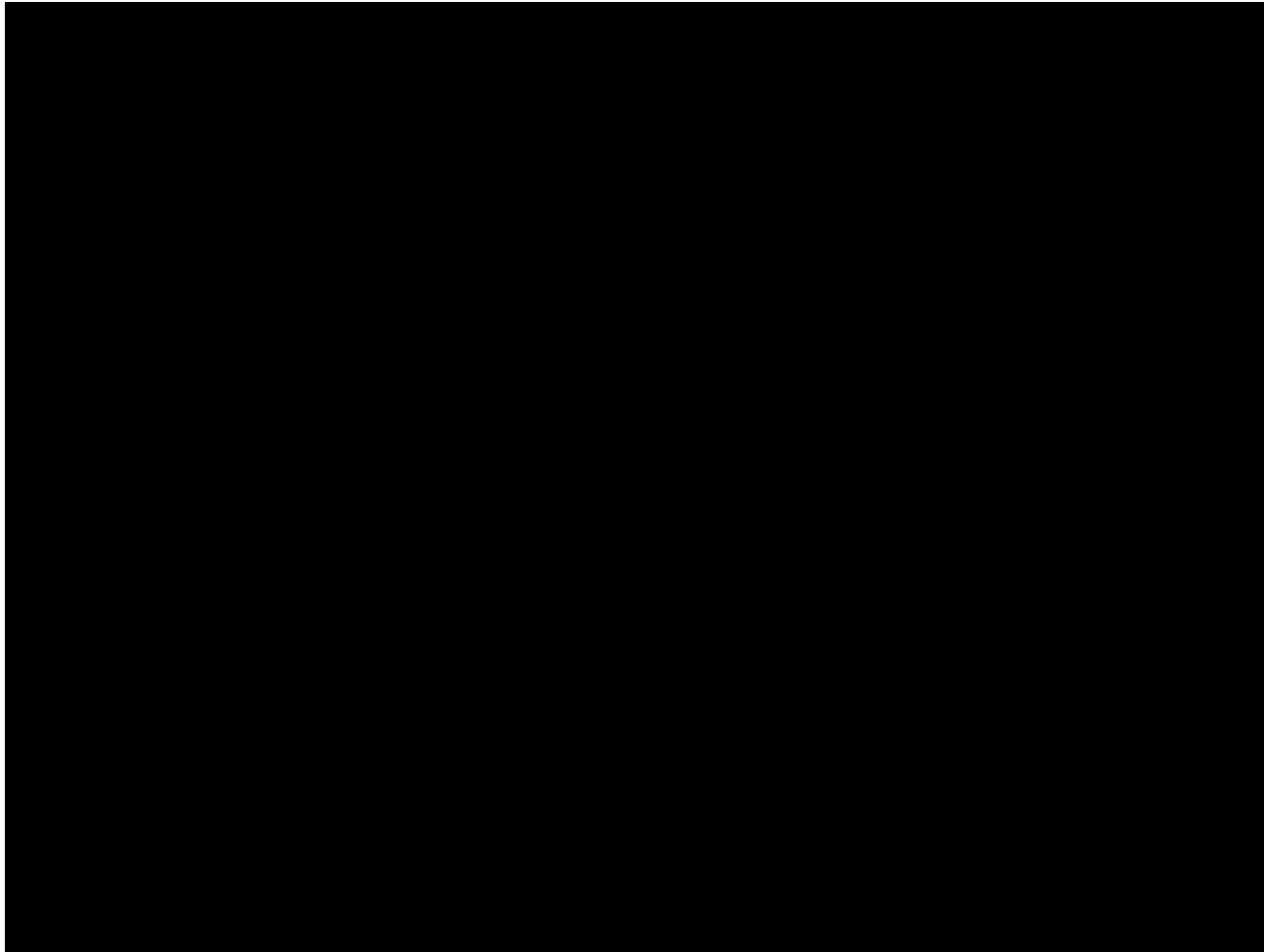




# Assisted living facility...



# Do you have terrorism concerns?



# Federal Legislation\*

- ▶ United States Code Title 42, The Public Health and Welfare, authorizes the President to commandeer public and private resources to respond to a large-scale disaster (Chapter 68—Disaster Relief, Subchapter IV—Major Disaster Assistance Programs).
- ▶ Among other powers, the President may call for temporary public transportation services to meet emergency transportation needs during a disaster.
- ▶ Executive Order 12656—Assignment of Emergency Preparedness Responsibilities (Part 14—Department of Transportation) gives the U.S. Department of Transportation responsibility for “emergency management and control” of transportation resources, including urban mass transit.

\*Role of Public Transportation Operations in Emergency Management: Research Report, Texas Transportation Institute, March 1999 (<http://tti.tamu.edu/documents/1834-2.pdf>);



# Parts of a Good Emergency Preparedness Plan

- ▶ Mitigation
- ▶ Preparedness
- ▶ Response
- ▶ Recovery

Rural Transit Emergency Planning Guidance, Caltrans

<http://www.dot.ca.gov/hq/MassTrans/Docs-Pdfs/RTEPG-Guidance-08.07.08.pdf>

# Mitigation

- ▶ Provide for the protection of vulnerable transit equipment and assets in the event of an emergency.
- ▶ Provide for redundant transit communications.
- ▶ Provide for continuity of transit operations

# The Role of Transit – Flood

- Paratransit vehicles were staged 24/7 at the West Fargo Fairgrounds and were made available for use by MAT drivers from 8:00 am – 8:00 pm and for use by the National Guard from 8:00 pm – 8:00 am



# Preparedness

- ▶ Develop transit emergency evacuation plans consistent with area wide plans
- ▶ Inventory available transit equipment to determine its capability for meeting the surge demands of an emergency evacuation.
- ▶ Consider the potential for school buses and drivers to meet evacuation transport requirements
- ▶ Develop a plan for evacuating special-needs populations

# The Role of Transit in Planning

- Fargo-Moorhead Metropolitan Area Transit (MAT) has been on the Cass County Emergency Preparedness Committee since inception
- Part of all long-range emergency planning for the Fargo-Moorhead area

# Who needs our help?





# Prepare for Potential Emergencies

- ▶ Preparedness “addresses the full range of capabilities to prevent, protect against, and respond to acts of terror or other disasters” (U.S. Government Accountability Office (GAO), 2006a).
- ▶ The Federal Emergency Management Agency (FEMA) developed a comprehensive, risk-based, all-hazard approach to emergency planning entitled the *Guide for All-Hazard Emergency Operations Planning (All-Hazards Guide)* (DHS, 1996).

Rural Transportation Emergency Preparedness Plans by  
Heather Nachtmann, Ph.D. & Edward A. Pohl, Ph.D., MBTC  
2091, July 2009

[http://ww2.mackblackwell.org/web/research/ALL\\_RESEARCH\\_PROJECTS/2000s/2091/MBTC\\_2091\\_Final\\_Report.pdf](http://ww2.mackblackwell.org/web/research/ALL_RESEARCH_PROJECTS/2000s/2091/MBTC_2091_Final_Report.pdf)

# Mobility Management –Evacuation

What happened in Fargo:

- Relationships with all area entities with transit vehicles had been established prior to flood.
- Contact information was constantly updated and easily accessible at the time of the emergency.
- Agencies with vehicles were asked to transport their own clients.

# Response

- ▶ Ensure that transit agencies are represented in the chain of command at incident command posts and report to EOC's when the later are activated to provide resource support
- ▶ Provide for real-time communications with transit operators and emergency managers, as well as the public, both in advance of and during an emergency incident.



# Incident Command Structure\*

- ▶ NIMS requires the use of the Incident Command System (ICS) to manage all domestic incident response
- ▶ ICS is a standard, on-scene, all-hazard incident management system that has the organizational flexibility to meet the needs of incidents of any kind, size or level of complexity.
- ▶ In emergency response, ICS establishes a clear chain of command, common terminology, integrated communications and effective accountability at all jurisdictional levels and within individual functional areas.

\* ACCESS Security and Emergency Preparedness Plan, Access Services, El Monte, CA 91731; version 1, September 2010

# Response (continued)

- ▶ Establish a protocol for suspending service in an emergency to protect transit operators and equipment
- ▶ Use Transit to bring emergency responders and equipment to the incident site
- ▶ Consider transit agency employees, who are being asked to play a major role in an emergency evacuation, as essential personnel along with personnel who provide police, fire and emergency medical services.

The Role of Transit in Emergency Evacuation, Transportation Research Board, 2008

<http://onlinepubs.trb.org/onlinepubs/sr/sr294.pdf>



# Sand bags made inside a large building!



*Photo by Allen  
Fredrickson/REUTERS*

# Huge Amount of Sand Bags



According to U.S. Army Corps of Engineers, sandbags measure 4" high x 10" wide x 16" long

3.5 million sandbags would make a wall around the Empire State Building

1,218 feet high—almost  $\frac{1}{4}$  mile (wall is 1 sandbag thick)



# Students waiting to go sandbagging



Photo courtesy of NDSU

Students volunteering to sandbag are waiting in line for buses,  
North Dakota State University



# The Decision to Evacuate Nursing Homes & Assisted Living Facilities

- Coordinated effort between the Cass County Health Department, the Department of Emergency Services, the State Department of Health and Human Services, FEMA, city officials, and FM Ambulance
- For some it was primarily based on access restriction for fire, police, ambulance services, and concerns about sanitary systems – not on imminent danger from flood waters

# Specific Procedures to Follow for Each Scenario

- ▶ Preparedness
- ▶ Response
- ▶ Assessment
- ▶ Hazard Control
- ▶ Support Operations
- ▶ Vehicle Access
- ▶ Emergency Care
- ▶ Extrication
- ▶ Removal and Transfer
- ▶ Debriefing

Recommended Emergency Preparedness Guidelines for Urban, Rural and Specialized Transit Systems, UMTA, January 1991  
(<http://www.contextsensitivesolutions.org/content/reading/recommended-2/resources/recommended-emergency-preparedness/>);

# Recovery\*

- ▶ Coordinate with emergency managers, public safety planners, and other transit providers to return carless evacuees to their original locations or destinations if possible
- ▶ Use transit operators and equipment as “eyes and ears” to provide real-time damage assessments.

\*The Role of Transit in Emergency Evacuation, Transportation Research Board, 2008

<http://onlinepubs.trb.org/onlinepubs/sr/sr294.pdf>

# Useable Template

Ream Lazaro working with the New Mexico Department of Transportation developed this Safety, Security and Emergency Preparedness Plan (SSEPP)

<http://nmshtd.state.nm.us/upload/images/Programs-Transit%20and%20Rail-/NMSSEPP.pdf>



# The rest is up to YOU!

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