NCHRP 20-59 (32): A Transportation Guide for All-Hazards Evacuation

Summary of Findings and Overview of Final Guide

May 15, 2012 - Washington, DC
Presentation Overview

• Project Overview
• Key Findings
• Guide Outline
• Guide Excerpts
# Project Overview

## Phase I Tasks

1. Literature Review
2. Roles of Modes and Other Entities in Evacuation
3. Mode Integration
4. Matching Resources to Needs
5. “Workshop in a Box”
6. Case Studies
7. Operations Plan Templates
8. Report & Draft Outline

## Phase 2 Tasks

10. Final Report

Minnesota, 1997 FEMA staff photo
Project Focus

Develop procedures and tools to help transportation entities plan for a major evacuation event requiring coordination between multiple:

- Agencies: law enforcement, emergency mgt., health, transit, etc.
- Modes: highway (truck, auto), transit (bus, paratransit, rail) water, air, pedestrian, etc.
- Jurisdictions: towns, cities, counties, states
- Levels of government: local, regional, state(s), possibly tribal and federal
- Private and non-profit entities: emergency focus (e.g., American Red Cross), client focus (e.g., service providers)
Task 1 - Key Findings: Literature Review

- Transportation and emergency management interdependent, so plan ahead (time/scale)
- Establish & maintain communication & coordination – among agencies + public
- Evacuation plans must concur w/ shelter plans
- Plan evacuee services- fuel, repairs, water, more
- Prepare, train and practice – stakeholders, public
- Adapt existing practices, systems, resources
- Plan for post-event reentry
Task 2 - Key Findings: Roles of Modes, Other Entities in Evacuations

Modes and entities evaluated

• Transportation entities: public, private, land, air, water modes
• Public agencies: emergency management, health, others
• Private/ non-profit
• Lesson: involve early and often, establish agreements in advance

Roles in all planning phases- may vary for notice/ no-notice

• Prevention/ protection
• Mitigation
• Response
• Recovery

The Louis Berger Group, Inc.
Task 3 - Recommended Mode Integration Steps

1. Identify entities & their roles & responsibilities re multimodal/ multijurisdictional evacuation
2. Identify one or more Convener Agencies for Multimodal Evacuation (CAME) planning
3. Determine framework
   1. Local, regional or state lead (likely regional)
   2. Emergency management or transportation lead
Task 4 - Match Resources with Needs

• Focus: local governments primary
• Focus: identify/ inventory resources (including partner agencies, public/ private sector), collaborate
• Interviews w/ DOTs, transit agencies, emergency management, MPOs- identify resource categories plus promising practices, lessons learned
• For each major entity/mode, identified role in providing transportation resources, role in identifying community needs, and issues to consider (pro/con)
Task 5 - “Workshop in a Box”- Steps

**Plan the workshop**
1. Assess current status
2. Develop preliminary goals/desired outcomes
3. Build support, collect input
4. Design workshop
5. Develop meeting mat’ls
6. Secure facility, plan logistics
7. Recruit participants

**Implement workshop**
8. Recheck facility, supplies
9. Plan assignments
10. Facilitator tips

**Follow up**
11. Document meeting, share
12. Maintain momentum
13. Strengthen working relationships
14. Use feedback to improve
## Task 6 - Case Studies

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Key Findings</th>
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<tbody>
<tr>
<td><strong>2006 North Carolina Chemical Fire</strong></td>
<td>Success attributed to planning, training and community exercises due to location within Nuclear Plant EPZ.</td>
</tr>
<tr>
<td><strong>2007 South California Wildfires</strong></td>
<td>Implementation of lessons learned from 2003 California wildfires related to communication with public, massive evacuations, access &amp; fn. needs pops., and sheltering.</td>
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<tr>
<td><strong>2008 Louisiana Chemical Spill</strong></td>
<td>Residents informed of mandatory evacuation by state police. Nursing home relocation included some too frail to travel far.</td>
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<tr>
<td><strong>2008 Hurricane Gustav</strong></td>
<td>Successful multimodal approach for a large-scale evacuation accommodating car-less residents, tourists and vulnerable populations. City buses transport to staging areas for other modes, prior to auto evacuation.</td>
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<td>Key Findings</td>
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<td>2008 Hurricane Ike</td>
<td>Benefited from lessons learned from Rita and Katrina (e.g., phased evacuations by zip code, used registry of Rita assisted evacuees) Problem convincing people to evacuate.</td>
</tr>
<tr>
<td>2010 Philadelphia Snow Storm</td>
<td>No evacuations. There was no planning and no transportation-related coordination required.</td>
</tr>
<tr>
<td>2010 Tennessee Floods</td>
<td>Both public and NWS underestimated unprecedented rainfall amounts and flood level of 1000-year flood. Warnings to public should be clear and concise.</td>
</tr>
</tbody>
</table>
Task 7 - Operations Plan Templates

• Selected templates for evacuation planning were tested at the workshops (Task 5)

• Developed and refined based on the Task 5 workshop

• Tools and templates are part of the Final Guide—additional tools and resources were identified and developed as needed as the Guide evolved
Task 8.2 - Final Guide

- Follows planning steps in FEMA Comprehensive Preparedness Guide 101 v2

FIGURE 1-5:
CPG 101 Planning Steps
Task 8.2 - Final Guide

- Introduction
- Step 1 – Form a Collaborative Planning Team
- Step 2 – Understand the Situation
- Step 3 – Determine Goals and Objectives
- Step 4 – Develop the Plan
- Step 5 – Prepare, Review and Approve Plan
- Step 6 – Implement and Maintain the Plan
- Resource- “Workshop in a Box”
- Glossary
- Database Tools, Checklists (Word or Excel format) (CD)
- Appendices (CD)
Step 1 Form a Collaborative Planning Team

Tasks

1.1 Identify likely interagency and inter-regional partners (jurisdictions and levels of government) required for transportation and emergency management coordination

1.2 Engage the whole community in planning

Note: Each step is followed by text and table tools, plus a synopsis and instructions for database tools and checklists. Full database tools and checklists are in Word or Excel on the accompanying CD.

Tools

- 1.1 Network contact database
- 1.2 Potential frameworks for integrating modes for effective evacuation: Convener Agencies for Multimodal Evacuation Planning (CAME)
- 1.3 Introduction to ESF and transportation roles and interactions with each ESF
- 1.4 Potential community partners
Step 2 Understand the Situation

Tasks
2.1 Gather information on potential risks/hazards
2.2 Gather contacts and data on people and animals
2.3 Plan and convene a regional workshop

Tools
- 2.1 Preliminary risk assessment
- 2.2 Estimated # of Evacuees
- 2.3 Institutional Facilities
- 2.4 Assisted evacuees- non-institutional
- 2.5 Livestock and other animals
- 2.6 Evacuation needs discussion guide
Step 3 Determine Goals and Objectives

**Tasks**

3.1 Determine operational priorities – scenarios, challenges, opportunities

3.2 Establish goals and objectives

**Tools**

- 3.1 Evacuation operational priorities and goals and objectives discussion guide
- 3.2 Transportation coordination spectrum of considerations for access and functional needs populations
- 3.3 Primary entities and modes involved in evacuation
- 3.4 Transportation operations coordination checklists
- 3.5 Traffic control devices supporting evacuation
Step 4 Develop the Plan

**Tasks**
4.1 Develop and analyze courses of action- including timeline
4.2 Identify resources
4.3 Identify information and intelligence needs

**Tools**
- 4.0 “Thought Starters”
- 4.1 Timeline tools – Real time evacuation planning model & public assisted evacuation plan timeline for notice events
- 4.2 Resource tools: examples, FEMA resource typing overview, 7 database templates- vehicles, intermodal facilities, shelters (transportation aspects), more
- 4.3 Checklist for interagency communications and information sharing between transportation agencies, emergency management and others
Step 5  Prepare, Review and Approve Plan

Tasks
5.1 Write the plan
5.2 Review the plan
5.3 Approve and maintain the plan
5.4 Disseminate the plan

Tools
- 5.1 and 5.2 Multijurisdiction multimodal evacuation coordination template outline (5.1) and planning checklists (5.2)
- 5.3 Sample MOU with transit agency as convener
- 5.4 Sample agreement with a Metropolitan Planning Organization as convener
Step 6  Implement and Maintain Plan

Tasks
6.1 After action reporting
6.2 Updating the plan
6.3 Training, testing and exercising

Tools
• 6.1 After action reporting – real events- FEMA guidance
• 6.2 After action/ corrective action report survey template
• 6.3 Overview description of drills, simulations and exercises
• 6.4 Participant feedback form
• 6.5 Facilitator report form
• 6.6 Summary of full after action report template

Figure 6-2. Progressive Exercise Continuum (TCRP 2005, page 10, Figure 3)
Additional Materials

Resource: Evacuation Workshop Planning 101- “Workshop in a Box”

Glossary of Terms

Useful Resources and Direct References

Tools- Checklists and Worksheets (on CD, on line)

Appendix A- Target Capabilities List for Evacuation (on CD, on line)

Appendix B- Synopsis and Links to Sample Evacuation Plans and Related Resources (on CD, on line)
Next Steps: Outreach Plan

**Present at conferences**
- 2012 National Evacuation Conference (completed)
- 2012 Natural Hazards Workshop (July, 2012)
- 2012 Transportation Research Board- Emergency Evacuation Focus Group session (if approved)
- Emergency Management Conferences (Team members regularly attend)
- APTA? Others? As identified, approved

**Email/ Social Media Distribution**
- Request session on EM Forum webinar
- Request listing/ link on Lessons Learned Information Sharing
- Add comment, link to “Linked In” discussion groups
- Request links to project, notices from FEMA website and from FEMA Office of Disability Integration and Coordination (if possible)