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Final Report

Project Title:

**Improving Emergency Preparedness and
Crisis Management Capabilities in Transportation- -Year II**

Project Number:

HVDR20-6

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The New England University Transportation Center is a consortium of 8 universities funded by the U.S. Department of Transportation, University Transportation Centers Program. Members of the consortium are MIT, the University of Connecticut, University of Maine, University of Massachusetts, University of New Hampshire, University of Rhode Island, University of Vermont and Harvard University. MIT is the lead university.

Problem Addressed:

While disaster preparedness and emergency management have had a high public profile over the past decade, Hurricane Katrina revealed serious weaknesses in the United States' emergency response capabilities. There is thus much left to do before full consolidation of agencies into the Department of Homeland Security and parallel efforts across various levels of government are achieved.

This study examined how several functional areas that are not traditionally considered part of the first responder community but still play important roles in emergency response are developing the capabilities necessary to integrate more fully into the country's emergency management system. Following earlier work on terrorism preparedness and emergency evacuation, the research team focused on how these so-called "second circle" response organizations (including those from the transportation sector) are implementing the National Incident Management System (NIMS), a Congressionally-mandated template for coordinated organization, operational command, and implementation of response. Researchers looked at this issue from national, state, and local perspectives, with significant concentration on the linkages between these levels of government.

Research Approach and Methodology:

This project used several different research methods employed by political scientists and policy analysts to comparatively study decision-making and institutional processes.

The study team conducted a thorough and systematic review of academic literature, government reports, and other materials pertaining to "second circle" response organizations and NIMS implementation. Relevant materials were identified and obtained, catalogued, reviewed, and summarized. This work culminated in the publication of a literature review that explored the general state of research on the topic, identified remaining research gaps, highlighted core issues, and offered recommendations.

The researchers also organized a set of personal interviews with city, state, and federal officials familiar with planning and emergency operations in select metropolitan areas and about the federal government's programs to support transportation agencies. To prepare for these interviews, they conducted background research on the sites and developed semi-structured, elite interview protocols appropriate for officials by type of job position. (Although *not* quantitatively analyzable, as would be the case in survey research, these types of interviews permit extended answers by respondents and subsequent follow-up questions by the interviewer, providing researchers with valuable data that informs project findings.)

Research Findings/Conclusions/Recommendations:

The researchers published their literature review through the Program on Crisis Leadership, Harvard Kennedy School's discussion paper series. Among other findings, the authors determined that:

- In recent years, the federal government has expanded its conceptualization of the emergency management community to include “second circle” organizations and other entities once considered peripheral to the field.
- Numerous challenges have complicated adoption of NIMS by many second circle agencies, including incompatibility of their organizational cultures with NIMS, inadequate funding, infrequent utilization, and low levels of perceived need.
- Recommendations for increasing the adoption and utilization of NIMS by second circle organizations include: (1) improving general comprehension of risk across agencies and sectors; (2) committing more resources to NIMS implementation; (3) customizing NIMS to the needs and cultures of specific organizations; (4) increasing collaboration with first response entities; (5) ensuring consistent use of NIMS by second circle organizations; and (6) identifying a mix of strategies for enforcing NIMS compliance.

Specifically pertaining to transportation:

- Surface transportation agencies may have a closer connection to core response organizations than other members of the second circle, given that they are responsible for a core response function: evacuation.
- The transportation sector has paid increased attention to NIMS since Katrina. All the same, the lack of metrics on NIMS compliance for transportation agencies has complicated the process of analyzing and comparing implementation and utilization across states.

Findings associated with this project have also informed several publications by the principal investigator and his colleagues on general crisis response issues;¹ and additional publications specific to NIMS implementation are forthcoming. Related concepts have also been presented and discussed in a suite of Harvard executive education programs and extension school classes offered by the principal investigator that focus on emergency preparedness, crisis leadership, and disaster recovery.²

¹ For a list of publications produced during the period of performance for this grant, please visit <http://www.hks.harvard.edu/programs/crisisleadership/publications/articles>.

² For a listing of the courses, please visit <http://www.hks.harvard.edu/programs/crisisleadership/education>.