Use of Rural Transportation Infrastructure In Evacuation Operation for the Northern Gulf of Mexico Coastal Region

**PROJECT BACKGROUND**

The rural transportation network is a major component of a larger, multimodal system that is critical for mobility of people, goods and services. When hurricane evacuations occur, the recommended safe distance is 150 miles from the immediate coastline. Evacuees are expected to drive 150 miles or more, and they may use primarily rural roads. Thus, rural roads have a larger role in evacuation than is currently recognized. Further, rural roads may substitute for interstates and other major highways in the event they become functionally impaired (e.g., congested or damaged). With an increased focus nationally on safe evacuation and dealing with natural disasters, the rural transportation network across and throughout every region of the country must be effective and efficient during emergencies. Therefore, national evacuation policy must address evacuation and transportation as a whole - not just isolated urban hotspots where the evacuation process is highly visible - but also focus on the large rural areas that hold the county together. It is critical to begin identifying and addressing the gaps in evacuation planning and operations relative to critical rural transportation issues. The objective of this project is to assess the role and capabilities of the rural transportation infrastructure in coastal communities that are predominantly rural in the Northern Gulf Coastal Region with respect to evacuation and emergency events’ planning, traffic, safety, control, and management. For more information, visit www.evacuationandtransportation.org/

**WHAT WE DID**

A survey of rural evacuation operations was distributed to 33 agencies within the Northern Gulf of Mexico Coastal Region, including state and county (or parish) emergency management agencies (EMAs) and districts of the departments of transportation. The investigation covered the following areas of interest:

1) Use and efficiency of evacuation tools,
2) Evacuation routes and evacuee flow,
3) Evacuation preparation, and
4) Issues (or barriers) in evacuation operations.

**PROJECT FINDINGS**

- Approximately 66% (38% + 28%) of evacuees were moving to rural communities during evacuations in the NGM; only 32% (20% + 12%) of evacuees were moving to urban areas. The results clearly show that evacuations in the NGR predominantly affect rural areas. In addition, more than half of evacuees will pass through rural communities during evacuation events.

Sponsored by: The Center For Urban Rural Interface Studies, Mississippi State University
• **Evacuation Barriers.** The most commonly cited barriers were:
  o Lack of operating budget
  o Funding restrictions to provide service
  o Lack of workforce during the response phase

• **Evacuation Preparation:** Approximately one-third of the agencies indicated that there was no food, lodging, or parking available along the rural evacuation routes in their jurisdictions.

• A total of 110 designated and undesignated evacuation routes were reported by 16 agencies. It was found that **79 evacuation routes (75%)** experienced high or oversaturated traffic flow in recent evacuation events.

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**Recommendations**

• Improve Communications: Increase use of dynamic message signs (DMS) and satellite phone services if resources are available.  
• Reduce Infrastructure Stress: Update evacuation routes to include those undesignated routes that had high or oversaturated traffic in past evacuation events. Improve coordination between EMAs and transportation agencies to better plan evacuation routes.  
• Supplement Workforce: EMAs may establish or improve mutual aid agreements with related agencies regarding the allocation of manpower in evacuations. EMAs may also consider recruiting volunteers to assist in evacuations. More law enforcement was found to be necessary in assisting in evacuations, such as directing traffic.  
• Increase operating budget: Lack of operating budget was the most frequently reported barrier to emergency management activities. In the reauthorization of a new transportation bill, Congress should recognize this issue and authorize the Federal Highway Administration (FHWA) to reimburse evacuation operation expenses and to purchase communication and intelligent transportation system (ITS) equipment to enhance the efficiency of rural evacuation operations.

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