

# **Genesee-Finger Lakes Regional Critical Transportation Infrastructure Vulnerability Assessment**

## **Scope of Work**

### **A. Objective**

To determine the vulnerability of the Genesee-Finger Lakes Region's roads, bridges, railroads, highway garages, operations centers, intermodal transfer facilities, and other surface transportation infrastructure assets to natural and manmade hazards and propose solutions for preventing and/or mitigating the impacts of hazard events on those assets.

### **B. Background**

The study area includes the entire nine-county Genesee-Finger Lakes Region. This assessment will address the vulnerability of critical surface transportation infrastructure elements to natural and manmade hazards. Potential weather-related impacts of climate change on the regional transportation system will also be considered. Current emergency response plans designate floods, ice events, and snowstorms as major natural hazards of concern. Each of these hazards present unique impacts on infrastructure and community transportation needs, particularly in the aftermath of a major event. In the wake of major storm events such as Hurricanes Katrina, Irene, and Sandy, there is a growing interest nationwide in planning and building transportation infrastructure that has greater resiliency to extreme weather events, such as extreme heat and heavy precipitation, which may occur with greater frequency as a result of long-term climactic shifts.

Extreme weather events will place greater strains on transportation infrastructure, driving up operations, maintenance, and repair costs. Increasing the resiliency of transportation infrastructure will reduce these expenses as well as those associated with disaster response and recovery operations. It will also better prepare transportation management and emergency response agencies for potential non-traditional uses of the transportation system, such as evacuations and the distribution of relief supplies and equipment. All of these activities will contribute to the ultimate goals of safeguarding lives and property in the event of a hazard incident.

Within the region, county emergency management agencies have developed county-wide all-hazard mitigation plans, emergency management plans for specific events such as hazardous materials spills, and identified and publicized evacuation routes for the R. E. Ginna Nuclear Power Plant. However, while elements of the transportation system have been factored into all these plans, there has not been a systematic region-wide attempt to assess the vulnerability and resiliency of critical elements of the transportation network.

Given the limited availability of funds for transportation infrastructure projects, transportation planning and management agencies are concerned with maximizing their investments. Information on hazard vulnerabilities and criticality provided by this study can be used by member agencies to help prioritize transportation infrastructure projects that address a broad range of issues. This means that projects can be developed to address multiple agency objectives, including mitigating hazard impacts on the movements of people and goods and safeguarding public investments against threats.

**C. Study Tasks**

1. Convene a steering committee of representatives from the nine counties of the region, the City of Rochester, GTC staff, affected state agencies and authorities which may include but not be limited to New York State (NYS) Department of Transportation, NYS Thruway Authority, Rochester Genesee Regional Transportation Authority, and others, to guide development of the vulnerability assessment.
2. Retain a consultant via a published solicitation in the *New York State Contract Reporter* and *Rochester Business Journal* and associated Request for Proposals. A consultant selection committee comprised of members from the agencies listed in Task 1 (or subset thereof, dependent on members’ availability) will select a preferred consultant to conduct Tasks 3 through 9, below.
3. Inventory the locations of all transportation infrastructure elements in the region, including roads, bridges, railroads, highway garages, operations centers, intermodal transfer facilities, and other surface transportation assets (including public transportation), as identified by the Steering Committee.
4. Identify the anticipated impacts (location and geographical extent) of each the following natural and manmade hazards on the transportation infrastructure elements identified in Task 3:

<b>Natural Hazards*:</b>	<b>Man-made Hazards*:</b>
Floods (including both fluvial and lacustrine flooding)	Hazardous Materials Spill (Transportation)
Ice Storms	Terrorist Attack
Severe Winter Storms	Utility Failure
Severe Storms	Structural Collapse
Extreme Temperatures	
Landslides	
Land Subsidence	
Earthquakes	
* The consultant may propose analyzing additional hazards that, based on their expertise, they deem significant enough to investigate. The hazards listed on this table are derived from the 2011 Monroe County Pre-Disaster Mitigation Plan.	

5. Determine the vulnerabilities of regional transportation infrastructure elements based on the inventory and identification of anticipated impacts per Tasks 3 and 4 above, and gain concurrence from the Steering Committee on the associated criticality of the elements based on the populations and activities affected, as well as redundant structures and facilities.
6. Develop alternatives, maintenance recommendations, and design guidance, including but not limited to:
  - a. Necessary replacements, reconstructions, and retrofits of existing infrastructure;
  - b. Recommendations for maintenance activities that can enhance the resiliency of existing infrastructure; and
  - c. Established guidance for incorporating vulnerability into design activities.

7. Prepare a draft report incorporating the results of Tasks 3 through 6, including priority recommendations.
8. Identify the follow-on activities necessary to advance the implementation of the final report recommendations, including the timing of and potential funding sources to conduct these activities.
9. Develop a final report and associated executive summary.

**D. Products**

1. *Genesee-Finger Lakes Regional Critical Transportation Infrastructure Vulnerability Assessment* report
2. Executive Summary
3. Steering committee agendas
4. GIS layers and associated databases

**E. Public Participation Plan**

Per the GTC Public Participation Policy, this project is classified as a Technical/Data Collection Project. Accordingly, no public input component is required.

**F. Schedule**

Start Date: June 2013                      End Date: September 2014

**G. Project Budget**

Sources of Funds		Uses of Funds	
	FY 2013-14		FY 2013-14
<u>Federal Funds</u>		<u>GTC</u>	
FHWA	\$129,466	Staff	\$11,832
FTA	2,366	Contractual	120,000
Subtotal	\$131,832	Subtotal	\$131,832
<u>Matching Funds</u>		<u>Other Agency</u>	
State (In-kind)	\$0	Staff	\$0
Local (In-kind)	13,333	Contractual	0
Local (Cash)	0	In-kind Exp.	13,333
Subtotal	\$13,333	Subtotal	\$0
<u>Total</u>	<u>\$145,165</u>	<u>Total</u>	<u>\$145,165</u>