



**New Jersey Department of Transportation  
Bureau of Research  
RESEARCH PROJECT  
Request for Proposal  
2022 – 2023 SPR Program**

**Project Title: NJDOT Multi-Hazard Design of Highway Bridges**  
**Posting No.: 2022-06**  
**Date of RFP Announcement: 08/25/2022**  
**Closing Date: 10/13/2022**

Proposals must be prepared in accordance with NJDOT's *Supplemental and Proposals guidelines*. Please visit <https://www.state.nj.us/transportation/business/research/guidelines.shtm> for the most current version.

All proposals must also have a corresponding online PreAward Risk Assessment form completed and submitted by the PIs prior to the RFP closing date and time. This online form can be found at: [https://www.state.nj.us/transportation/business/research/risk\\_assessment\\_forms.shtm](https://www.state.nj.us/transportation/business/research/risk_assessment_forms.shtm)

## **1 - RESEARCH PROBLEM STATEMENT AND OBJECTIVES**

### **1.1 Problem Statement**

Civil infrastructure is vital to economic development and critical to response and recovery after extreme events. However, they are also quite vulnerable to natural and man-made hazards such as flooding, earthquakes, storm surge, fire and terrorist threats; especially highway bridges. Therefore, there is a need for a comprehensive study to broaden the knowledge base, to further identify key parameters, and to develop the first-generation guidelines for multi-hazard design of highway bridges

### **1.2 Research Objectives**

This research and development effort will significantly enhance infrastructure resiliency.

At Minimum the research project shall include:

#### Phase 1. Literature Search

Conduct a comprehensive literature review of research related to the following required NJDOT needs/tasks:

- 1) Review all design codes, standards, and specifications that NJDOT utilizes to design highway bridges for
  - a. Sections that address problems with natural and man-made hazards such as flooding, earthquakes, storm surge, fire and terrorist threat to highway bridges
  - b. Assess whether lesson learned from past events such as Hurricane Katrina or various earthquakes have been implemented into current NJDOT designs.
- 2) Make recommendations based on Phase1 literature study for Phase 2 study.

#### Phase 2. Analysis of Structural Members

Based on the research and literature review findings in Phase 1, develop a work plan which focuses on multi-hazard design of various bridge structural members including design examples and cost



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benefit analysis. It should be noted that approval from TAP is required to proceed to Phase 2. The research team shall collaborate with consultants to develop any guidelines or recommendations.

### **1.3 Type of Contract**

It is proposed that if the Issuing Office enters into a contract because of this Request for Proposal (RFP), it will be a **Cost Reimbursement, Deliverable-Based** contract containing the Standard Contract Terms and Conditions.

## **2 - BUDGET and CONTRACT TIME**

The **TOTAL** project budget shall not exceed **\$250,000 US Dollars**. Budgets will be evaluated separately, and only after a selection has been made as to which proposal is the most qualified based on technical merit.

The PI must provide the anticipated research study duration based on the proposed tasks. Consideration should be given to potential impediments so that adjustments are incorporated into the schedule minimizing the need for time extensions. Contract time shall include sufficient time for the procurement of subcontractors, as well as no less than three months for Final Report review and acceptance. Please be advised that going forward, new task orders having permissible justification will be allowed no more than a one-time extension with the advent of 2 CFR 200.

### **A 30-month total project duration is preferred.**

Please provide a Gantt Chart schedule, by month number (e.g., 1-24), showing tasks start/end, and deliverables. List corresponding deliverables below the chart.

## **3 - Oral Presentations**

Oral online presentations may be requested as part of this RFP. If required, you will be notified by the Bureau of Research to schedule your oral presentation. They will be held at NJDOT headquarters in Trenton, NJ, attended by the Technical Advisory Panel (TAP), and be limited to no more than an hour, including time for questions and answers.

## **4 – Deadline**

Proposals (no hard copies required) are due at the NJDOT Bureau of Research no later than **4:00 p.m. on October 13, 2022**. Electronic proposal (preferred pdf) shall be submitted to [Research.Bureau@dot.nj.gov](mailto:Research.Bureau@dot.nj.gov) with the subject: *RFP-YYYY-XX University – PI's name*.

**Approximate Start Date: 01/05/2023**. The official start date is the date that the Bureau of Research obtains a signature from the Assistant Commissioner.

## **5 – CONTACTS**



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Interested parties shall send all questions related to this RFP to the Research Bureau Manager by sending an e-mail to [Amanda.Gendek@dot.nj.gov](mailto:Amanda.Gendek@dot.nj.gov) or by phone (609-963-2242). Questions on this topic **shall not** be directed to any Research Project Manager, Research Customer, or any other NJDOT person. All questions must be received **on or before 09/12/2022 in order to be answered.**

**PROPOSAL DELIVERY INSTRUCTIONS:**

Electronic proposal documents (preferred pdf) shall be emailed to [Research.Bureau@dot.nj.gov](mailto:Research.Bureau@dot.nj.gov) with the subject: *RFP-YYYY-XX University – PI's name.*  
A confirmation of receipt will be sent via email.