



University Transportation Research Center
RFP Cover Sheet

Title: Elimination of Weight Restrictions on Amtrak Lines
Proposal Number: 2010-11
Sponsor: NJDOT
Date Issued: August 04, 2009
Pre-Proposal Meeting: Contact NJDOT by August 17, 2009
RFP Due at NJDOT: by September 14, 2009
RFP Closing Date: September 14, 2009

If you plan to apply:

1. Please contact Camille Crichton-Sumners (camille.crichton-sumners@dot.state.nj.us) or Stephanie Nock (609-530-5637 or STEPHANIE.NOCK@dot.state.nj.us) to request a pre-proposal meeting, and so that you will receive information about this meeting if it is held. *This meeting will be your only opportunity to ask questions about this proposal.*

2. If you plan to submit a proposal through UTRC, please notify us by email at peickemeyer@utrc2.org and ckamga@utrc2.org. Please indicate whether you are open to teaming up with faculty at other universities on this project.

Proposal submission guidelines:

Please contact Camille Kamga (ckamga@utrc2.org, 212-650-8087) to discuss submission logistics. After UTRC confirms that the proposals' budgets meet UTRC and NJDOT guidelines, please use the UTRC cover sheet available at <http://www.utrc2.org/research/resourcesforpis.php> for submission of printed proposals to NJDOT.

Proposals must be prepared in accordance with NJDOT's Information and Instructions for Preparing Proposals. Please visit: <http://www.state.nj.us/transportation/refdata/research/pdf/techpropresproj.pdf>

For questions about budget preparation, contact: Camille Kamga, ckamga@utrc2.org

NJDOT has not specified a budget or timeline for this project. Please note that matching funds up to \$35,000 are available from UTRC for this RFP.

New Jersey Department of Transportation

Bureau of Research

RESEARCH PROJECT

Request for Proposals

2010 Program

Date of RFP

08-04-09

Closing Date

09-14-09

Elimination of Weight Restrictions on Amtrak Lines

Project 2010-11

(Proposals must be prepared in accordance with NJDOT's *Information and Instructions for Preparing Proposals*. Please visit: <http://www.state.nj.us/transportation/refdata/research/pdf/techpropresproj.pdf>
Revised Proposal Evaluation Forms are available for your information on the website.)

Proposals will be based on the merit of the information contained in the proposal. Budgets will be evaluated separately. Please place three (3) copies of the budget for this project in a separate sealed envelope.

1. RESEARCH PROBLEM STATEMENT, BACKGROUND AND OBJECTIVES

Lack of structural data on 31 bridges on the Amtrak line between Oak Island rail yard and Metuchen.

1. Currently, railroads carry a significant share of the nation's freight and make a substantial contribution to the national economy and to the economies of most states. Freight rail carries 16 percent of nation's freight by tonnage, accounting for 28 percent of total ton-miles, 40 percent of intercity ton-miles, and six percent of freight value.

2. The freight-rail system provides significant public benefits by providing cost-effective transportation that is vital to state economic development; reducing truck travel, congestion, and highway costs; providing a critical intermodal link for international trade; improving air quality and fuel efficiency; supporting military mobilization; and providing transportation-system redundancy during national emergencies.

3. The rail industry today is stable, productive, and competitive, with enough business and profit to operate, but not to replenish its infrastructure quickly or grow rapidly. Its capital cost for infrastructure and equipment is huge and relatively fixed. Competition among railroads and with trucking has driven rail rates down, benefiting shippers and the economy, but making it difficult for the railroads to attract the long-term investment needed to grow substantially and serve new markets. Market forces will continue to force the rail industry to streamline and downsize, to maximize revenues, and to minimize capital costs. Under current conditions, rail will continue to generate substantial public benefits, but will not live up to its full potential.

Freight travels over many passenger lines. National freight standards have recently increased from 263,000 to 286,000 pounds; however this upgrade provides no benefit for passenger service. We have asked Amtrak to upgrade the Northeast Corridor for 286,000 pound freight service. Amtrak has expressed some interest, but has requested that New Jersey pay for a study of the 31 bridges on the line between Oak Island rail yard and Metuchen.

Provisions of the FRA Railroad Bridge Safety Policy:

- Railroad bridge owners should perform periodic bridge inspections, at least annually, using competent inspectors to determine whether a structure conforms to its design or rating condition. More frequent inspections may be appropriate based on the condition of the bridge and the volume of rail traffic.
- Railroad bridge inspectors should have training and experience that enable them to detect and record indications of distress on a bridge. Inspectors should provide accurate measurements and other information about the condition of the bridge in enough detail so that an engineer can make a proper evaluation of the bridge's safety.
- The operating instructions for each railroad operating trains over bridges should include provisions to restrict the movement of rail cars and locomotives whose weight or configuration exceed the nominal

capacity of the bridge. This may include speed restrictions, restriction of rail traffic on adjacent multiple tracks, and weight limitations on adjacent rail cars within the same train.

- Railroad bridge owners should follow the recommended specifications for the design and rating of bridges found in the Manual for Railway Engineering published by the American Railway Engineering and Maintenance-of-Way Association (AREMA). This manual incorporates recognized principles of structural design and analysis to provide for the safe and economic utilization of railroad bridges during their expected useful lives.
- An effective railroad bridge safety program should include provisions for: inspection of bridge structures located underwater, consideration of the risks arising from bridges located in earthquake zones, and performance of special inspections of bridges involved in floods, train accidents, and unusual impacts. The freight-rail system is an important part of the nation's freight transportation system and is critical to the economy.

Given the forecasts of additional increases in freight over the coming years, it will be a challenge for the freight-rail industry to maintain its share of freight movement, and an even greater challenge to increase. In order to facilitate the expansion of freight, New Jersey should prepare a structural weight study on the 31 bridges on the line between Oak Island rail yard and Metuchen.

2. Tasks

[Provide a listing of appropriate general tasks divided into phases based on types of work (e.g., laboratory, field) or by year (e.g., year 1, year 2) or other appropriate milestones]

The NJDOT is seeking the insight of proposal responders on how best to achieve the research objectives. Proposers are expected to describe a research effort that can realistically be accomplished as expeditiously as possible. Proposals must present the proposers' current thinking in sufficient detail to demonstrate their understanding of the problem and the soundness of their approach for conducting the required research.

PHASE I – Literature Search

Conduct a literature search of the current state of the practice.

After the award of the project, a more comprehensive literature search should be conducted. At the completion of this literature search, the PI will make a presentation to the Research Project Selection and Implementation Panel to discuss their findings and to discuss the appropriate research approach.

PHASE II – Research Approach and Anticipated Results

Clear description of how you will solve the problem and implement anticipated findings. Work may be divided into phases (e.g., Laboratory, Field or Year 1, Year 2) as necessary to clarify tasks. *Exit Criteria* must be developed during this phase.

3. Implementation and Training Plan

The PI must meet with the Research Project Selection and Implementation Panel (RPSIP) and other NJDOT units to present the findings and as appropriate train these personnel in the use of the project results.

The PI will develop an implementation plan as per the guidelines provided by NJDOT Research Bureau.

4. Deliverables: [List of minimum deliverables necessary to complete the project]

- Presentation of Summary of Literature Search Results
- Discussion to Support and Refine the Project Tasks
- Project work plan.
- Technical Memorandum on the survey results
- Technical memorandum on the measures that are working or not working
- Technical memorandum on actions taken

- Interim Status reports suitable for Senior Leadership if required
- Quarterly Reports, and
- Final report with appropriate tables, graphs and charts in hard copy version, PDF file format, Word, and on CD ROM. Two copies plus one per RSIP member of each presentation, technical memorandum, draft final report and Final Report (plus 10 copies). The Final Report and Tech Brief are due three (3) months before the end date of the project to allow time for review by the Research Project Selection and Implementation Panel. Final Acceptance will be granted upon receipt of ten copies of the approved final report.

5. Contract Time:

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.

6. Contacts:

A meeting may be scheduled with interested parties upon request after the RFP's are distributed to refine the objectives and deliverables and to promote a better understanding of the research needs. Questions on this topic **shall not** be directed to any Research Project Manager, Research Customer, or any other NJDOT person. All questions and answers would be addressed **during this meeting**. Contact Camille Crichton-Sumners (Camille.CrichtonSumners@dot.state.nj.us) on or before August 17, 2009 to confirm your interest in participating in such a meeting.

7. DEADLINE

Proposals (10 single-bound copies) are due at the NJDOT Bureau of Research no later than 4:00 p.m. September 14, 2009

Authorization to Begin Work: January 1, 2010--estimated or as negotiated

8. Delivery Instructions:

For private, paid messenger services such as Federal Express, DHL, UPS, etc., or for hand-carried deliveries:

2010 PROPOSAL-NJDOT
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Bureau of Research
1035 Parkway Avenue
Trenton, New Jersey 08625-0600

For U.S. Postal Service mail:

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