



**REGION 2
UNIVERSITY TRANSPORTATION RESEARCH CENTER
RFP COVER SHEET**

Title: Bridge - Vehicle Impact Assessment

RFP Number: C-07-10

Sponsor: NYSDOT

Date Issued: August 10, 2007

Pre-Proposal Meeting Date: None

Draft Budget Due at UTRC: September 24, 2007 (send to ckamga@utrc2.org)

Final Proposal Due at UTRC: September 26, 2007 (send to ckamga@utrc2.org, cc: nadia@utrc2.org)

RFP Closing Date: September 27, 2007

If you plan to apply:

Please contact Nadia Aslam at nadia@utrc2.org (cc: ckamga@utrc2.org) to let us know you are assembling a proposal. We will make sure you receive any additional information that becomes available about this RFP.

Proposal submission guidelines:

Please submit your proposal electronically to UTRC. We will confirm that the proposals make comparable budget assumptions and will deliver the proposals to the sponsoring agency by the closing date.

Funding available:

Up to \$200,000 is available from NYSDOT. USDOT (UTRC) will provide up to \$35,000 in matching funds for requested funding above this budgeted amount. To the extent possible, we request that PIs identify sources of in-kind funding from their home institution (e.g., tuition waiver/reductions, overhead cost-sharing, faculty release time, etc.)

For questions about this proposal, please contact:

Paul Hoole, Director
Research and Policy Studies Section, 6th Floor
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

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

Request for Proposal
SPR # C-07-10: Bridge - Vehicle Impact Assessment
August 10, 2007

RESEARCH PROBLEM STATEMENT

NYSDOT is experiencing close to 200 bridge impacts (hits) a year. There are several reasons for these occurrences, such as improperly stored equipment, violation of vehicle posting signs, illegal commercial vehicles on parkways, lack of restricted highway information from online, and trip planning software.

This research will review the factors behind NYSDOT's most frequently hit bridges, determine systemic causes and recommend strategies for reducing bridge hits. There are approximately 110 bridges that have been hit at least twice over the last 5 years. Following the review, we are looking for recommendations to reduce the likelihood of impacts to these structures as well as develop recommendations to reduce overall bridge impacts.

OBJECTIVE

The Project should:

1. Review the major factors contributing to bridge impacts for each bridge hit multiple times on file for last five years.
2. Provide recommendations to reduce the likelihood of future bridge hits to those frequently hit bridges. This should include implementation options with estimated costs.
3. Provide long term, feasible and economical, suggestions to reduce the likelihood of bridge hits for the complete population of bridges in New York State.
4. Review NYSDOT's Collision Vulnerability Assessment Procedure and provide recommended improvements.

Possible tasks

Task descriptions are intended to provide a framework for conducting the research. NYSDOT is seeking the insights of the proposers on how best to achieve the research objectives. Proposers are expected to describe research plans that can realistically be accomplished within the constraints of available funds and research period. Proposals must present the proposers' current thinking in sufficient detail to demonstrate their understanding of the issues and the soundness of their approach to meeting the research objectives.

1. Review available literature.
2. Survey other states for established procedures.
3. Review state-of-the-art technology that may be useful in preventing bridge hits.
4. Review NYSDOT database containing the history of bridge hits. Bridge hit database to be provided by NYSDOT once the project is under contract.
5. Review NYSDOT's existing Collision Vulnerability Assessment procedure. The existing vulnerability procedure is currently available at the following website:
<https://www.nysdot.gov/portal/page/portal/divisions/engineering/structures/manuals/collision>.
In addition, a Bridge Safety Assurance Review Team has recently been created to review all the vulnerability procedures. The team's proposed changes to the Collision Vulnerability Assessment procedure will be provided by NYSDOT once the project is under contract.
6. Review NYSDOT's existing Collision Vulnerability Assessment procedure, as well as the changes currently under development by the Bridge Safety Assurance Review Team.

7. Meet with appropriate Department technical personnel and managers to collect their expert opinions.
8. Visit bridge sites as needed.
9. Develop list of contributing factors for specific bridge hits from site visits and other available information.
10. Develop recommendations to reduce likelihood of bridge hits at specific locations, including implementation items, options and estimated costs.
11. Investigate the benefits of developing a computer model to analyze the reasons for bridge hits. Develop computer model if appropriate.
12. Develop general recommendations to reduce the likelihood of bridge hits in general.
13. Provided recommended improvements to NYSDOT's Collision Vulnerability procedure.
14. Develop estimated costs necessary to implement recommendations.

RESEARCH PRODUCTS

1. A report documenting contributing factors for specific bridge site locations. The report should contain implementation options with recommendations and estimated costs.
2. A report with recommendations to reduce the likelihood of bridge hits at specific locations as well as bridges in general. Report should include recommendations program improvements, including recommended changes to NYSDOT's Collision Vulnerability procedure.
3. Develop industry education outreach as appropriate, such as brochure, bridge hit article, etc.
4. Develop a computer model if beneficial to bridge hit reduction.

URGENCY / EXPECTED BENEFITS

There are several negative effects caused by Bridge Hits. They include:

1. Possibility of injury to the driver, as well as others nearby.
2. Cost of developing and implementing the repairs to the damage bridges.
3. Cost of the damage to the vehicle and cargo.
4. Distribution of Traffic while bridge is inspected and debris is removed.
5. Cost as well as resources required to inspect the bridge for safety.

It is expected that the results from this project will help decrease in the number of future bridge hits, which should help reduce the negative side effects listed above.

FUNDING

\$200,000 has been budgeted for this project. New York State believes this is a reasonable estimate for the total cost of the work being requested.

The net cost to New York State is one of the selection criteria. When compared to competing proposals, a proposal that requires fewer New York State dollars will receive a higher score on the cost component of the selection criteria. The value of New York State funds required could be reduced through efficiencies (fewer hours per task and/or lower cost per hour) or through cost-sharing where other funds substitute for New York State funds.

Proposals with a New York State cost over the budgeted amount will also be considered, provided the New York State cost does not exceed the budget estimate by more than 10%. (Note: Cost-sharing funds may increase the total project cost further.)

RESEARCH PERIOD

24 Months

SPECIAL NOTES

- Principal investigators should be familiar with and follow the requirements of New York State (the Compliance Procurement Lobbying Law of 2005) with regard to consultant contract procurement. Information can be found on the NYSDOT web site (www.NYS DOT.gov) under “Business Center,” then “Consultants,” then “Non-Architectural Engineering,” then Active Solicitations.”
In particular, please note that communications between Contractors, Consultants/Principal Investigators, and Vendors with the Department are restricted during the period of time when services for more than \$15,000 have been requested (Request for Proposals issued), up until the time when the Consultant is selected. During this time communications, where *a reasonable person would infer that the communication was intended to influence the procurement*, should be limited to Department staff identified in the solicitation as “designated contact.”

Any communication with an employee, who is not a designated contact which is intended to influence the solicitation, could result in the outside party being prohibited from competing for the solicitation. A second violation will ban the Consultant/Principal Investigator from competing for any Department solicitation for four years.

The designated contacts for this solicitation are Paul Hoole and Deborah Mooney
Clarifying questions on the RFP should be e-mailed to: phoole@dot.state.ny.us and dmooney@dot.state.ny.us .

- Proposals should indicate direct and indirect costs, hourly rates and hours by task, travel costs, and material costs to assist NYSDOT in understanding how the total cost for the work was estimated. The winning proposal will result in a fixed cost contract based on details provided.
- Please provide a budget chart which shows for each task the deliverable and cost. Task headings in the Budget Chart are to match the scope task headings.
- Please include a Gantt Chart, showing the duration (start to finish) for each task in terms of months (i.e. Month 1, Month 2, etc) since the actual start date is an estimate.
- If the proposal involves a joint venture or sub-consultants, it must be clear as to how tasks will be distributed or shared in the scope of work.
- The final report on the research will be expected to contain as a minimum the information described in Attachment A, *Requirements for the Final Report*.
- NYSDOT has an ongoing contractual relationship with three research consortia. This Request for Proposals is being offered to the members of these consortia only. A pdf copy and **8 hard copies** of each proposal should be submitted through one of the applicable consortia in time for them to forward the pdf copy of the proposal to NYSDOT by the due date of **September 27, 2007**. The hard copies may follow in a separate mailing.
- Proposals, where the New York State costs total more than 10% over the budgeted cost, will not be considered for selection. If a potential principal investigator believes the research cannot be reasonably conducted without an increase in the budget, they should

write to:

Paul Hoole, Director
Research and Policy Studies Section, 6th Floor
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

If a sufficient number of potential principal investigators indicated in writing that they believe the research cannot be reasonably conducted within the funding constraints specified and there are only a limited number of proposals submitted within the funding constraints, New York State reserves the option of not proceeding with the work or revising the budget estimate and issuing a new Request for Proposals.

CRITERIA FOR SELECTION

Expertise / Understanding / Approach (Weight: 70%)

Expertise: Relevant experience of the Principal Investigator and other co-investigators in the field of bridge engineering, bridge hits, human geography, urban planning, advance warning detectors, and vertical clearance measurement and postings.

Understanding of the Problem: Does the proposal reflect an understanding of the problem and its relevance to New York State?

Approach: Is the proposed approach clear and will yield the deliverables called for in the RFP? Does the approach show insight that will lead to results that will sufficiently assist New York State in addressing the problem? Is the proposed approach practical given the schedule and total budget? Will the proposed research draw upon all critical sources of pertinent information?

Investigators Previous Experience with Similar Projects (Weight 10%)

Successful completion of previous projects by the Investigator(s) will be considered. These projects should be in the area of expertise required for successful completion of this project, such as Bridge hit prevention, vertical clearance measurement, vertical clearance posting, and advanced over-height detection.

Cost to New York State (Weight 20%)

The lower the New York State cost, the greater consideration a proposal will receive.

Requirements for the Final Report

Copies of Report – Twenty-five (25) copies of a bound final report shall be provided at the conclusion of the research study. A pdf copy of the report is required as well.

Required Organization for the Final Report

Title Page - that contains:

- the research number assigned by Policy and Strategy Division;
- the name of the research study as stated in the contract;
- the words “Final Report”;
- the date (month & year) the final report is finalized;
- the name(s) of the consultant(s) / principal investigator(s), along with the name of the organization(s) they represent and their address(es); and,
- if the report has a security classification, it shall be noted on the title page.

Disclaimer - as follows:

DISCLAIMER

The contents of this report reflect the views of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the New York State Department of Transportation, the United States Department of Transportation, or the Federal Highway Administration. This report does not constitute a standard, specification, regulation, product endorsement, or an endorsement of manufacturers.

Form DOT F 1700.7 – A copy of USDOT form DOT F 1700.7

Executive Summary

Introduction – a discussion of the problem, its background, a concise history of research previously completed on the topic, and a discussion of what NYSDOT policies, procedures, and practices are currently in place related to the research topic.

Research Method – a description of the methods used in conducting the research

Findings and Conclusions – a discussion on the analysis of the data (findings) and the conclusions reached based on the findings. Suggestions for additional research, if appropriate, would appear in this section.

Statement on Implementation – the statement shall discuss the potential for implementation, along with what resources and actions will be required to have the benefits of the research fully achieved.

Appendices – as appropriate