

REQUEST FOR PROPOSALS

LTRC No. 16-4ST, SIO No. DOTLT1000109

OVERHEIGHT IMPACT AVOIDANCE AND INCIDENT DETECTION SYSTEM

PROBLEM STATEMENT

During construction and repair of bridges, there is a tendency for construction containment and work platforms with reduced vertical clearance that could become exposed to impact by overheight loads. This may also occur on non-freeway truck routes where the bridge superstructure met the minimum legal vertical clearance and bridge superstructure with known lower than expected vertical clearance. The impact vehicle is usually loaded incorrectly, and cause impact and damage to bridge structure members or construction formwork. This will expose workers to risk at related construction site.

OBJECTIVE

The objective of this research is to investigate and pilot a device (e.g. laser) that could be set up well in advance of a construction site or known low vertical clearance site to identify and alert overheight vehicles that will affect the overhead element.

RESEARCH APPROACH

The Louisiana Transportation Research Center (LTRC) is seeking the insight of proposers on how best to achieve the research objectives. Proposers shall describe research plans that can be realistically accomplished within the constraints of available funds and contract time as allowed in this RFP.

Proposals must present the candidate's current thinking in sufficient detail to demonstrate their understanding of the problem and the soundness of their approach. Task descriptions are intended to provide a framework for conducting the research. The proposal shall address at a minimum, the following tasks:

Task 1. Literature Review

Conduct a literature search to identify available overheight impact avoidance and incident detection system(s) or other technology used by other states (may expand to other country). Review the current state of practice. A search on the TRIS/TRID database is a minimum.

Task 2. Interim Report

Based on findings from Task 1:

- Prepare an interim report documenting available technology and systems used. Findings should discuss the advantages and disadvantages of such systems, cost, level of difficulty in implementation, and maintenance.
- PI may propose at least two new systems for evaluation. Installed systems should be able to detect the height of the vehicle and alert the overheight vehicle driver of inevitable overhead structure impact, and instruct the driver to use an alternate route.
- Present the results to the Project Review Committee (PRC). PRC will review proposed

system(s) and issue a recommendation to the PTRC Project Manager regarding the installation of recommended system(s). **The PI may not proceed with following tasks without a written approval from the LTRC Project Manager.**

Task 3. System(s) Installation

PI shall oversee the systems' installation. Two locations will be selected and provided to the PI by the PRC and LTRC Project Manager.

Task 4. Monitor System(s)

PI shall monitor and assess system(s) performance through the monitoring and the response of overheight truck drivers.

Task 5. Provide a Final Report and Technical Summary

The researcher shall provide a final report that documents the entire research effort for internal future reference and the benefit of others. A Final Draft Report, Technical Summary document (two pages), and summary presentation to the Project Review Committee (PRC) are due three (3) months prior to the project completion date for review and approval. The final report shall direct and recommend future steps toward the incorporation/implementation of the research into department policy, including recommendations regarding the installed systems.

DELIVERABLES

The proposal shall include project deliverables for appropriate tasks. Deliverables shall be due as defined in the proposal. The proposal shall include at a minimum the following deliverables:

- Task 1: Literature Review
- Task 2: Interim Report and Presentation to PRC
- Task 3: System Installation
- Task 5: Final Report, Technical Summary, and summary presentation

SPECIAL NOTES

- A. LTRC research projects will be conducted in accordance with the LTRC Manual of Research Procedures, 2003 edition. (http://www.ltrc.lsu.edu/pdf/research_man03.pdf)
- B. Task descriptions are intended to provide a framework for conducting the research. Louisiana Transportation Research Center (LTRC) is seeking the insight of proposers on how best to achieve the research objectives. Proposers are expected to describe research plans that can be realistically accomplished within the constraints of available funds and contract time as highlighted on page 3. Proposals must present the candidate's current thinking in sufficient detail to demonstrate their understanding of the problem and the soundness of their approach. **Any work that is anticipated to be required from LTRC or DOTD forces shall be specifically detailed in the proposal.**
- C. LTRC projects are intended to produce results that will be applied in practice. It is expected that the implementation of the results of this research into practice will evolve as a concerted effort during this project. The final report must contain an implementation plan to include, as a minimum, the following:
 - a. The "product" expected from the research;
 - b. A realistic assessment of impediments to successful implementation;

- c. The activities necessary for successful implementation; and
 - d. The criteria for judging the progress and consequences of implementation.
- D.** To assist in the implementation process, the investigators of this research shall present the results to LA DOTD/LHSC officials in an oral presentation to be held in Baton Rouge, Louisiana at LA DOTD Headquarters after acceptance of the final report.
 - E.** The proposal should include travel to meet with the Project Review Committee for a “kick off” meeting, presentation of interim report, and presentation of the final report at a minimum. Funds budgeted for travel shall be limited to what is necessary for the conduct of the research. Funds shall not be budgeted for conference travel. Funding for technology transfer of research results are available upon request subject to LTRC approval and available funds.
 - F.** LTRC’s mission includes the support of higher education in Louisiana. Consultant and out-of-state institutions submitting proposals are encouraged to cooperate and collaborate with Louisiana universities for the purpose of sharing of knowledge and increasing transportation expertise in the academic community.
 - G.** Graduate assistance stipends are allowed. Tuition reimbursement or tuition remission rates applied to stipends are not allowed.
 - H.** To equitably answer any questions regarding this Request for Proposals, the Louisiana Department of Transportation and Development (LA DOTD) website will be updated with questions and answers and related documents regarding the project.
<http://webmail.dotd.louisiana.gov/agrestat.nsf/WebAdvertisements?OpenPage>
LA DOTD makes these documents available for informational purposes only to aid in the efficient dissemination of information to interested parties. LA DOTD does not warrant the documents against deficiencies of any kind. The data contained within this web site will be periodically updated. Interested parties are responsible to be aware of any updates. Questions regarding this RFP should be submitted in writing to the LTRC contact person. Questions must be received by close of business seven calendar days prior to deadline date.
 - I.** Consultants and business entities shall be registered with the Secretary of State in order to be able to work in Louisiana prior to award of contract.
<http://www.sos.la.gov/tabid/1011/Default.aspx>
 - J.** If Sub-Consultants/Entities are used, the Prime Consultant/Entity must perform a minimum of 51% of the work for the overall project.
 - K.** LTRC reserves the right to withhold invoice payments for delinquent deliverables as defined in the proposal.

ESTIMATED COST OF RESEARCH

\$150,000 (including cost of two systems)

ESTIMATED COMPLETION TIME

24 Months (*includes 3 months for review and approval of final report - i.e. final report due*)

21months)

LTRC PRIMARY CONTACT

Walid Alaywan, Ph.D., P.E.
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AUTHORIZATION TO BEGIN WORK:

May, 2016 (Estimated)

PROPOSAL FORMAT

All proposals are required to be formatted according to LTRC Manual of Research Procedures. Chapter 2 provides guidance on proposal development. A copy of the Manual may be downloaded from our website (<http://www.ltrc.lsu.edu/publications.html>).

PROPOSAL SELECTION

The Project Review Committee selected for this project will review, evaluate and rank all proposals received using the criteria established on the attached proposal review form.

DEADLINE FOR RECEIPT OF PROPOSALS

Ten copies of the proposal must be received by LTRC by the close of business day of April 22, 2016.

Proposals should be submitted to:

Sam Cooper, Jr., Ph.D., P.E.
Director
Louisiana Transportation Research Center
4101 Gourrier Ave.
Baton Rouge, LA 70808