



University Transportation Research Center
RFP Cover Sheet

Title: Optimizing Work Zone Lighting
Proposal Number: 2014-15-010
Sponsor: NJDOT
Date Issued: February 6, 2015
Pre-Proposal Meeting: TBD
RFP Due at NJDOT: by March 17, 2015
RFP Closing Date: **March 17, 2015**

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 Penny Eickemeyer (peickemeyer@utrc2.org, 212-650-8074) 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/resources> 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: Penny Eickemeyer, peickemeyer@utrc2.org
NJDOT has not specified a budget or timeline for this project. Please note that matching funds up to \$50,000 is available from UTRC for this RFP.

Please visit the NJDOT Research Website for important information about this RFP

<http://www.state.nj.us/transportation/refdata/research/news.shtm>

New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Request for Proposals
2014-15 Program

Date of RFP
2/6/2015

Closing Date
3/17/2015

Optimizing Work Zone Lighting

Project No. 2014-15-010

(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

At times it can be difficult to capture a driver's attention, since drivers do not always devote their full attention to the road. Both motion and visual intensity are needed to gain notice. Work zones can cause traffic congestion and pose a significant obstacle to both workers and motorists. Improving safety lighting at work zones is important because of extra visibility concerns.

Concerns related to night time highway construction can be addressed by incorporating the developing technologies and resulting new methodologies for warning lights, such as light emitting diodes (LEDs), intelligent warning lights, balloon lights and highly reflective retroreflective sheeting.

Warning light scheme innovations in work zones are needed to reduce the number of incidences. The characteristics of the warning light schemes needs to be evaluated to identify the best design for conveying the proper message to the traveling public.

A best practice guide will be developed, to identify the optimum lighting schemes to be used on various work zone scenarios, and incorporated in the Warning Light Guide used by the Department.

The quantitative benefits of this project include the decrease in work zone vehicle accidents, which costs an average of \$3,700 per incident.

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 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. The 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.

A 1 - 6 month time frame would be preferred.

6. CONTACTS:

Questions on this topic **shall not** be directed to any Research Project Manager, Research Customer, or any other NJDOT person. All questions are to be directed to Camille Crichton-Summers by sending an e-mail to Camille.CrichtonSummers@dot.state.nj.us, or by phone (609-530-5966).

A meeting may be scheduled with interested parties after the RFP's are distributed to refine the objectives and deliverables and to promote a better understanding of the research needs. **This must be requested on or before February 20, 2015.**

7. DEADLINE

**Proposals (10 single-bound copies) are due at the NJDOT Bureau of Research
no later than 5:00 p.m. on March 17, 2015**

Authorization to Begin Work: June 20, 2015 TBD

8. PROPOSAL DELIVERY INSTRUCTIONS:

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

2015 PROPOSAL-NJDOT
New Jersey Department of Transportation
Bureau of Research
1035 Parkway Avenue
Trenton, New Jersey 08625-0600

For U.S. Postal Service mail:

New Jersey Department of Transportation
ATTN: Camille Crichton-Summers
Manager, Bureau of Research
P.O. Box 600
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