



University Transportation Research Center  
RFP Cover Sheet

**Title:** **The Effect of Warm Mix Asphalt on RAP in HMA**  
Proposal Number: 2010-04  
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**

**The Effect of Warm Mix Asphalt on RAP in HMA**  
**Project 2010-04**

(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**

Both Warm Mix Asphalt (WMA) and Reclaimed Asphalt Pavement (RAP) in Hot Mix Asphalt (HMA) are being studied individually, but no work has been performed on the combination. Both products have large potential monetary and environmental benefits, however, there remains a question regarding if the combination will result in a durable material. Many of the larger HMA producers in the state are investing in Warm Mix Asphalt plants that use water to foam the asphalt and many of these plants will be operational for the current paving season. While most of research has focused on additives to produce Warm Mix Asphalt, the mix producers have decided to go in different directions with foaming technology. NJDOT has not accepted or approved this technology; research is needed to validate asphalt mixture performance before acceptance. This technology cannot be reproduced effectively in the laboratory; the study should focus on performance testing of plant produced material. The study should investigate how to analyze differing technologies and mix designs and recommend policies and procedures for acceptance of WMA with RAP.

**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. 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-Summers ([Camille.CrichtonSummers@dot.state.nj.us](mailto:Camille.CrichtonSummers@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  
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  
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