



University Transportation Research Center
RFP Cover Sheet

Title: Reclaimed Asphalt Pavement in Hot Mix Asphalt
Proposal Number: 2009-01
Sponsor: NJDOT
Date Issued: August 08, 2008
Pre-Proposal Meeting: Contact NJDOT by August 22, 2008
RFP Due at UTRC: Send to Camille Kamga by September 24, 2008
RFP Closing Date: September 26, 2008

If you plan to apply:

1. Please contact Camille Crichton-Sumners (camille.crichton-sumners@dot.state.nj.us) or Stephanie Nock (609-530-5637) 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 nadia@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, we can either provide you with a UTRC cover sheet, or you can send us the printed proposals for hand-delivery 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 \$50k are available from UTRC for projects that are relevant to UTRC's theme of "Planning and Managing Regional Transportation Systems in a Changing World." Decisions about the availability of these funds will be made pursuant to the relevance of the topic and the volume of requests.

New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Scope and Request for Proposals
2009 Program

Date of RFP
08-08-08

Closing Date
09-26-08

RAP in HMA
Project 2009-01

(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

While plant technology and the amount of fines in reclaimed asphalt pavement (RAP) present practical limitations, it is noted that overly conservative specifications may be the greatest obstacle limiting the use of RAP in Hot Mix Asphalt, (HMA). The mix design process, production realities and performance history should be the limiting factors for the percentage of RAP, not arbitrary specification limits.

Two schools of thought exist for RAP mix design. The blending chart concept assumes that a 100% blend of the virgin binder and the binder from the RAP occurs. This concept implies that all of the binder in the RAP aggregate blends with the new binder—all in less than perhaps one minute of mixing time in the HMA facility. The second school of thought is that RAP goes into the mix as a “black rock” with the RAP binder providing no binder contribution to the mix. Obviously, neither concept represents actual binder blending which occurs when RAP is added to the HMA mixture. Using a 50-50 combination of the 100% blend/black rock concept is perhaps the most reasonable, albeit conservative, approach to represent the blending which occurs. Problem Statement Needed: NJ generates significantly more RAP than it uses resulting in a large surplus of material. Using a higher percentage in HMA would reduce prices but require additional testing and quality control. The anticipated study would determine why NJ has a problem with excess RAP while others don't and explore other potential applications and well as procedures to increase the amount of RAP permitted in HMA

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.

6. Contacts:

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. 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) on or before August 22, 2008 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 26, 2008

Authorization to Begin Work: January 1, 2009--estimated or as negotiated

8. Delivery Instructions:

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

2009 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
PO Box 600
Trenton, New Jersey 08625-0600