



University Transportation Research Center
RFP Cover Sheet

Title: Carbon Footprint Estimator – Phase II
Proposal Number: 2011-13
Sponsor: NJDOT
Date Issued: August 8, 2011
Pre-Proposal Meeting: TBD
RFP Due at NJDOT: by September 2, 2011
RFP Closing Date: September 2, 2011

If you plan to apply:

1. Please contact Camille Crichton-Summers (camille.crichton-summers@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/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: Penny Eickemeyer, peickemeyer@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.

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
2011 Program

Date of RFP
August 8, 2011

Closing Date
September 2, 2011

Carbon Footprint Estimator – Phase II

Project No. 2011-13

(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

The Bureau of Systems Planning has developed a transportation carbon footprint estimator named GASCAP. This program is used to estimate a life-cycle carbon footprint due to constructing and maintaining various types of transportation projects. Due to time and budget constraints, the previous team was unable to incorporate the most recently available NJDOT and NJ Transit data for maintenance and equipment. The program also lacks a construction staging portion and inclusion of the effects of induced travel on VMT. Incorporation of construction staging research, which has been recently identified as a potential emissions reducer, would allow the tool to fully test alternative construction scenarios. Also, it has been argued that the effects of induced travel may partially negate the effectiveness of certain transportation projects, which would, in turn, increase the level of greenhouse gas production.

The objectives of this research are 1) account for the effects of induced travel-related greenhouse gas production from NJDOT projects, 2) determine how New Jersey conducts maintenance and construction staging and incorporate this data into the GASCAP program, 3) perform an analysis of completed transportation projects to determine the carbon footprint associated with staging, construction, and maintenance of those facilities, and 4) train the appropriate NJDOT and NJ Transit staff in order to test various greenhouse gas reducing strategies on future projects.

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 feasibility of incorporating induced travel, and construction staging into the model framework.

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

Provide a 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, in color, 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 7 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. However, 12 months may be preferable for the customer.

6. CONTACTS:

Questions on this topic **shall not** be directed to any Research Project Manager, Research Customer, or any other NJDOT person. All questions shall be addressed **through email to** Camille Crichton-Sumners (Camille.CrichtonSumners@dot.state.nj.us) before close of business, August 24, 2011. Responses will

be posted on the following internet page:

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

Copies of GASCAP and related material will be provided upon request.

7. DEADLINE

<p>Proposals (10 single-bound copies) are due at the NJDOT Bureau of Research No later than 5:00 p.m. September 2, 2011</p>
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Authorization to Begin Work: 10/1/11-- estimated or as negotiated

8. DELIVERY INSTRUCTIONS:

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

2011 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-Sumners
Manager, Bureau of Research
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Trenton, New Jersey 08625-0600