University of Florida
Center for Multimodal Solutions for Congestion Mitigation (CMS)

2010-2011
Request for Pre-Proposals

Issue Date: September 29, 2009

Pre-Proposals Due: November 1, 2009 by 5 p.m.
(Submit via E-mail to iaviles@ce.ufl.edu)

Full proposals will be invited by November 15, 2009

Background

The Transportation Research Center (TRC) at the University of Florida was selected to receive a Tier 1 University Transportation Center (UTC) Grant from the Research and Innovative Technology Administration (RITA) of the U.S. Department of Transportation (USDOT). The theme of the Center is Multimodal Solutions for Congestion Mitigation. The TRC will receive up to $1 million per year and matching funds from non-federal sources at least equal to the USDOT grant amount. These funds will be used in the categories of research, education and technology transfer. This announcement invites pre-proposals for each of these categories for proposals starting in the 2010 calendar year.

These pre-proposals require submission of a two-page statement of work (see Pre-Proposal Submission Form at http://cms.ce.ufl.edu/research/request_for_proposals.php) and preliminary budget, which will be evaluated by the Center’s Project Review Board (PRB). A subset of these pre-proposals will be selected and invitations for full proposals will be sent by November 15, 2009. The following sections provide additional information on research topics, educational priorities and technology transfer activities that proposers should focus on.

Research Priorities

The Center’s theme is Multimodal Solutions for Congestion Mitigation. Its strategic plan calls for faculty and students at UF to conduct advanced research within four focus areas: 1) Recurrent congestion; 2) Non-recurrent congestion; 3) Multimodal strategies; and 4) Demand modeling. Specific research projects may address one or more of these areas. Lists of potential projects by area are provided below:

1) Recurrent congestion:
• Congestion modeling and mitigation strategies inside and around “hubs” such as seaports and airports;
• Travel time reliability for freight and people between selected hubs, and across selected corridors;
• Streamlining of freight- and traveler-security screenings to minimize delays;
• Congestion pricing strategies;
• Assessing the effectiveness of policies that address congestion (e.g., concurrency, travel demand management, travel supply management, congestion management systems, etc.);
• Modeling of the interactions between access management/local connectivity and traffic congestion (opportunities of internal capture and other strategies to reduce traffic on major arterials);
• Strategies to promote non-motorized (walking and biking) travel;
• Assessment of advanced technologies and Intelligent Transportation Systems with respect to congestion mitigation;
• Truck-movement bottlenecks in the Strategic Intermodal System (SIS);
• Driver characteristics for various driver populations (such as older drivers) and their impacts on highway capacity; and
• Improvement of traffic signal systems to reduce delays in urban corridors.

2) Non-recurrent congestion:
• Congestion modeling and mitigation of emergency transport of individuals and supplies during disasters (including evacuations prior to hurricanes);
• Congestion modeling and mitigation strategies during special events (such as football games) and around activity generators (such as cruise ships); and
• Modeling and mitigation of congestion due to work zones and incidents.

3) Multimodal strategies:
• Multimodal travel time estimation/reliability in urban corridors;
• Multimodal/intermodal travel time estimation/reliability across hubs;
• Multimodal data warehouse development and utilization as a resource for transportation professionals;
• Strategies for intermodal connectivity of various transportation modes at SIS hubs;
• Optimization of vehicle flow in the presence of high pedestrian and bicycle flow; and
• Congestion mitigation strategies to increase supply-chain productivity.

4) Demand modeling:
• Strategies for “repackaging” freight and traveler demand to mitigate congestion;
• Travel demand forecasting for hubs;
• Behavioral responses of travelers to congestion levels and mitigation strategies;
• Development of alternative land use/transportation configurations and their impacts on roadway capacity; and
• Impacts of Information and Communication Technologies (ICTs, such as internet, e-mail, and cell phones) on travel patterns.
One of the strategic goals of the center is to support national and state initiatives. Proposers should be familiar with the USDOT’s Strategic Plan for information on initiatives at the Federal level (http://www.dot.gov/stratplan2011/). For initiatives at the state level, information on the FDOT's Strategic Intermodal System (SIS) is available at http://www.dot.state.fl.us/planning/SIS/strategicplan/, while information on the 2025 Florida Transportation Plan can be found at (http://www.dot.state.fl.us/planning/FTP/)

**Education**

Education proposals that focus on developing new educational opportunities or enhancing existing programs as related to the Center’s theme will be considered. Examples include the development of new interdisciplinary courses and programs, the development of distance education courses, and the enhancement of existing courses and activities.

**Technology Transfer**

The CMS goal in this area is to disseminate research results to potential users in a form that can be directly implemented, utilized, and applied. Proposals that develop new initiatives or enhance existing programs are highly encouraged.

**Eligibility**

Only faculty and staff at the University of Florida are eligible to submit pre-proposals and serve as Principal Investigators (PIs). Collaboration with researchers from other institutions is acceptable, however, the PI of the project should be a UF faculty or staff member. Proposals with multiple investigators must identify a lead PI. PIs may submit more than one proposal. To avoid conflict of interest, members of the CMS Internal Steering Committee and Project Review Board may submit proposals but are not allowed to be present during discussions and decisions related to their projects. As a means to develop innovative multimodal solutions to congestion problems, the CMS encourages research that is multi-disciplinary and collaborative. Only pre-proposals received by the deadline will be forwarded to the PRB for review.

**Pre-Proposal Evaluation Criteria**

The PRB will use the following criteria in reviewing pre-proposals:

1. What is the extent to which the problem statement addresses recurring and non-recurring congestion problems through multimodal solutions?
2. Does the project support and involve graduate and/or undergraduate students?
3. Does the project provide opportunities for external partnerships with public or private agencies?
4. Does the project provide opportunities for interdisciplinary collaboration?
5. Is the topic important in advancing the state of the art in congestion mitigation?
6. Is the proposed work original?
7. How well conceived and organized is the problem statement?
8. Is the problem statement realistic in terms of scope vs. resources?
9. How qualified is the proposer (or team of proposers) to carry out the proposed work successfully?

10. Are there technology transfer opportunities?

Scoring of the proposals will consist of:

1) Excellent: overall outstanding proposal; deserves highest priority for support.
2) Very Good: high quality proposal in nearly all respects; should be supported if funding is available.
3) Good: a quality proposal worthy of support.
4) Fair: proposal lacking in one or more critical aspects; key issues need to be addressed. The proposal needs revision in order to receive funding.
5) Poor: proposal has serious deficiencies and should not be funded.

**Budget**

**Solicitation of Pre-Proposals**

Funding for most projects is expected to be in the range of $50,000 - $150,000; however, smaller and larger projects will be considered as well. Multiyear proposals will be considered, but reapplication for subsequent years is necessary. Decisions on funding multiyear proposals will depend on the availability of CMS funds and the satisfactory progress of the project. Funding requests must include overhead. Projects should be budgeted to begin on or after February 1, 2010.

Proposals should include the following:

1. Pre-Proposal Submission Form
2. An estimated budget total and justification, which includes the overhead rate
3. Amount that will be cost shared and the source, if any.

*Note: For budget-related questions, contact your department’s grants specialist or administrator*

**Project Monitoring**

*Progress Reports.* The PI for each funded project will be responsible for submitting quarterly reports containing information that will provide RITA-reporting values for the CMS and assist in producing the Center’s annual report. For example, information on research findings, publications/presentations (papers submitted to journals or conferences based on the project research), student involvement, and other metrics that the CMS needs for the semi-annual reporting to the federal government should be provided. Quarterly reports for each funded project must include a summary of the current progress, research findings, if applicable, papers or presentations, and how the project is proceeding in terms of schedule and budget. The CMS will provide style guidelines that will be posted on the Center’s Web site (http://cms.ce.ufl.edu/research/for_pis_only.php) to ensure consistency in the presentation of the progress reports.
Papers and Presentations. It is expected that projects funded by the CMS will generate high-quality research and publishable results. CMS expects that findings be published in refereed journals and presented at meetings or conferences. Findings from all CMS-funded research will be presented by faculty and students at the CMS annual conference, which will be part of the annual External Advisory Board (EAB) meeting (sometime in March of each year). Accepted research papers and presentations will be posted on the CMS Web site (http://cms.ce.ufl.edu/research/), and will be listed in the Center’s annual report.

Final Project Report. PIs will produce and submit a draft of the final report to the CMS Project Review Board using the CMS style guidelines posted at http://cms.ce.ufl.edu/research/for_pis_only.php. This draft final report will be peer-reviewed by up to four reviewers, including one U.S. DOT and one FDOT reviewer. When applicable, at least one representative of the matching/partner entity will be asked to provide a peer-review of the draft final report. PIs will be responsible for incorporating peer-review comments into the final report. Each PI’s performance with respect to schedule and budget will be considered in future funding decisions. Final reports will be reviewed by the CMS Center Manager to ensure standard formatting requirements are met. When a report is produced as part of a joint effort, CMS will work with the matching/sponsoring entity to ensure that the report will meet the requirements of all partners. All final reports will be posted on the CMS Web site.

The Application Process

The process begins with the submission of a two-page pre-proposal summary and estimated budget total with justification. Pre-proposals will be evaluated by the CMS Project Review Board (PRB), and a short list of accepted projects will be generated from the submission pool. PIs on the short list will be contacted for a full proposal submission. Instructions for the full proposal submission process will be given at that time and will also be posted at http://cms.ce.ufl.edu/research/request_for_proposals.php. Both the pre-proposal and the budget are to be submitted via e-mail to the Center Coordinator/Manager at iaviles@ce.ufl.edu. The PRB will make final funding decisions based on CMS priorities and external evaluation results. The PRB may decide to fund a project as proposed, fund with scope and/or bottom line budget total modifications, or not to fund. The PRB/CMS reserves the right to request funding modifications on selected proposals.

Getting started:

1. Go to the CMS Web site http://cms.ce.ufl.edu and download the Pre-Proposal Form and complete all sections.
2. Prepare an estimated budget total and justification.
3. Submit the Pre-Proposal Form along with the budget and justification via e-mail to iaviles@ce.ufl.edu by the published receipt deadline: November 1, 2009 by 5:00 p.m.

What to expect:

1. An e-mail confirmation from the CMS Manager/Coordinator indicating receipt of the pre-proposal packet.
2. In approximately 3 weeks, you will be notified of the CMS's decision.
3. If your proposal has been selected, you will be invited to submit a full proposal. Information on full proposal preparation is posted on the CMS Web site. The deadline to submit full proposals is: December 31, 2009 by 5:00 p.m.
4. Full proposals will be reviewed by the CMS Project Review Board and sent to three to four external reviewers. Reviews will be confidential.
5. Confirmation of matching funds, if applicable, will be required along with the full proposal. PIs should provide the CMS with a letter from the matching source, indicating the amount of the match and the amount requested from the CMS. Awards will not be made if this step is not completed.
6. Awards will be announced in late January or early February 2010.

Contact Information

For more information, contact the following CMS personnel:

Ms. Ines Aviles-Spadoni, Center Manager/Coordinator, 352-392-9537, Ext. 1409, E-mail iaviles@ce.ufl.edu

Dr. Lily Elefteriadou, Center Director, 352-392-9537, Ext. 1452, E-mail elefter@ce.ufl.edu

Visit: http://cms.ce.ufl.edu