

Transportation Informatics
Tier I University Transportation Center
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Transportation Informatics
(TransInfo)
Tier I University Transportation
Center
Request for Proposals

Due Date: August 31st, 2015



U.S. Department of Transportation
Research and Innovative Technology
Administration



TransINFO
University Transportation Center

TRANSPORTATION INFORMATICS TIER I UNIVERSITY TRANSPORTATION CENTER OVERVIEW

Transportation Informatics Tier I University Transportation Center (referred to hereafter as *TransInfo*) is a consortium of four national universities led by the State University of New York at Buffalo (UB). Partner Universities are: Rensselaer Polytechnic Institute (RPI), George Mason University (GMU), and the University of Puerto Rico-Mayagüez (UPR-M). In addition, the universities are partnering with CUBRC, a not-for-profit, research corporation headquartered in Buffalo, NY, which will serve as a non-member partner.

The volume, variety, quality and resolution of transportation-related “Big Data” currently present the transportation community with an unprecedented opportunity for improving system performance. Specifically, the wealth of data can be studied, analyzed, and mined for insights and applications that can improve the efficiency, safety, sustainability, resiliency and reliability of the transportation system, and can inform and guide transportation policy.

TransInfo’s mission is to undertake research, education, training, and technology transfer activities aimed at realizing the full potential of “*Big Data*” and *Transportation Informatics* in: (1) improving transportation system performance; and (2) guiding investments and policies. We anticipate that the activities performed under the umbrella of the TransInfo Center will advance the state of knowledge of the emerging field of transportation informatics, and will better prepare and educate both the existing transportation workforce, as well as the next generation of transportation professionals in how to harness the power of “Big Data” to address transportation challenges.

What is Transportation Informatics?

Informatics is a discipline broadly defined as the *science of information*, the *practice of information processing*, and the *engineering of information systems*. Within this broad field, TransInfo’s focus is on the sub-discipline of “*Data Mining & Information Analysis*” which refers to the collection, analysis, and visualization of complex data in support of, in our case, the planning, design, management, operations, and maintenance of the surface transportation system. This sub-discipline, referred to herein as “Transportation Informatics”, employs a wide variety of methods, tools and models, including methods from Artificial Intelligence (AI), Machine Learning, Statistics, and Database Systems. When these methods are applied to large datasets (these are now often referred to as “Big Data”) that have been appropriately compiled and fused together, the result is invaluable and actionable information that can help improve transportation systems efficiency, safety, sustainability and resiliency. The insights gained can also help inform and guide transportation planning, investment decisions, and transportation policies.

PROJECT DESCRIPTION

TransInfo UTC is issuing the current “Request for Proposals” (RFP) to its members in search of proposals that would further support its mission defined above. Specifically, each Partner University* is eligible to receive grants of up to \$50,000 for a year-long project. If more than one Partner University* collaborates, each is eligible to receive up to \$50,000 for a year-long project. The funds are intended to support one



graduate student (tuition and stipend) for the 2016 calendar year (January 1, 2016 – December 31, 2016), plus funds to support faculty and graduate student travel. Funding will be made on a matching basis with a ratio of \$1.00 TransInfo to \$.50 university match. Matching funds may not be federal dollars.

PROJECT REQUIREMENTS

TransInfo projects are selected for funding based on the following criteria:

- Within the scope of the TransInfo focus area of data mining and information analysis in the field of transportation informatics
- Scientific and technical merit
- Effectiveness of technology transfer plan
- Potential impact on TransInfo performance indicators **
- Inter-campus collaboration among Partner Universities*
- Collaborative initiatives with industry, community, and/or government partners
- Appropriateness of budget items within TransInfo guidelines
- Available matching funds***
- Ability to initiate and complete project between January 1, 2016 – December 31, 2016

WHO SHOULD APPLY?

TransINFO proposal / application submission is open to any faculty member of a Partner University* who meet the “Project Requirements” above.

HOW TO APPLY

Application proposals should be no more than eight pages in length and must include (1) introduction and problem statement, (2) scope of work including planned tasks and schedule, (3) methodology, (4) technology transfer plan, (5) impact on UTC performance metrics**, (6) intellectual and global merit, and (7) budget including the source of matching funds. Supplemental to the application, and not included in the eight page limit, please also include resumes / CVs and any letters of support or recommendations.

Send your application, via email to TransInfo Director, Adel Sadek, Ph.D. (asadek@buffalo.edu) with the subject line “TransInfo RFP Application” to be received no later than 11:59 PM on August 31, 2015.



PROCESS OVERVIEW

Application

The request for proposals is issued in May, 2015 with an application due date of August 31st, 2015.

Review Period

All applications will be reviewed by external reviewers who are uniquely qualified to evaluate projects and comment on appropriateness of work being proposed through the TransInfo funding vehicle. External reviewers may include state department of transportation representatives and outside academics. An internal committee, comprised of current TransInfo researchers, will make final funding decisions based on external reviews.

Award Announcements

Award announcements will be made directly to the applicant prior to the project's execution. Awards issued in response to proposals submitted no later than August 31st, 2015 will be announced by the end of November, 2015 pending availability of funding and TransInfo approval.

Post-Award

Upon receiving project approval, A TransInfo representative will initiate account set-up and work with the award recipient to appropriate funding. Reporting of performance indicators is required for a minimum of one year following completion of the funded project.

BUDGET GUIDELINES

TransInfo funding can be used, exclusively, to cover:

- Tuition and stipend for one graduate student for the 2016 calendar year
- Travel associated with the awarded project. Travel expenses are defined as air or ground transportation, lodging, and per diem based on the U.S. General Service Administration (GSA) guidelines

Both TransInfo and university matching funds must be expended by the close of the calendar year, December 31, 2016.

TRANSINFO CONTACT INFORMATION

For questions, please contact Adel Sadek, Ph.D.

Professor

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**Partner Universities include the State University of New York at Buffalo (UB), Rensselaer Polytechnic Institute (RPI), George Mason University (GMU), and the University of Puerto Rico-Mayagüez (UPR-M).*

*** Performance indicators include number of publications and presentations, education and training, technology transfer, and outreach.*

**** TransINFO matching ratio is \$1.00 TransINFO to \$.50 university match. Matching funds may not be federal dollars.*



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