TransInfo
Tier I University Transportation Center

Request for Proposals
Fall, 2016

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 2017 – 2018 academic year (June 1, 2017 – May 31, 2018), 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.

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

PROJECT REQUIREMENTS

Schedule

- Plan for a project start date of June 1, 2017 or later
- All research must be completed no later than May 31, 2018
- Extensions will not be awarded due to reporting requirements of TransInfo UTC

Reporting Considerations

Investigators must be responsive to TransInfo's Director and staff in terms of communication, reporting and providing inputs. Reports will include:

- Project description (due two weeks after project award)
- Semi-annual progress reports
- Lists of associated papers and presentations, media mentions, other technical transfer
- Final project report in UTC format (due 45 days after project completion)

PROPOSAL EVALUATION

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.

Projects will be selected for funding based on the following criteria, rated on a scale of 1 - 10:

- Within the scope of the TransInfo focus area of data mining and information analysis in the field of transportation informatics
- Quality, clarity, and feasibility of research plan
- Qualifications of Principal Investigator(s)
- Scientific and technical merit
- Justification and allocation of resources
- Ability to initiate and complete project between June 1, 2017 and May 31, 2018
- Available matching funds***
- Education and workforce development (professional development opportunities, seminars, workshops, trainings, etc.)
- Collaborative initiatives with industry, community, and/or government partners
- Inter-campus collaboration among Partner Universitites*
- Potential for resulting products**
- Effectiveness of technology transfer plan
- Technology transfer (transfer of project results to entities in government or industry, adoption of new practices, or instances where research has led to the initiation of a start-up company)

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

BUDGET GUIDELINES

TransInfo funding can be used, exclusively, to cover:

- Tuition and stipend for one graduate student for the 2017 – 2018 academic 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 May 31, 2018.

WHO SHOULD APPLY?

TransInfo proposal / application submission is open to any faculty member of a Partner University* who can meet the project requirements and evaluation criteria above.

HOW TO APPLY

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 a carbon copy to Ria Iliadou (eiliadou@buffalo.edu) with the subject line "TransInfo RFP Application" to be received no later than 11:59 PM on March 1, 2017.

PROCESS OVERVIEW

Application
The request for proposals is issued in December, 2016 with an application due date of March 1, 2017.

Review Period
All applications will be reviewed by external reviewers between March 1, 2017 and May 1, 2017.

Award Announcements
Award announcements will be made directly to the applicant in May, 2017.

Post-Award
Upon receiving project approval, A TransInfo representative will initiate account set-up and work with the award recipient to appropriate funding.

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

TransInfo
Tier I University Transportation Center

TRANSINFO CONTACT INFORMATION

_____

For questions, please contact
Adel Sadek, Ph.D.
Director, Transportation Informatics Tier I University Transportation Center
University at Buffalo
233 Ketter Hall
Buffalo, NY 14260
Office: 716-645-5465
Email: asadek@buffalo.edu

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

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