



NCTR

NATIONAL CENTER for
TRANSIT RESEARCH

**Program Progress Performance Report
for University Transportation Centers
National Center for Transit Research (NCTR)
University of South Florida
a Tier I Transit Focused University Transportation Center**

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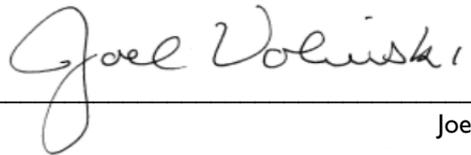
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Grant Period: January 1, 2012–January 31, 2014

Reporting Period: July 1, 2012–December 31, 2012, Second 6-Month Progress Report

Signature of Submitting Official: _____



Joel Volinski, NCTR Program Director

Accomplishments

What are the major goals and objectives of the program?

The major goals of the National Center for Transit Research are:

- To select and conduct research intended to make public transit and alternative means of transportation safe, efficient, effective, desirable, and secure. This will be done by receiving input from the Federal Transit Administration, the Florida Department of Transportation, and other partnering State DOT's and transit professionals from throughout Florida and the nation. Research will be subject to peer review.
- To contribute to the education and preparation of the next generation of transportation professionals and to workforce development initiatives that will help attract, retain, and train employees in the fields of public transportation in particular.
- To disseminate the results of research as broadly as possible to fulfill the goal of making public transportation and alternative forms of transportation safe, efficient, effective, desirable, and secure. In addition, NCTR will continue to invest in projects that result in new patents and licenses that advance the quality of transportation services while creating new technology and employment opportunities.

What was accomplished under these goals?

It is important to note that while the National Center for Transit Research was notified of its grant award in January 2012, NCTR is still engaged in the last year of its prior UTC grant that does not expire until July of 2013. In addition, this was the first time NCTR had been constituted as a national consortium that includes the University of Illinois at Chicago, North Dakota State University, and Florida International University. Consequently, much of the effort in the first six months of this grant was used to formalize the agreements and sub-agreements among consortium members and to identify the detailed research projects that would be undertaken once the agreements are in place.

The agreements between USF and NDSU and USF and FIU were completed during this first six months, while the agreement between USF and UIC will be completed by the end of July 2012.

During the second six month reporting period (July 1, 2012 – December 31, 2012) projects were identified and scopes finalized for research that will be conducted under this grant. USF as the lead institution has identified all of the research projects it will lead or participate in. Provided below is a list of the projects funded by the Florida Department of Transportation (FDOT) that will be undertaken at USF:

1. Florida TDM Clearinghouse - \$143,325
2. Improved Traffic Control Measures to Prevent Incorrect Turns at Highway-Rail Grade Crossings and Pilot Testing - \$99,033.88
3. Impacts Of Dialysis Transportation On Florida's Coordinated Public Transportation Programs - \$115,100
4. Analysis of Transit Contracting Models and proper incentives for long-term success - \$137,074

5. Bus Operator Safety Critical Issues Examination and Model Practices - \$242,005
6. Best Practices in enhancing transit in multimodal transportation elements - \$174,871
7. Evaluation of rear-end bus collisions and identifying possible solutions and assessing the effectiveness of bus pull out bays in reducing collisions - \$150,000
8. Investigation, quantification and recommendations - performance of alternatively fueled buses - \$140,000

The projects listed above total \$1,201,408.88 which is being provided as a cash match from the Florida Department of Transportation. Principle Investigators have been identified for all of these projects and scopes of services have been finalized. Work has started on all 8 projects, but progress has been limited to initial stages of research including literature reviews and survey development.

In addition, the following projects are anticipated to be undertaken by UIC and NDSU with the cash match they will receive from the Illinois Department of Transportation and the North Dakota Department of Transportation:

- Integration of Transportation Modes: A Macro-level Look at How Best to Integrate Transit, Intercity Passenger Rail, and Highway Infrastructure in a Large Urban Setting to Increase Air Quality, Decrease Congestion, Improve Quality of Life, and make Alternative Modes of Transportation Available and Attractive Options
- Ranking of the Northeastern Illinois New Starts Transit Potential Expansion Projects, both for Metra and CTA
- Developing an Independent Monitoring Process by IDOT of the Chicago RTA Region's Transit/rail Infrastructure Condition
- Implementing North Dakota's Long-Range Transportation Plan
- Estimating Demand for Intercity Transit Services and the Optimal Level of Service

Research projects to be undertaken with the \$3,500,000 in federal funding have also been identified and include the following:

1. National Transit Network Level of Service Data and Analysis – USF as lead with assistance from UIC
2. Adapting Transit to Climate Change Impacts – UIC as the lead with assistance from USF
3. Transit Service Reliability: Analyzing Automatic Vehicle Location (AVL) Data for On Time Performance and to Identify Conditions Leading to Service Degradation – FIU as the lead with assistance from USF
4. Evaluating the State of Mobility Management and Human Service Transportation Coordination – NDSU as the lead with assistance from USF and UIC
5. Advanced Bus Specification Research – Penn State as the lead with assistance from USF
6. Improving Veteran Mobility in Small Urban & Rural Areas – NDSU
7. State of Good Repair for Small Urban and Rural Transit Agencies – NDSU
8. 2013 Rural Transit Fact Book - NDSU

9. Impacts of Technologies on Transit Ridership – NDSU
10. Cost-Benefit Analysis of Rural and Small Urban Transit – NDSU
11. Analysis of Non-Emergency Medical Transportation - NDSU
12. Texas Transportation Institute Annual Congestion Study: Measuring Transit’s Impact – USF
13. Transit Safety Research and Technical Assistance Center – USF
14. Alternative Fuels Clearinghouse – USF
15. Transportation Demand Management and Telework Clearinghouse – USF
16. GIS in Transit Clearinghouse - USF
17. Development of Training Manuals for Transit Planning and Scheduling – FIU
18. Research on the challenges to creating transit value capture by linking transit investment, station area planning, attraction of appropriate development and the application of effective value capture tools – UIC
19. The Impact of Discounted Pass Programs in Cultivating Transit Loyalty Amongst Youth – UIC

The process of selecting projects to be undertaken with both federal and state matching funds was delayed due to NCTR’s desire to receive input and ideas on research projects of interest to the Federal Transit Administration. FTA established an internal process to request and receive research proposals from its staff that could be submitted to the two transit-focused UTCs. This process was not completed until May of 2012. Since that time, draft scopes have been developed for all of the projects identified by FTA that will be undertaken by the NCTR consortium (see projects 1 through 5 above). All projects are scheduled to be completed by January 2014.

What opportunities for training and professional development has the program provided?

- Dr. Jill Hough of NDSU and Dr. Steve Polzin of USF continued to develop modules that will be incorporated into a national transit course that will be able to be delivered by any transportation faculty at universities around the country.
- NDSU continued preparations for delivering training to small urban and rural transit professionals throughout the country through the federal funds they will receive.
- USF continued to make plans for its GIS in Transit Conference that will be held in 2013 in Washington DC. The conference is now a joint partnership with the Transportation Research Board.
- The draft scopes for all the research projects listed above incorporate student assistants.
- Funds have been set aside to establish an NCTR Scholars program to attract students with distinct interest in public transportation careers to attend USF, and discussions with other USF faculty and colleges have taken place to inform them of this opportunity. Flyers were sent out to universities, and will be made available at the TRB Annual Meeting
- FIU prepared a draft scope for the project of developing a training manual for transit planning and scheduling.
- USF conducted 10 free webcasts in its bi-weekly series to share the results of transportation research with transportation professionals from all over the nation and the world.

- USF/NCTR student Kyle Tanaguchi (also our Student of the Year) was accepted as an intern at FTA's central office for a six-month term which ended in December 2012. This was a very successful internship for Kyle, the NCTR program, and FTA. Kyle was able to turn this FTA internship and his skills developed through NCTR research into a full-time transit engineering position at Vanasse Hangen Brustlin, Inc. in Orland Florida.

How have the results been disseminated? If so, in what ways?

Since the research projects have only recently been identified, there is nothing to report. However, all Principle Investigators have been given instructions to consider how the results of their research will be shared even as they are preparing their scopes for the projects. They are being encouraged to include review panels that are comprised of professionals who are most likely to be interested in the results and in a position to implement findings. PIs have also been instructed to identify opportunities to share results of research through webinars, conferences, and direct notification to lists of professionals that they will develop in advance of conducting the research. USF's webcasts are free to all participants and can be viewed in real time, or viewed as a recording at the viewer's convenience. An average of approximately 100 people view each webcast.

What do you plan to do during the next reporting period to accomplish the goals and objectives?

During the next three months the scopes for all projects will be finalized and where necessary all projects will be placed under contract with the providers of local match. USF will complete the process of establishing its sub-agreements with its consortium partners for not just administrative budgets, but for all research project budgets as well. Scopes for research projects will be peer reviewed. Planning for the training to be provided by NDSU to small urban and rural transit agencies will be finalized, while planning for the GIS in Transit conference to be held in 2013 will be continued. The development of training modules for the national public transit course will continue. The search for student candidates as NCTR Scholars will continue. The NCTR website will be expanded to include the scopes for all projects being undertaken by all four consortium members and updated to reflect the key personnel from all consortium partners.

Products

Due to NCTR's desire to be responsive and helpful to the Federal Transit Administration and delaying the identification of research projects until it received their input, no research has been completed and there are no research project products to report at this time. The information provided above describes the status of activities undertaken to date. While NCTR researchers have made various presentations during this six month period, their presentations describe research results generated from the prior grant which is still open. Almost a dozen patent applications are also pending at USF, but those applications are also based on research conducted through the prior grant.

Publications

USF dedicated a special edition of the Journal of Public Transportation to the subject of small urban and rural transit issues. Dr. Hough of NDSU is serving as guest editor for this edition and received numerous papers submitted for inclusion in this special edition of the Journal which was published in October 2012 in conjunction with the 20th National Rural Public and Intercity Bus Transportation Conference to be held in Salt Lake City, Utah. **MORE DETAIL...**

Websites

The website for NCTR (www.nctr.usf.edu) has been in place since 1999 and remains very active. It includes information on the center's history, key personnel, research activities, links to all reports and webinars, the various programs and clearinghouses hosted by NCTR, all volumes of the Journal of Public Transportation, and a section on career opportunities in transit. It has been updated to include the contact information for the directors of the research centers at NDSU, FIU, and UIC. The links to their websites (<http://www.surtc.org/>; <http://lctr.eng.fiu.edu/>; <http://www.utc.uic.edu/>) have also been included. Those websites also include information on key personnel, active research, downloadable reports, student participation in their programs, and webinars that can be viewed. The NCTR website will continue to be updated to include all the projects to be undertaken by all consortium partners through the federal grant and matching funds.

Technologies or techniques – Nothing to report.

Inventions, patent applications, and/or licenses – while there have been licenses and patents applied for during this six month period, all this activity was due to actions under the previous grant.

Other Products – As is the case with almost all other subjects for this reporting period, all products that have been produced during this six month period have been conducted under previous grant funds, and not with this new grant. Virtually everything done under the new grant has been in preparation to undertake research, training, education, or information dissemination that will take place over the next 12 months.

Participants and Collaborating Organizations

What organizations have been involved as partners?

The National Center for Transit Research (NCTR) is a consortium of four universities as follows:

- University of South Florida located in Tampa, Florida, featuring the National Center for Transit Research (NCTR), a Tier I UTC at the Center for Urban Transportation Research, contributing to the program financial support and collaborative research.
- North Dakota State University located in Fargo, North Dakota, featuring the Small Urban & Rural Transit Center (SURTC), a Title III UTC, contributing to the program financial support and collaborative research.

- University of Illinois at Chicago located in Chicago, Illinois, featuring the Urban Transportation Center (UTC) in the College of Urban Planning and Public Affairs, contributing to the program collaborative research.
- Florida International University located in Miami, Florida, featuring the Lehman Center for Transportation Research (LCTR), contributing to the program collaborative research.

The Federal Transit Administration – The FTA has been a fully engaged partner not only in its role as the source of federal funds for the program for the two transit-focused UTCs, but as a source of ideas for research projects to be undertaken. As noted earlier, FTA established an internal process to solicit, screen, and submit research ideas to the two transit-focused UTCs. Seven such proposals were submitted. The National Center for Transit Research at USF will lead on four of those seven projects, while the Mineta National Transit Research Consortium will lead on the other three. NCTR researchers have had extensive teleconferences with FTA staff that developed the proposed projects to finalize language for the official scopes. FTA staffs have also agreed to serve as peer reviewers of the projects. As noted earlier, FTA is also hosting one of USF’s students as an intern in their Washington offices.

The Florida Department of Transportation – FDOT has also been a vital partner in the development and selection of the research that will be conducted by USF researchers under this grant. FDOT is providing a full cash match to USF’s portion of the grant. It is also providing project managers for each project to manage and oversee the completion of each project. Similar arrangements have been made with the Illinois and North Dakota Departments of Transportation. IDOT is providing a full cash match to UIC’s portion of the grant, while NDDOT is providing approximately one-third cash match.

The Florida Public Transportation Association – FPTA, in conjunction with FDOT, is also going to collaborate on a number of research projects through the engagement of various public transit networks (e.g., Operations Network, Planning Network, Maintenance Network) to serve as advisors and peer reviewers of research projects. Several Florida transit properties will also serve as case studies for some of the research projects.

Different organizations have lent their considerable experience and expertise to NCTR by agreeing to have representatives serve on the NCTR Advisory Board. Included among the more prominent are:

Michael Melaniphy, President – American Public Transportation Association

Dale Marsico, President – Community Transportation Association of America

Dr. Mary Leary, Senior Director – Easter Seals Project Action

Have other collaborators or contacts been involved?

Most of the significant collaboration that will occur has been described in previous sections. It should be emphasized that all consortium members will be collaborating on the first four projects listed in the federal projects to be undertaken. NCTR will also collaborate to a small degree with the Mineta National Transit Research Consortium on one project (Advanced Bus Specifications). USF will also

request peer review from Florida State University in the conduct of the project dealing with contracting for public transit services. Most of the research will be conducted by full time research faculty at the four consortium centers, along with students. However, there will also be interdepartmental/interdisciplinary coordination on a number of projects that will involve tenured faculty from the disciplines of Public Health, Economics, Urban Planning, and Civil Engineering. USF will also seek guidance from tenured faculty in Australia (Dr. Graham Currie) that have extensive background in researching public private partnerships and contracting for transit services.

Impact

Since the research projects have only recently been selected and started, there really is nothing to report under the new grant in terms of results for any of the categories listed under "Impacts." However, it is important to state that NCTR has been a leader in examining the impact of its research and will have all Principle Investigators very aware of the need to not only conduct high quality research, but to also be committed to helping ensure that the research results get into the hands of those most likely to be interested in implementing the results.

What is the impact on the development of the principal discipline(s) of the program?

Nothing to report.

What is the impact on other disciplines?

Nothing to report.

What is the impact on the development of transportation workforce development?

Nothing to report.

What is the impact on physical, institutional, and information resources at the university or other partner institutions?

Nothing to report.

What is the impact on technology transfer?

Nothing to report.

What is the impact on society beyond science and technology?

Nothing to report.

Changes/Problems

Nothing to report for now. It is anticipated that as activity increases significantly in all areas of the grant activities, we will need more than two weeks to collect information from all consortium partners and complete this report on a quarterly basis. We would request at least a month to be able to give a complete and accurate performance report given the fact that over 35 projects will be in various phases of completion.

Otherwise, there is nothing to report under any of the categories of "Changes/Problems." We look forward to providing more robust performance reports in the future.

Changes in approach and reasons for change

Nothing to report.

Actual or anticipated problems or delays and actions or plans to resolve them

Nothing to report.

Changes that have a significant impact on expenditures

Nothing to report.

Significant changes in use or care of human subjects, vertebrate animals, and/or biohazards

Nothing to report.

Change of primary performance site location from the originally proposed

Nothing to report.

Additional information regarding Products and Impacts

Outputs

Nothing to report.

Outcomes

Nothing to report.

Impacts

Nothing to report.

Special Reporting Requirements

Nothing to report.