

1-1-2015

# Transit Focused UTC - January 1, 2015–June 30, 2015

NCTR

Follow this and additional works at: [https://scholarcommons.usf.edu/cutr\\_reporting\\_transit\\_focused](https://scholarcommons.usf.edu/cutr_reporting_transit_focused)

---

## Scholar Commons Citation

NCTR, "Transit Focused UTC - January 1, 2015–June 30, 2015" (2015). *NCTR Transit Focused UTC*. 19. [https://scholarcommons.usf.edu/cutr\\_reporting\\_transit\\_focused/19](https://scholarcommons.usf.edu/cutr_reporting_transit_focused/19)

This Program Progress Performance Reports (PPPR) is brought to you for free and open access by the National Center for Transit Research (NCTR) Archive (2000-2020) at Scholar Commons. It has been accepted for inclusion in NCTR Transit Focused UTC by an authorized administrator of Scholar Commons. For more information, please contact [scholarcommons@usf.edu](mailto:scholarcommons@usf.edu).



# 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**

**Grant Number DTRT12-G-UTC22**

**DUNS and EIN #:** DUNS 06-968-7242, EIN 59-3102112 -F5 (Tampa Campus)

**Submitted to:** Amy Stearns, University Program Specialist  
Office of Research, Development and Technology  
Research and Innovative Technology Administration  
U.S. Department of Transportation  
Mail Code RDT-30

1200 New Jersey Ave, SE, Room E33, Washington, DC 20590-0001  
(202) 366-4957, fax (202) 366-3671. amy.stearns@dot.gov

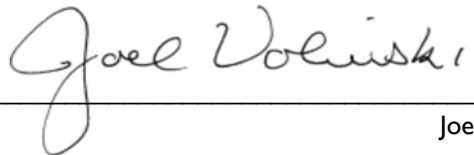
**Submitted by:** Joel Volinski, NCTR Program Director  
National Center for Transit Research  
Center for Urban Transportation Research, USF  
4202 E. Fowler Avenue, CUT100, Tampa, FL 33620-5375  
(813) 974-9847, fax (813) 974-5168, volinski@cutr.usf.edu

**Submitted on:** July 30, 2015

**Grant Period:** January 1, 2012– September 30, 2016

**Reporting Period:** January 1, 2015 – June 30, 2015, Sixth 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, the Illinois Department of Transportation, the North Dakota Department of Transportation, the NCTR Advisory Board, 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?

During the sixth six month reporting period (January 1, 2015 – June 30, 2015) all consortium partners have completed or are substantially engaged in all of the federally funded research projects they lead or participate in as summarized below:

**Evaluating the State of Mobility Management and Human Service Transportation Coordination – NDSU** as the lead with assistance from USF and UIC (based on FTA proposal) – As noted in the last six month PPPR, all tasks were completed and a final report was produced during the previous reporting time period and posted to the websites of NCTR and the Small Urban and Rural Transit Center.

**Improving Veteran Mobility in Small Urban & Rural Areas – NDSU**- The objective of this research was to identify veterans with mobility needs currently living in rural North Dakota, South Dakota, and Montana. The cost of providing different transportation options are quantified in relation to meeting their medical needs as well as other life essential activities. This project was completed in the first half of calendar year 2014 and posted to the NCTR website.

**2013 Rural Transit Fact Book – NDSU** - The rural transit fact book serves as a national resource for statistics and information on rural transit in America. It includes information on demographic and travel behavior data as well as financial and operating statistics for agencies receiving FTA Section 5311 funding. A final report was completed during the first six months of 2014 and was posted to the NCTR and the SURTC websites.

**Cost-Benefit Analysis of Rural and Small Urban Transit – NDSU** – This project was completed in the first half of calendar year 2014, and the report was posted to websites of USF and NDSU.

**Intercity Transit Services Demand in North Dakota – NDSU** - Progress on completion is detailed below:

<b>Project Title</b>	<b>Intercity Transit Demand</b>	
<b>Objective</b>	This study will create an intercity bus network model for the Upper Midwest that will be used to estimate boardings at each stop and ridership on each link in the network and the impacts of possible service changes and population changes on ridership.	
<b>Task Number</b>	<b>Task Description</b>	<b>Percent Complete</b>
1	Review literature	95%
2	Collect data	75%
3	Develop network model in GIS	60%
4	Develop methodology	100%
5	Estimate models	20%
7	Validate the model	0%
8	Evaluate different scenarios	0%
9	Prepare final report	0%
<b>Project Time Frame</b>	August 2012 – September 2015	
<b>Progress</b>	Changes were made to the methodology, additional lit review was conducted, and a survey instrument was developed to collect data.	

**National Transit Demand Response Level of Service – NDSU** – Progress on completion is described below:

<b>Project Title</b>	<b>National Transit Demand Response Level of Service</b>	
<b>Objective</b>	The primary objective of the study is to develop a method for assessing national demand response level of service.	
<b>Task Number</b>	<b>Task Description</b>	<b>Percent Complete</b>
1	Literature review	100%
2	Data needs and data availability	100%

3	Design the framework of the study	100%
4	Develop a GIS map tool	100%
5	Test the proposed framework	100%
6	Calculate demand response level of service and map results on US map using GIS	100%
7	Provide recommendations for using the framework generated	100%
8	Prepare final report	90%
9	Technology transfer and presentations	20%
<b>Project Time Frame</b>	February 2014 – September 2015	
<b>Progress</b>	Tasks 1-7 were completed. A draft of the final report was completed.	

### **Workforce Development and Succession Planning to Prepare the Rural Transit Industry for the Future**

– Progress on completion is described below:

<b>Project Title</b>	<b>Workforce Development and Succession Planning to Prepare the Rural Transit Industry for the Future</b>	
<b>Objective</b>	To address perceived recruitment, staff development, and succession problems in the rural public paratransit industry.	
<b>Task Number</b>	<b>Task Description</b>	<b>Percent Complete</b>
1	Literature review	25%
2	Surveys and data collection	15%
3	Workforce Development Training Opportunities	
4	Prepare preliminary summaries, findings, comparisons, and recommendations	
5	Prepare final report and power point	
6	Present findings a conferences, webinars, etc.	

NDSU has three other research projects that have been scoped and are awaiting final authorization to proceed. The following projects will be completed by June 30, 2016:

- Estimating Ridership of Demand-Response Transit Services
- Rural Intercity Bus Demand: Phase II
- Low-cost Ride-Quality Characterizations for Transit Systems

**Development of Public Transit II Course – NDSU** - A new course, Public Transit II, has been developed and will be offered in spring 2016 as part of NDSU’s Transportation and Logistics program.

Project Title	Development of Public Transit II Course	
<b>Objective</b>	The objective of this project is to develop a new course, Public Transit II, that will be offered as part of NDSU’s Transportation and Logistics program. The class will expand upon TL 786, the public transportation class currently offered at NDSU, focusing on concepts and modeling procedures used when planning and operating public transportation systems.	
<b>Task Number</b>	<b>Task Description</b>	<b>Percent Complete</b>
1	Review public transportation courses currently or previously available at North Dakota State University and other universities	100%
2	Identify topic areas to be covered in the course	100%
3	Identify and develop source material for the course	90%
4	Determine structure of course and key course details	100%
5	Develop syllabus	100%
6	Develop homework, class projects, exams, or other activities	50%
7	Make class available for Spring 2016 semester	0%
8	Conduct class	0%
9	Evaluate class	0%
<b>Project Time Frame</b>	January 2014 – June 2016	

**National Transit Network Level of Service Data and Analysis – USF** as lead with assistance from UIC (based on FTA proposal) – **The following tasks have been completed:** Evaluate the state of GTFS data utilization; develop a schema for maintaining a National GTFS dataset; and develop GTFS based measures on mobility and accessibility. The remaining tasks include: Conduct a National GTFS Based Mobility Evaluation; Conduct a National GTFS Temporal Based Accessibility Evaluation; and

Recommendation for the establishment of a National Transit Service Database. Completion is expected in March of 2016.

**Texas Transportation Institute Annual Congestion Study: Measuring Transit's Impact – USF** - The methodology report and analysis developed by USF were completed in the previous reporting period and that document is published:

(<http://d2dtl5nnlpr0r.cloudfront.net/swuttc.tamu.edu/publications/technicalreports/600451-00013-1.pdf>). USF has subsequently updated the base year data provided to TTI. It is uncertain when TTI will be producing their annual urban mobility report in 2015, but they are working on an improved data set that will help provide a more accurate report. USF specifically collaborated with TTI and utilized a great deal of APTA data as well as USDOT data. It is believed the improved methodology will enhance the credibility of the report and provide a more realistic measure of the impact transit service has on roadway congestion.

**Incorporating Managing Demand into Washington State DOT Planning and Programming – USF** - The objective of this research is to develop guidelines for WSDOT functional areas to identify and select potential demand management strategies appropriate to the context of the land use and transportation environment to meet their objectives. The anticipated benefits from this research include increasing capacity in the WSDOT transportation system by expanding participation in alternative modes (carpools, vanpools, transit, cycling, walking, and telecommuting). Based on the desires of WSDOT, the contract was modified to focus efforts on identifying TDM strategies as part of a new corridor sketch planning process that is in development at WSDOT. Draft recommendations for incorporating TDM were provided to the WSDOT advisory panel and others. The corridor sketch planning process continues to evolve.

**National Transit Safety Research and Assistance Center – USF** – The website for this center was created during the first half of 2014 as a comprehensive transit safety resource (<http://transitsafetycenter.org/>). Details on website activity is provided later in this report. During the six month reporting period there were a total of 3,721 page views, an increase of almost 300% from the last six month reporting period. The three most popular pages were Research, Federal Safety Laws and Regulations, and State Safety Laws and Regulations. The Center employs a number of methods to successfully provide resources to public transportation providers, local and state governments, the private sector, and other transit stakeholders to improve public transportation safety in the United States. The focus areas include operational and vehicle related safety topics, human factors, and substance abuse management. Technical assistance and training aspects are structured to provide ample support to transit agencies that are transitioning to a Safety Management Systems approach to safety as well as those agencies responding to MAP-21 and corresponding regulations, guidelines, and other directives issued by the Federal Transit Administration. There are links to safety-related research reports and other resources, as well as training offered by groups such as the Transportation Safety Institute and the National Transit Institute. A comprehensive inventory of federal and state transit safety laws and regulations is provided as a resource on the site. In addition to the written report that summarizes federal and state transit safety laws, from the “Regulations and Standards” link on the home page, individuals may select a specific state from an interactive map of the United States and have access to the laws and regulations of that state which was developed in this six month reporting period. The Center has also started to develop and maintain a multi-faceted resource website for the Transportation Research Board Task Force on Transit Safety and Security to serve not only as a resource to Task Force members, but to transit agency personnel and others interested in the safety and security of our national public transit

systems. This is a continuously funded center through NCTR and will remain so throughout the life of this grant and successor grants.

**Advanced Transit Energy Portal (ATEP) – USF** – This project provides an online information exchange resource covering all aspects of adoption and operation of the alternative fuel buses in the U.S. transit fleet. The website: [www.advancedtransitenergy.org](http://www.advancedtransitenergy.org) has been up and running since October 2013. In the past 6 months the following activity has taken place:

- Regular posts on the website in the following categories: agency news, industry news, events, laws and incentives, and research results.
- Included slides about ATEP into the presentation at APTA’s Bus and Paratransit conference (Fort Worth, TX) – May 6, 2015. Distributed ATEP flyers at APTA conference.
- Made contacts with several transit agencies around the country and requested O&M data from five agencies to utilize the ATEP data collection page and made plans to follow up.
- Made presentation about ATEP at FPTA/FDOT/CUTR Professional Development Workshop (Tampa, FL) – June 2, 2015. Distributed ATEP flyers at the meeting.
- Demonstrated the capability of ATEP’s data collection tool to 3 fixed-route transit agencies in Florida. Encouraged data submission through ATEP.
- Added Google analytics tool to ATEP website to track website activity starting in June. Based on the statistics report, the site was viewed 1,127 times by 1,113 users. Almost all of them were new site visitors.

**National Transportation Demand Management and Telework Clearinghouse – USF** - This project includes information about alternatives to driving alone and telework programs to meet the congestion, air quality, and mobility challenges facing our communities. The Clearinghouse provides the most comprehensive information related to TDM services and products such as ridesharing systems and marketing materials; commuter tax benefit information for employers; free TRIMMS™ software to predict the impacts of trip reduction programs.

NCTR staff manages the TRANSP-TDM listserv to foster nearly instantaneous peer-to-peer interactions among TDM professionals across the world. Since this internationally renowned listserv was started in late 1998 by FDOT and CUTR, the listserv has grown to over 2,400 active members. The Clearinghouse also supports TDM-related listservs (e.g., telework, parking management, sustainable transportation, etc.)

NCTR staff manages the “Best Workplaces for Commuters” program that recognizes employers that provide significant commute friendly benefits to employees. During this period, staff held the Best Workplaces for Commuters’ **Race to Excellence** Virtual Awards Ceremony on January 29, 2015. During the ceremony, 26 employers were recognized and received awards. The Race to Excellence is an annual challenge that encourages, recognizes, and highlights dedicated TDM professionals across the country



that promote commuter benefits, transportation options, and the Best Workplaces for Commuters (BWC) designation in their workplaces and throughout their local communities. The organizations who successfully completed the Race were recognized for taking exemplary steps to offer their employees viable alternatives to driving alone, thereby reducing air pollution, traffic congestion, and fuel consumption.

On June 18, 2015, the Clearinghouse's Best Workplaces for Commuters (BWC) hosted a webinar featuring the 2014 Race to Excellence winner of the "Best of" in university category: Virginia Tech. Debby Freed, Virginia Tech's Alternative Transportation Manager, spoke about their award winning commuter program. Virginia Tech was named on the list of Best Workplaces for Commuters, and shortly afterward became a gold level award winner in BWC's Race to Excellence. Ms. Freed spoke about how Virginia Tech partners with local and regional transit providers for stellar bus service, has carpool programs, and an employee vanpool program, as well as two ridesharing services. Virginia Tech has also focused on cycling infrastructure, education, as well as partnering with the VT Police Department for enforcement which helped Virginia Tech gain the status of a League of American Bicyclists Bicycle Friendly University, at the bronze level. The Best Workplaces for Commuter's website ([www.bestworkplaces.org](http://www.bestworkplaces.org)) provides links to the Virginia Tech webinar recording for on-demand viewing along with other BWC employer spotlights.

**GIS in Transit Clearinghouse - USF** - The Transit GIS Clearinghouse was created by the National Center for Transit Research (NCTR). It is an outgrowth of the NCTR-sponsored GIS in Transit Conference. This site is managed by the staff of the GIS and Transportation Informatics Group at the Center for Urban Transportation Research. Moreover, the Clearinghouse's purpose is to share innovative GIS solutions and how they can improve public transportation. This site seeks to reach out to the public transit industry, and maintain a repository of data and information that keeps professionals abreast of the latest developments, innovations, and research from a holistic point-of-view. It continues to serve the purpose of allowing information sharing among professionals in GIS throughout the world, and keeps visitors posted on upcoming events and new articles dealing with GIS applications in the field of public transportation. During the six month reporting period the Clearinghouse actively planned the 2015 Transit GIS Conference being held in Washington, DC on September 1-3, 2015. This unique conference is for transit planners, managers, researchers and GIS industry experts who are interested in sharing ways to use geographic and spatial analysis in transit planning, operations, and marketing to increase efficiency and effectiveness. The objectives of the conference are to:

- Provide transit professionals with experience and interest in GIS an opportunity to learn from peers and industry experts (vendors, researchers, and practitioners)
- Discuss emerging trends in geo-spatial analysis and transit informatics
- Demonstrate the use of GIS data to improve transit efficiency and effectiveness
- Provide a forum for public-private discussions about practical applications of new technologies

**Development of Training Manuals for Transit Planning and Scheduling – FIU** – The main objective of this project is to develop a Training Manual for Transit Service Planning and Scheduling for professional staff. The manual consists of two sections: Transit Planning and Transit Scheduling. It covers material for performing essential transit tasks. The intent of the manual is to be used by new transit staff as well as seasoned professionals who want to review key concepts. Although the focus is on buses, a brief

discussion on rail planning and scheduling is included. Using detailed descriptions of typical work tasks, the manual can assist with the intricacies of transit planning and scheduling. It is expected that, with a good understanding of transit planning and scheduling, transit staff can become more productive and effective in performing their job responsibilities. The draft manual was sent to CUTR for review and their comments were incorporated. Currently, the research team is in the final stages of the preparation of the final report. This includes a couple of editorial revisions to ensure the document reads well and it is free of grammatical errors.

**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 (based on FTA proposal) - The main objective of this work is to conduct research on the use of AVL data for improving transit service reliability. This can be achieved by using better on-time performance techniques and by identifying conditions leading to service degradation that can assist transit agencies in providing higher quality of service. This research is concentrating in two related areas for improving service reliability: 1) investigate the challenges and issues towards measuring, monitoring, and improving on-time performance and 2) identify service conditions observable in AVL data that precede service problems. Output products would include recommendations for improving on-time performance and a list of candidate factors or conditions that could lead to service degradation and how transit agencies could use this information. The results from this research may warrant the development of computerized tools as the next step. During this time, the focus was mainly on collecting and analyzing AVL data. However, there was a little setback due to the difficulties in capturing the data. Currently, the research team is in the process of retrieving the data from the USF database that contains GTFS data from the HART transit agency.

**State of Good Repair Performance Measures: Assessing Asset Condition, Age, and Performance Data – FIU** - The main objective of this scope of work is to develop a web-based software application that transit agencies can use for the collection, storage, querying, analysis, and reporting of transit assets. The idea is to develop a system in which different departments at the transit agencies can access the system for entering data, analyzing, or for retrieving information. Therefore, this tool can assist transit agencies in evaluating and assessing transit asset data with regard to age, condition, and performance against established performance targets as well as an approach for project prioritization based on existing data and asset rehabilitation/replacement alternatives. To achieve this, the FIU research team proposes a series of work tasks that include developing a work plan, conducting a literature review, assessment of transit condition databases, especially for rolling stock and infrastructure, developing methodology, creation of a framework, developing a web-based software application and testing, preparing training materials, and producing the final report.

*What was accomplished under these goals?*

The research team contacted several transit agencies that have reported success using asset management systems. In particular, the team focused mostly on the experience from the Massachusetts Bay Transportation Authority (MBTA): one of the leading agencies in Transit Asset Management. In May of 2015, FIU visited MBTA to gain more insight on their asset management program and the related data collection and processes. During the visit, the team gathered information and ideas for the development of the State of Good Repair (SGR) system. It also became clear that the SGR system developed and used by MBTA is more suitable for large agencies. Therefore, to avoid duplication the FIU

team will focus on a user-friendly system that can be used by medium and small transit agencies. Currently, the research team is finalizing the literature review, looking into different forms for the user interface, and looking at the data requirements for the creation of the database, and data flow as well as the web site structure and the asset management elements.

### **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 –**

This project was finalized in the first quarter of 2015 and a technology transfer communications plan was launched. The PIs learned that Capital transportation projects can be funded in part through a process called “value capture” if local governments, transportation authorities, and private development companies initiate the concept in the very early planning stages. The report also states that transit systems in large metropolitan markets with many yet-to-be-funded transportation construction or expansion projects are being encouraged by the federal government to explore value capture to meet funding needs. As a follow up, researchers are conducting a survey of transit agencies to determine how agencies are involved in the planning process that involves value capture. A news story was disseminated to planning and transit agencies and relevant media, and the news story and an abstract was published on the UTC web site and promoted via social media. The news release resulted in significant media coverage, including articles in: NextCity.com, GlobeSt.com, Mass Transit and City & State magazine. The research also was sent to real estate and transportation organizations. The news story and abstract received 321 visits and the Facebook post had 79 views.

**Adapting Transit to Climate Change Impacts – UIC** as the lead with assistance from USF (based on FTA proposal) - The final regression model was completed to analyze the association between the extreme weather and the number of CTA ridership. The PIs also worked on the manuscript model and continue to integrate the findings into a decision model and are preparing a journal article.

### **Green Transportation Programs in the Healthcare Sector: Best Practices and Potential Opportunities (UIC)**

This exploratory study developed survey instruments and conducted interviews of healthcare staff at three outpatient clinics in the Chicago metropolitan area, with a focus on employees’ commuting patterns and the factors affecting their mode choices. The study also included spatial analysis of these factors in order to ascertain if the geographical location of the clinics affected commuting patterns. The research resulted in various policy recommendations and identified future research needs. Recommendations include: Hospitals needs to do a better job at building awareness among employees for sponsored initiatives to promote ride sharing, car pooling and public transit options; communications to employees on alternatives to driving to work had to be consistent and stress convenience; and hospitals have to address concerns about crime and safety when promoting alternative forms of transportation. A technology transfer communications plan will be launched in early third quarter. A report, "Exploring Commuting-Related Environmental Impacts in the Healthcare Sector," was finalized in late June.

### **An Online Tool for Computing and Presenting Regional Accessibility Measures (UIC)**

This research led to development of an online tool that allows users to gauge accessibility to Chicago neighborhoods, suburbs, or other parts of the metropolitan area using different modes of transportation. The tool measures accessibility by summing up the number of opportunities that can be

reached from each location by different modes. A report was produced entitled: "Mapping Metropolitan Chicago's Accessibility." The product produced was the the Metropolitan Chicago Accessibility Explorer – accessed at <http://urbanaccessibility.com>. It is a map-based web-tool covering metropolitan Chicago. A news story was sent out to a wide range of local and national media, and the news story was published on the UTC web site. The research also was sent to Chicago area planning and transportation organizations.

### **Optimal Rail Service Planning in a Passenger-Freight Shared Corridor (UIC)**

This research resulted in a paper that led to development of a two-level hyper graph model to address optimal use of shared passenger and freight rail corridors. The paper is entitled: "Integrated Modeling of High Performance Passenger and Freight Train Operation Planning on Shared Use Rail Corridors: A Focus on the US Context." One unique feature of the study is its explicit consideration and modeling of passenger schedule delay based upon passenger preferred departure time profiles over the course of a day. Researchers used a hypergraph to address an important omission of train path conflicts due to track resource use during transitions. A key finding of the research: Operating more passenger trains on a shared rail corridor with freight trains can result in fewer delays for travelers, but may lead to higher costs for freight railroads. A news story was sent out to a wide range of local and national media, and the news story was published on UIC's UTC web site. The research also was sent to railroad and transportation organizations. A feature article is pending publication in the October 2015 issue of Mass Transit Magazine. PI Bo Zou is scheduled to lead a webcast in December hosted by the Center for Urban Transportation Research.

**Examining Pedestrian Behavior at Railroad Crossings (UIC)** – PIs continued the analysis of data from interviews with users recorded at selected grade crossings and continued reviewing the latest literature. The interviews have created data on users at selected grade crossings.

### **CPS Travel Training Evaluation Project (UIC)**

Public transportation and public educational programs are mandated to provide transportation services for mentally and physically disabled individuals. While programs to transport members of disabled populations are important to ensure access and participation in important educational and work related activities, they are often highly expensive to operate. Moreover, they do not necessarily increase the independence of disabled clients. For these reasons, transit agencies, employers and educational institutions have begun to develop training programs to teach qualified clients how to use the fixed public transit system. Movement of disabled riders to fixed public transit systems reduces demand of costly paratransit programs, increases the ability of disabled clients to function independently, and may have a multitude of other benefits. Travel training programs (TTP), particularly those offered by public school systems, are in their infancy. Chicago Public School's (CPS) TTP is one of the oldest in existence. While there is ad hoc evidence that these programs are beneficial in many respects, to date there has been little effort to formally assess the costs and benefits of these programs. Given this lack of evidence and within a constant context of fiscal constraint, travel training programs are consistently vulnerable to closure.

In response, this project will undertake systematic effort to assess the benefits and costs of the CPS TTP. The project will be conducted in two tracks: evaluation of a prior TTP for specialty schools that operated on a limited basis and the design of an evaluation plan for the recently-established system-wide travel training program. These two tracks will be conducted sequentially, the first informing the second. The ultimate result of the project will be an assessment report on the costs and benefits of the prior TTP and

an evaluation plan, complete with methods and metrics, for the newly established system wide TTP. The scope for the project was developed and approved during this six month reporting period, and work on communicating with Chicago schools has been started.

**Many other projects have either been completed or are being completed using matching funds from the Departments of Transportation of the consortium members.** Research projects are scheduled to be completed by June 2016, while the Clearinghouse activities will be ongoing throughout the term of the grant.

Provided below is a list of the projects funded by the Florida Department of Transportation (FDOT) that have been undertaken **at USF** as match to the grant:

1. **Florida Transportation Demand Management Clearinghouse** - \$143,325 – This ongoing project has been in place for 15 years, with results similar to those noted above for the National TDM and Telework Clearinghouse, with a focus on Florida applications. (Ongoing)
2. **Improving the Cost Effectiveness of Financial Incentives in Managing TDM** – This project was completed in October 2013. While mode shift away from driving alone is the primary purpose of most of the TDM incentive programs reviewed, there are other means for yielding the desired outcomes without shifting mode. One method is to shift the focus on the time of the trip or the quantity of the trip consumed (i.e., vehicle miles of travel). Researchers focused on the evaluation of the feasibility of reducing individual VMT rather than changing mode as a means of achieving the outcomes of reduced congestion and emissions. A pilot test was conducted and proved that a VMT saving approach is very effective and has great potential to grow to achieve several of the desired outcomes of TDM. Two different incentive schemes in the pilot test produced valuable insights to expand the approach to statewide TDM programs.
3. **Analysis of Transit Contracting Models and Proper Incentives for Long-term Success** - \$137,074 - This research project was completed and accepted by FDOT in November 2013. It was prepared at the request of FDOT to provide all operating transit agencies with techniques to consider should they be interested in contracting for more service in the future.
4. **Improved Traffic Control Measures to Prevent Incorrect Turns at Highway-Rail Grade Crossings** - \$99,033.88 – This project was completed in December 2013. FDOT accepted the recommendations from the study and intends to apply them at additional sites throughout the state.
5. **Impacts of Dialysis Transportation on Florida's Coordinated Public Transportation Programs** - \$115,100 – FDOT accepted the final report in April 2014. It has helped them to understand the growing demand for paratransit services for those needing dialysis treatments. The report identified numerous ways that local agencies are dealing with the growing demand. This information sharing can help agencies serve as many people as possible while addressing the urgent needs of dialysis patients for transportation.

6. **Bus Operator Safety Critical Issues Examination and Model Practices** - \$242,005 – This project was completed and enthusiastically accepted by FDOT in January 2014. FDOT will fund continuing transit safety research and training as a result of this report. Findings have been presented at five professional transit conferences in two countries.
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 – This project was completed in March 2014. Results were presented at the Florida Public Transportation Association Professional Development Workshop in June, and via webinar hosted by the Center for Urban Transportation Research in June. FDOT has funded USF to do further analysis.
8. **Best Practices in Enhancing Transit in Multimodal Transportation Elements** - \$174,871 – This report was completed and accepted by the Florida Department of Transportation in June 2014. This report provides guidance in developing a multimodal transportation element of a local government comprehensive plan. Two model elements were developed that encourage a range of best practices in multimodal transportation planning as identified through a review of the literature, agency plans, and related documents. Emphasis is placed on ensuring a multimodal transportation system appropriate to the size and character of the community, providing for public transportation as feasible, improving accessibility and connectivity between modes, and coordination with land use and plans of other transportation agencies and modal providers.
9. **Investigation, Quantification, and Recommendations - Performance of Alternately-fueled Buses** - \$140,000 – This project was completed in August 2014. Information from this report helps to inform the clearinghouse activities that are funded through the federal side of the grant.
10. **Florida Transit Safety Network** - \$133,650 - The Florida Transit Safety Network (FTSN) is an active consortium of Florida’s public transportation safety professionals. The FTSN met twice during the reporting period to discuss transit safety issues and opportunities and sponsored the third annual statewide Transit Safety Summit, held on June 3, 2015. The Summit included reports from the chairs of each FTSN committee, including: Collisions, Bus Operator and Passenger Safety, Fatigue, Distracted Driving, and Training committees. In addition, special guest presenters and conversants included the following:
  - Dr. Stephen Popkin, Director of Safety Management and Human Factors from the Volpe National Transportation Systems Center who spoke on “Fatigue Awareness, Recognizing the Signs of Fatigue and Fitness for Duty, and Safety Management Systems
  - David Hahn, Senior Program Specialist from the American Public Transportation Association (APTA), who discussed “Cyber Security in Transit” and “APTA’s Industry Standards Program and Voluntary Bus Assessments”
  - Curt Secrest, Regional Surface Transportation Security Inspector, US Department of Homeland Security, Transportation Security Administration who presented “Observations and Lessons Learned: Transportation Security Administration Voluntary Base Line Assessments for Security Enhancements (BASE)”

- A special presentation was made by the Jacksonville Transportation Authority, winner of the 2015 APTA Safety Award
- Other presentations included: regulatory and Florida Substance Abuse Management Oversight and Technical Assistance Program updates, findings to date for two separate NCTR research projects: *Strategies to Prevent, Reduce, and Mitigate Bus Collisions* and *Examination of Passenger Assaults on Bus Transit Systems*

The Transit Safety Summit was a great success with over 100 in attendance, including a number of out of state participants from Texas, New York, Illinois, and Washington, DC.

11. **Impact of Transportation Demand Management (TDM) Elements on Managed Lanes Toll Prices** - \$128,091 - The purpose of this research was to quantify the extent to which transit and ridesharing reduce traffic density and lower tolls on the I-95 Express Lanes. The tolls on the I-95 Express Lanes are variable and are based on traffic density. Therefore, transportation strategies that increase person throughput can contribute to lower tolls that benefit the traveling public and improved traffic flow. This research benefits the state because dynamically priced managed lanes feature prominently in the state's future transportation plans, particularly in South Florida. *A final report was produced in this reporting period.* The authors presented their paper at the 2015 TRB Annual Meeting and it is scheduled to be published in TRR.
12. **Smart Parking Guidance System Demonstration** - This up-to-date information will save students time and the aggravation of the uncertainty of parking and help them avoid wasting fuel driving across campus to another parking lot. This information will help raise awareness and educate students about how transportation options consume different amounts of energy. It will also encourage leaving the car at home altogether and taking a more fuel efficient mode of transportation to and from the campus.
13. **Technology Application Among Florida Community Transportation Providers** - The objective of this project is to gather and disseminate best practices in the application of technology in the paratransit field. This study will inform the industry on the state of the practice and initiate an exchange among providers in the state of Florida that documents successful practices. This project will particularly focus on collecting successful practices employed by transit agencies and providers in low cost solutions that work as well as innovative practices that have proven to be effective within funding limitations while maintaining good customer service. A survey of all Florida transit systems and all CTCs was conducted. The participants in the survey represented different sizes of agencies in both rural and urban settings. A final draft of the report was submitted to the Florida Department of Transportation and the Commission for the Transportation Disadvantaged in June.
14. **Improving Access to Transit through Crowd Sourced Information** -. The purpose of this research is to facilitate the ongoing collection of information about potential areas of multimodal service and infrastructure improvements from the public that can be easily shared with transit agencies, departments of transportation, and city and county governments. This research will enable the capture of various types of data from actual users of public transportation via a real-time transit information system. Using this data, transit agencies, departments of transportation, and city and county government will be able to better target

improvements to bike and pedestrian infrastructure for access to transit based on actual transit use and issues reported by the general public. To help accomplish this goal, the research team is enhancing the open-source OneBusAway real-time transit application by collecting information from the public (i.e., “crowdsourcing” information) that can aid in the identification and prioritization of multi-modal infrastructure and service improvements. Between January and June 2015, the research team focused on the preparation of OneBusAway for adding new agencies to the regional OneBusAway Tampa deployment. Several software tools were developed to facilitate this process. A number of data and software issues with the transit agency’s schedule and real-time data were resolved, along with several issues in OneBusAway related to the processing of per-stop arrival predictions.

FIU is engaged in the following research projects undertaken with local match:

- 1. Informed Traveler Program and Applications – FIU - \$265,261** - The University City Prosperity Project addresses transportation mobility and safety problems facing Miami-Dade County and the Southeast Florida Region. One of the major components of this project is the development of a first phase of the Informed Traveler Program and Applications (ITPA). ITPA will provide personalized, timely information and advice regarding the most efficient and cost effective travel paths for consumers in advance of their travel decision points. This would include easy-to-access and use of information needed to avoid congestion, construction, or accident delays and to otherwise optimize each trip; whether and how to use transit or other modes, delay the start of a trip, take an alternate route, and act on secondary destination suggestions, to easily park, and to encourage remote parking with completion of the trip via transit. Matching funds are being provided by the Miami-Dade Expressway Authority. The program’s software will be predictive in nature, allowing users to make better travel decisions before they decide whether or not to get in their private vehicles. The Work Plan Development for Phase I for the Informed Traveler Program and Applications task was completed in late 2014.
- 2. Analysis of Movable Bus Stop Boarding and Alighting Areas – FIU - \$110,667** -The goal of this project was to explore the feasibility of creating movable bus stop boarding and alighting areas for Florida transit agencies. This report was completed in May 2013. The specific objectives included: Researching the state-of-the-practice and issues involved in meeting bus stop ADA requirements; Developing design alternative(s) for movable/reusable/relocatable boarding and alighting pads, considering their relation to other bus stop amenities such as benches and shelters; Performing life-cycle cost analysis of each design alternative; and Recommending one or more alternatives that are acceptable to both transit agencies and riders with disabilities . Less expensive alternatives are identified to allow reducing the costs associated with the moving of bus stop boarding and alighting areas.
- 3. Guidelines for Bus Transit Stops in Highway Construction Zones – FIU** - Given the extent of nationwide bus transit systems and a high level of highway construction activities, it is common to find highway construction work areas encompassing and impacting established bus stop locations. However, there is little information available concerning best practices for safely managing the bus stop and transit riders while construction is underway. The objective of this study was to develop guidelines/recommendations for managing transit stops during adjacent



highway construction operations, with a focus on safety and the customers. This guidance will serve as a planning tool and as a design and construction guide for Maintenance of Traffic (MOT) coordination for transit agencies, highway design engineers, and construction managers.

The following projects are being undertaken by UIC with matching funds from the Illinois DOT. These projects provide a full 100% cash match to the portion of the federal grant that is being implemented by UIC:

1. **Igo Car Sharing: Feasibility of Charging Stations for Hybrid Cars** – The objective of this project was to determine the feasibility of placing shared vehicles at or near Amtrak stations and municipal buildings in four Illinois communities to determine potential demand. The project is designed to develop a “last mile” solution to improve access to businesses, universities and centers of commerce. This project was completed in the prior reporting period.
2. **Study of Integrated Corridor Management in Greater Chicago Area** - The Chicago area roadways are chronically congested. This study attempts to document the efforts made by key stakeholders in the Northeastern Illinois region toward enhancing interconnectivity between various transportation modes to optimally use the supply, reduce travel times for existing riders, and create more travel opportunities for all commuters and travelers. The Mobility Case Studies project is being combined with this project and is scheduled for completion in December 2015.
3. **Modeling of Transit Mode Choice in Greater Chicago** - In this study, researchers will adopt a discrete choice modeling approach for the mode choice model and evaluate its performance. The model will provide a state-of-the-art tool that will support a process for forecasting and policy analysis. The project is scheduled for completion in November of 2015.
4. **Ranking Northeast Illinois New Starts Transit Potential Expansion Projects for Metra and CTA** - UIC will develop a method for the ranking of proposed rail transit expansion projects in Northeastern Illinois. This project is scheduled for completion in November of 2015.
5. **Nature Express** – This project will identify transit strategies to connect low-income individuals, disadvantaged families and people of color to Cook County Forest Preserves in a meaningful way. PIs are currently finishing a draft report for the project. Preliminary findings have been shared with the Forest Preserves of Cook County to help with the Long Range Plan development for Cook County. The findings of this project are likely to provide the basis for gauging accessibility issues for disadvantaged population groups living in Cook County to Forest Preserves in the County.
6. **Shareholder Decision Support** - This research will expand upon an existing planning tool in the following ways: Updating it with recent data, expanding to make it relevant for business location decisions, and expanding for use by suburban planning bodies.
7. **Tech for Visually Impaired** – This project is intended to support ongoing efforts in the College of Engineering about fundamental research into way-finding for disabled population groups. A student was funded toward this effort and the funding was not continued after that. Insight was gained on how to improve the lives of blind or visually impaired people.

8. **Transportation Needs Assessment** - A report, "Planning Transportation to Meet the Needs of an Aging Illinois: An Assessment," was completed in the first quarter of 2015. Three main conclusions were reached by the project team: 1. Housing types geared to aging adults - Municipalities statewide should consider changes to zoning laws to allow for development of multifamily housing and residential construction on more compact lot sizes. This would better accommodate older adults planning to downsize and move to smaller homes. 2. Enhanced home and community accessibility - Older adults will be able to stay in their homes longer and have greater access to services if homes can be modified for those with disabilities or limited mobility. New construction should include homes that offer greater accessibility. 3. Addressing older adults in rural communities - The research showed that rural communities across Illinois have a greater concentration of older adults in proportion to the overall population.
  
9. **Pedestrian Facilities** - An analytical framework developed as the result of this study discovers key determinant factors to be considered by city authorities in project selections. The study compiles pedestrian and cyclists' crash data, facility status, census data (including car ownership, income, and employment) and accessibility to transit stations from the suburban communities. The accessibility is measured through the establishment of a qualitative approach by comparing the current conditions with the requirements recommended for bike, pedestrian, and transit stations. Various data mining algorithms are tested and applied against compiled data (i.e. physical, geometry, socioeconomic, crash frequency, crash severity, and operational parameters) to delineate significant factors affecting the target metrics (safety and flow). Then, the study selected the most apt data mining technique capable of modeling the interrelation between determinant factors and target parameters. The developed modeling framework offers a practical approach for city authorities to prioritize pedestrian/cyclist projects and choose a site/sites among a pool of alternatives requesting condition improvements and elevating the accessibility to transit stations.

North Dakota State University has worked on the following projects as match to the federal grant:

- **Regional Transit Coordination Pilot Project** - This NDDOT SPR Project providing match looks at coordination/mobility managers and better coordinating regions – two specific regions in North Dakota served as the pilots. The project was completed in the previous six month reporting period (\$150,000)
  
- **Identifying and Satisfying the Mobility Needs of North Dakota's Transit System** - The objective of this study was to determine the financial needs of the state transit providers. In order to accomplish this, the study took into account all applicable State and Federal laws and looked into the following:
  1. Construct a demographic profile of the state of North Dakota
  2. Develop a mobility needs index
  3. Describe existing levels of transit service across the state
  4. Identify base levels of required transit service and gaps in existing service
  5. Develop recommendations for meeting mobility needs
  6. Determine the level of funding to maintain the current level of service

## 7. Determine the level of funding to expand the existing level of service

North Dakota transit providers and human service agencies were surveyed to gather information about existing transit services, how well those services are meeting the needs of the state's residents, and the issues and challenges facing transit providers across the state. The study identified days and hours that transit service is currently being provided, rides provided per capita, and vehicle miles and vehicle hours per capita across the state. Target levels of transit service were identified, and the funding needed to reach those targets, including funds to cover increased operating expenses and vehicle purchases, was estimated. Projections were also made based on expected population growth. A series of recommendations were made regarding expansion of service, staffing needs, facilities and vehicle needs, and funding increases. Findings show a need for expansion of services across the state, especially in areas experiencing population growth, improvements in staffing, and additional vehicles. *The final report was produced in April, 2015.*

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

NCTR continued providing a massive amount of training during the six month period in the areas of transit, leadership, and commuter assistance programs as listed below:

- Dr. Jill Hough of NDSU and Dr. Steve Polzin of USF completed the development of modules that have been incorporated into a **national transit course** that will be able to be delivered by any transportation faculty at universities around the country. This course will be ready to offer in the spring semester of 2016.
- NDSU faculty made 4 different presentations at 3 different venues throughout the country as well as one webinar. A total of 208 professionals attended these presentations for a total of 606 contact hours.
- The scopes for virtually every research project noted in this report incorporated **student research assistants** to help prepare them for careers in transportation.
- **The NCTR Scholars program** was initiated the fall of 2013, providing students who have career aspirations in public transportation to obtain a Masters degree in Civil Engineering with an emphasis on public transportation. Two students (Patrick Buddenbrock and Casey Jarrell) graduated in December, 2014 with their masters degrees as the first NCTR Scholars. In January 2015, Patrick Buddenbrock was hired by the Federal Transit Administration as a project engineer in the Region One office in Boston, Massachusetts and Casey Jarrell was hired by the major transportation and engineering firm HNTB. A new NCTR Scholar, Matthew Kessler, was selected and began his coursework in January. He is a native of Long Island. Matt graduated with his Bachelor of Science in Transportation Logistics, magna cum laude from the City University of New York (CUNY). He is currently working on his Master of Science Degree in Engineering Science (MSES) with an expected graduation in Spring 2016. He was assigned the task of surveying universities throughout the southeast United States to learn of their experiences with Universal Pass Programs in order to assist the Florida Public Transportation Association with gaining legislative support to allow such programs to exist at community colleges in the state of Florida.

- USF hosted 4 **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. Three of the four webinars shared results of research funded through the UTC grant. An average of approximately 50 people viewed each webcast live, while the recorded versions are available to view on the CUTR website at USF. They are ultimately viewed by more people than the number who watched the webinar live.
- Faculty of USF contributed to the **Florida Public Transportation Association** Professional Development Workshop held in June in Tampa, Florida which was attended by over 300 public transit agency managers. Results of NCTR research were presented at this conference, while numerous NCTR researchers also provided staff support to the Florida Transit Planning Network, the Florida Transit Maintenance Managers Network, and the Florida Transit Safety Network. As an FPTA Board of Directors member, NCTR Director co-chaired the FPTA Hall of Fame committee and nominated the second woman to be enshrined.
- **Florida Transit Operator Trainer Training Program** - \$186,900 – The Florida Transit Operator Trainer Training Program was developed by the FDOT Office of Freight, Logistics, and Passenger Operations. The program provides standardized state and federal curriculum training to Florida’s transit operator trainers. The program has grown to include a voluntary statewide transit operator trainer certificate program, as well as an effective and proactive Florida Operations Network. Additionally, the program works closely with the USDOT’s Transportation Safety Institute (TSI) to develop and offer transit training. The Florida Transit Operator Trainer Training Program provided six classes with 85 participants for a total of 1,960 training hours during the six month reporting period.
- **Transit Manager Certificate Program** - \$125,147 –The TCMP offers professional development to Florida’s public transportation managers, and provides them with the educational tools and resources necessary to solve today’s public transportation challenges. The program, sponsored and directed by FDOT, is administered by USF’s Center for Urban Transportation Research (CUTR) and offered in cooperation with the University of South Florida’s (USF) Continuing Education’s University College and CUTR. The Program is structured to offer a combination of online courses, self-paced computer based training, traditional classroom courses, and peer to peer exchanges. By being at the forefront of the progressive educational movement and integrating technological advancements, students have easy access to courses that are relevant to today’s public transportation professional. USF’s Transit Manager Certificate Program taught 2 courses that were attended by a total of 44 professionals receiving 352 hours of training during the six month reporting period.
- **Florida Statewide Transit Training and Technical Assistance Program** - \$184,268 - The Florida Statewide Transit Training and Technical Assistance Program provides training and technical assistance to Florida’s transit professionals and FDOT District Offices. The purpose of the program is to ensure the highest level of productivity among transit professionals; promote and encourage management and operational efficiencies; promote and ensure safety and security at Florida’s transit properties; and ensure the provision of more cost-effective transit services.

Training and technical assistance is made available to Florida’s transit professionals and FDOT District Office staff including those in operations, planning, marketing, and maintenance. The training and technical assistance is provided in a number of topic areas including professional development, planning, operations, management, marketing, and other topics when deemed necessary by the FDOT Project Manager. The Florida Statewide Transit Training and Technical Assistance Program provided 6 classes with 132 participants for a total of 508 training hours during the six month reporting period.

- The Florida Transit Safety Network (described earlier) provided 12 classes with 418 participants for a total of 3,082 training hours.
- The Transit Maintenance Analysis and Resource Center provided 4 classes with 53 participants and 1580 training hours.

A summary of the transit training provided by USF during the six month reporting period is provided in the tables below:

PROJECT SPONSOR	# Classes	# Students	# Contact Hours
Florida Transit Operator Transit Training Program	6	85	1960
Statewide Technical Assistance and Training	6	132	508
Substance Abuse Management Oversight/TA Program			
Florida Rural Transit Assistance Program	3	125	359
Certified Transit Technician (TMAARC)	4	53	1580
Transit Manager Certificate Program (Classroom only)	2	44	352
Florida Transit Safety Network	12	418	3082
<b>TOTALS</b>	<b>33</b>	<b>857</b>	<b>7841</b>

**Florida Commuter Choice Training Program** – CUTR at USF provides training and instruction annually on Commuter Choice related topics primarily using a combination of live instruction, net conferences, and/or asynchronous distance learning methods (e.g., self-paced online courses). The project also includes course planning, logistics, outreach elements, training materials, and a final report. The scope of work is divided into four distinct tasks, each geared to deliver a high quality-training program. The Commuter Choice Training Program presented 27 training modules during the six month reporting period, providing training on subjects including but not limited to Telework and Alternative Work Schedules, Transit Service Options, and Measuring Performance under the Commuter Choice certificate and the Social Marketing in Transportation certificate.

The training sessions attracted a total of 439 attendees. Recorded webinars received an additional 235 views. Two full-day workshops were attended by 55 persons. Therefore, we estimate there have been 1284.5 contact hours. One contact-hour represents one person who attends a 1-hour session.

**Table 1. Commuter Choice Courses Conducted This Period**

Date	Module	Credits	Participants (Live)	Recording Views	Total Contact
------	--------	---------	---------------------	-----------------	---------------

					Hours
<b>2/9/2015</b>	Design Market Strategy: Creative Thinking for Transportation Professionals	4.0	17	NA	68
<b>2/9/2015</b>	Best Workplaces for Commuters	1.5	17	NA	25.5
<b>2/9/2015</b>	Commuting in America	1.5	17	NA	25.5
<b>2/10/2015</b>	Design Market Strategy: Introduction to Social Marketing and Transportation	1.5	17	NA	25.5
<b>2/10/2015</b>	MPOs: Issues, Impacts and Opportunities	1.5	17	NA	25.5
<b>2/10/2015</b>	Design Pricing Strategy: Commuter Tax Benefits	1.5	17	NA	25.5
<b>3/18/2015</b>	Assessing Market Situation: Trends and Conditions Affecting Transportation - Part 1	2.0	35	7	84
<b>3/24/2015</b>	Assessing Market Situation: Trends and Conditions Affecting Transportation – Part 2	2.0	35	4	78
<b>3/25/2015</b>	How to Sell Free Things	4.0	30	NA	120
4/1/2015	Determining Program Strategy: Situational Analysis for Establishing Goals and Objectives – Part 1	4.0	8	9	17
4/8/2015	Determining Program Strategy: Situational Analysis for Establishing Goals and Objectives – Part 2		5	17	22
4/15/2015	Determining Program Strategy: Situational Analysis for Establishing Goals and Objectives – Part 3		4	No Recording	4
4/22/2015	Assessing Market Situation: Estimating TDM Societal Costs and Benefits Using TRIMMS – Part 1	2.0	30	40	70
4/29/2015	Assessing Market Situation: Estimating TDM Societal Costs and Benefits Using TRIMMS – Part 2		22	6	28
5/6/2015	Determining Program Strategy: Measuring Performance and Sharing Results – Part 1	4.0	10	17	27
5/13/2015	Determining Program Strategy: Measuring Performance and Sharing Results – Part 2		7	13	20
5/20/2015	Determining Program Strategy: Measuring Performance and Sharing Results – Part 3		5	14	19
5/27/2015	Design Market Strategy: Introduction to Social Marketing and Transportation – Part 1	2.0	7	22	29

6/1/2015	Ridesharing - Expanding Transit Options in Your Community (Workshop)	4.0	31		217
6/2/2015	Design Market Strategy: Creative Thinking for Transportation Professionals (Workshop)	4.0	24		189
6/10/2015	Design Market Strategy: Introduction to Social Marketing and Transportation – Part 2		9	15	24
6/17/2015	Design Market Strategy: Introduction to Marketing – Part 1	4.0	17	20	37
6/18/2015	Spotlight On: Virginia Tech – 2014 “Best of the Best” in the University Category	1.0	42	26	68
6/24/2015	Design Market Strategy: Introduction to Marketing – Part 2		11	25	36
<b>TOTAL</b>		<b>44.5</b>	<b>439</b>	<b>235</b>	<b>1,284.5</b>

**SURTC** of North Dakota State University was also very active in providing training in seven states throughout the country that primarily was aimed toward small urban and rural transit systems. SURTC trained 762 people and had 1,789 contact hours of training between January 1 and June 30, 2015 utilizing funding from this grant.

Course	Delivery Dates	Location	Number of Attendees
Mobility of Elderly Women	1/14/2015	Washington, DC	125

**Quarterly Status:** Jill Hough presented this study during a 1.5 hour session at the 94<sup>th</sup> Annual TRB Meeting in Washington, DC.

Course	Delivery Dates	Location	Number of Attendees
Evaluation of Mobility Management and Transportation Coordination Programs, Cost Benefit Analysis of Rural and Small Urban Transit, National Transit Demand Response Level of Service	1/12/2015	Washington, DC	30

**Quarterly Status:** Jeremy Mattson presented findings during a .33 hour session from research on mobility management and transportation coordination programs, cost benefit analysis of rural and small urban transit, and national transit demand response at the 94<sup>th</sup> Annual TRB Meeting in Washington, DC.

Course	Delivery Dates	Location	Number of Attendees
Improving Veteran Mobility in	1/13/2015	Washington, DC	60

Small Urban and Rural Areas			
-----------------------------	--	--	--

**Quarterly Status:** Del Peterson presented findings during a 1.5 hour session from research on veteran mobility in small urban and rural areas at the 94<sup>th</sup> Annual TRB Meeting in Washington, DC.

Course	Delivery Dates	Location	Number of Attendees
Leadership Toolbox	2/26/2015	Boise, ID	18

**Quarterly Status:** Rob Lynch presented 6.0 hours of training on leadership as part of the CTAI Leadership Summit in Boise, ID.

Course	Delivery Dates	Location	Number of Attendees
Evaluation of Mobility Management and Transportation Coordination Programs	3/5/2015	Nashville, TN	40

**Quarterly Status:** Jeremy Mattson presented findings during a 1.5 hour session from research on evaluating mobility management and human service transportation coordination at a StrataGen user conference in Nashville, TN.

Course	Delivery Dates	Location	Number of Attendees
John C. Maxwell's 21 Irrefutable Laws of Leadership	3/6/2015-5/11/2015 (Mondays)	North Dakota State University	10
John C. Maxwell's 21 Irrefutable Laws of Leadership	3/10/2015-5/15/2015 (Fridays)	North Dakota State University	10

**Quarterly Status:** Jill Hough taught John C. Maxwell's 21 Irrefutable Laws of Leadership to North Dakota State faculty and staff for 10 weeks to two different groups. One group met on Mondays and the second group met on Fridays. Jill met with each group during a 1.0 hour session for a total of 20.0 hours of teaching between the two groups.

Course	Delivery Dates	Location	Number of Attendees
National Transit Demand Response Level of Service	3/13/2015	Atlanta, GA	40

**Quarterly Status:** Ranjit Godavarthy presented findings during a 1.5 hour session from research of national transit demand response at the Transportation Research Forum Annual Meeting in Atlanta, GA.

Course	Delivery	Location	Number of Attendees
--------	----------	----------	---------------------



	Dates		
Ethics in the workplace and transit 101	3/18/2015	Webinar for NRTAP	187

**Quarterly Status:** Jill Hough presented during a 1.0 hour session on ethics at this NRTAP webinar.

Course	Delivery Dates	Location	Number of Attendees
National Transit Demand Response Level of Service	5/4/2015	Fort Worth, TX	55

**Quarterly Status:** Ranjit Godavarthy presented findings during a 1.5 hour session from research of national transit demand response at the 2015 APTA Bus and Paratransit Conference in Fort Worth, TX.

Course	Delivery Dates	Location	Number of Attendees
Transit I – The Foundations	6/1-2/2015	Tampa, FL	26

**Quarterly Status:** Rob Lynch presented 18.0 hours of training on the foundations of transit as part of the CTAA Expo in Tampa, FL.

Course	Delivery Dates	Location	Number of Attendees
Risk Management	6/10/2015	Casper, WY	21

**Quarterly Status:** Rob Lynch presented 3.5 hours of training on risk management as part of the WYTRANS Conference in Casper, WY.

Course	Delivery Dates	Location	Number of Attendees
Making the Case	6/10/2015	Casper, WY	24

**Quarterly Status:** Rob Lynch presented 3.0 hours of training on dealing with local government as part of the WYTRANS Conference in Casper, WY.

Course	Delivery Dates	Location	Number of Attendees
Ethics	6/25/2015	Lexington, NE	21

**Quarterly Status:** Rob Lynch presented a 1.0 hour training session on ethics for the NE Association of Transit Providers in Lexington, NE.

Course	Delivery Dates	Location	Number of Attendees
Show Me the Money	6/25/2015	Lexington, NE	20

**Quarterly Status:** Rob Lynch presented 1.5 hours of training on fund raising for the NE Association of Transit Providers in Lexington, NE.

Course	Delivery Dates	Location	Number of Attendees
Financial Management	6/25/2015	Lexington, NE	25

**Quarterly Status:** Rob Lynch presented 3.5 hours of training on financial management for the NE Association of Transit Providers in Lexington, NE.

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

PIs for all projects have established peer reviewers 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 have been identified 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 50 people view each webcast on a live basis, with many more watching the webinars on a recorded basis at a time convenient for them. **During this six month reporting period**, consortium members made 28 presentations at national professional conferences including 11 at the TRB Annual Meeting and 4 at APTA conferences, with the remainder at a variety of settings including the Community Transportation Association of America (CTAA), webinars of the National Transit Institute, the Transportation Research Forum, and the USDOT OST-R Innovations in Research. In addition to the presentations made at *national* conferences, another 15 presentations were made at *state and local* transportation professional meetings. In addition, one paper based on NCTR research was published by TRB.

USF’s TDM program has developed a knowledge base (KB) to reduce the inquiry burden on Clearinghouse staff by providing an intelligent self-service option by providing information on hundreds of frequently asked questions as well as case studies and examples. This approach provides a means to reduce the total number of basic inquiries or repeat requests that require personal attention. It also allows staff to respond quickly to inquiries drawing on the information in the KB. The objective is to be more cost-effective and to handle more interactions by providing lower cost transactions with the KB's self-service feature. During this reporting period there were over 1,000 searches. The number of answers viewed continues to grow significantly.

In March 2015, NCTR helped organize and presented information at the 3<sup>rd</sup> Annual Southeast University Transportation Center Conference hosted by the University of Alabama at Birmingham. Approximately 100 students and faculty members from the UTC funded universities from the southeast attended for two days of presentations, poster sessions, and meetings.

SURTC maintained an education and outreach display booth at the 2015 APTA Bus and Paratransit Conference in Fort Worth, TX, May 4-5, 2015. SURTC distributed summaries of recent research and displayed information about available training opportunities.

SURTC maintained an education and outreach display booth at the CTAA Expo in Tampa, FL, June 3-4, 2015. SURTC distributed summaries of recent research and displayed information about available training opportunities.

SURTC continues to maintain and use its weblog that was launched September 2009. The blog keeps readers up-to-date on SURTC's research, training, and outreach efforts as well as news and information on developments in small urban and rural transit.

NCTR Director Joel Volinski participated in a week long peer review of the Los Angeles Metropolitan Transportation Authority to review its financial plan and determine what needed to be done to enable the agency to accomplish its service goals for the next five years. Information from the Lessons Learned in Transit Efficiencies report, a UTC-funded research project, provided prominent contributions to this effort.

For the report on Value Capture for Transit Agencies produced by UIC, a news story was disseminated to planning and transit agencies and relevant media, and the news story and an abstract were published on the UTC web site and promoted via social media. The news release resulted in significant media coverage, including articles in: NextCity.com, GlobeSt.com, Mass Transit, and City & State magazine. The research also was sent to real estate and transportation organizations. The news story and abstract received 321 visits and the Facebook post had 79 views.



Based on results from the report “Mapping Metropolitan Chicago’s Accessibility,” a news story was sent out to a wide range of local and national media, and the news story was published on the UTC web site. The research also was sent to Chicago area planning and transportation organizations.

USF/NCTR faculty member Sean Barbeau was the presenter for the OST-R Transportation Innovation Series in February, 2015:

**The OST Office of Research and Technology (OST-R) presents...**

**Dr. Sean J. Barbeau**  
University of South Florida

Wednesday, February 18, 2015  
1:00pm – 2:00pm EST West Building Conference Center Rooms 8-9-10

**YouTube Live Streaming Link: <http://youtu.be/As2UXK2kalo>**

“Enabling better mobility through innovations for mobile devices”

Mobile phones are quickly reshaping our world. As of November 2014, 97 percent of US households have mobile phones, with the average household owning 5.2 connected mobile devices. Mobile app use on these devices is skyrocketing, with app usage up 76 percent in 2014. These apps can help us make better transportation choices by delivering the right information at the right time & location - from decreasing your wait time for public transportation, to letting you know about traffic incidents before you even leave for your destination, to helping transit riders with special needs get to and from jobs. However, developing new mobile technology that is smart, both in terms of delivering the information

at the right moment and conserving limited resources such as battery life and data plans, is not always simple. Research conducted at universities has the potential to break through some of these challenges, which can result in improvements in mobility to everyone.

This presentation discusses the multi-disciplinary innovation process at the University of South Florida, including research funded by the National Center for Transit Research UTC and the Florida Department of Transportation that has resulted in 14 U.S. patents on location-aware mobile technology and resulted in the deployment of real-world systems. Lessons learned during the research itself as well as the technology transfer process to real-world deployments will be presented.

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

During the next six months at least five of the projects identified and established in the grant will be completed. NCTR will energetically share the results of the research projects with sponsors and with all other parties that can benefit from the findings through every technology transfer avenue available. Webinars featuring results from these projects will be held every two weeks, and opportunities to present findings at professional transportation conferences will also be pursued as normal. Final drafts of all research projects will be peer reviewed. The ongoing training programs will continue in the next six months based on input received from operating agencies requests, while preparations for the GIS in Transit conference to be held in October 2015 in Washington, DC will continue. The development of training modules for the national public transit course will be fine tuned and scheduled to be taught in the Spring of 2016. New students for the NCTR Scholars program will be selected and placed with faculty members as graduate research assistants, and they will be given the opportunities to attend TRB and the FPTA Annual conferences. The NCTR website will be updated to include the completed research reports from all four consortium members. A new editorial board will be constituted for the Journal of Public Transportation to bring additional energy and input and provide guidance to NCTR.

## **Products**

### **Publications**

Two editions of the Journal of Public Transportation (Volume 18, issues #1 and #2) were produced during this progress report period featuring a total of 20 papers. The Journal is now produced in electronic format only, saving the project approximately \$30,000 per year which has been reprogrammed into additional reviews and other projects under NCTR. The Editor continued to contact potential new members for the Journal's Editorial Board to determine their interest in serving, though the Board was not yet reconstituted. The Journal is now receiving over 15 papers a month from all over the world for consideration for publishing (approximately 40 papers are published annually). The list of professional reviewers now numbers over 155. The National Center for Transit Research (NCTR) is pleased to announce the availability of the Journal of Public Transportation on the University of South Florida's Scholar Commons website at <http://scholarcommons.usf.edu/jpt/>. The Journal of Public Transportation is now part of Scholar Commons, a service of the University of South Florida Tampa Library that is a virtual showcase for USF's research and creative energies. The new site is expected to be easier to use, from finding archived articles to signing up for email notices to submitting articles. It will

also enable more automated tracking of its usage. Since March, when Scholar Commons began tracking, there have been over 9,000 papers downloaded from the Journal.

The following reports were published by members of the NCTR Consortium in the six month reporting period:

Impact of Transportation Demand Management (TDM) Elements on Managed Lanes Toll Prices (USF)

Guidelines for Bus Transit Stops in Construction Work Zones (FIU)

Mapping Metropolitan Chicago's Accessibility (UIC)

Exploring Commuting-Related Environmental Impacts in the Healthcare Sector (UIC)

Integrated Modeling of High Performance Passenger and Freight Train Operation Planning on Shared Use Rail Corridors: A Focus on the US Context (UIC)

Planning Transportation to Meet the Needs of an Aging Illinois: An Assessment (UIC)

Identifying and Satisfying the Mobility Needs of North Dakota's Transit System - NDSU

## Websites

The website for NCTR ([www.nctr.usf.edu](http://www.nctr.usf.edu)) has been in place since 1999 and remains very active. NCTR is rated #2 for “transit research” results on Google, Bing and Yahoo search engines. 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 projects completed by consortium members and the projects yet to be undertaken through the federal grant and matching funds.

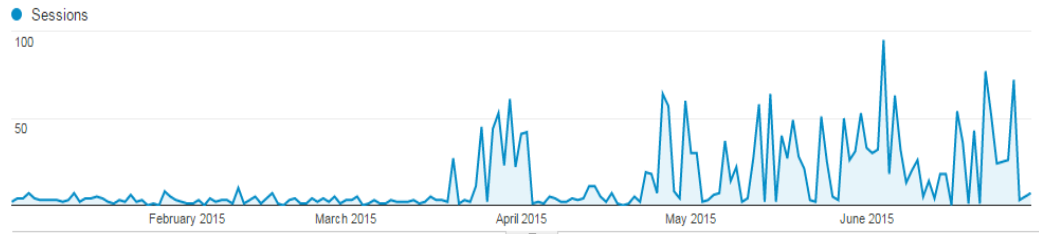
A website for the National Transit Safety Research and Assistance Center (<http://transitsafetycenter.org/>) is now established and provides the latest information on transit safety-related regulations, available training, and links to reports beneficial to operating transit agencies. The total number of page views during this period was 3,721 (2,366 unique users across 2,482 sessions).

The top 3 (non-home) visited pages were:

- [Research](#) (109 views)
- [Federal Safety Laws and Regulations](#) (64 views)
- [State Safety Laws and Regulations](#) (47 views)

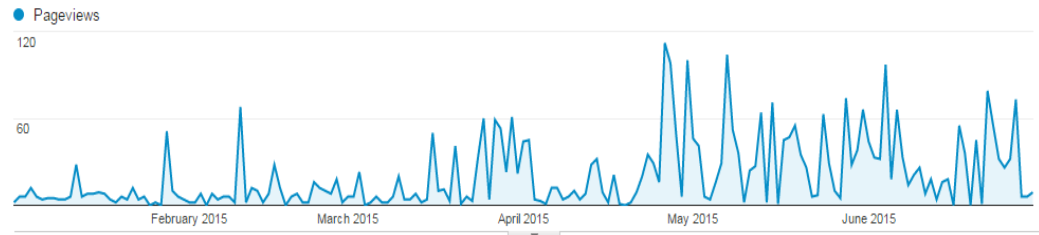
The most popular days (by session) were:

- 6/4/2015 with 95 sessions
- 6/22/2015 with 77 sessions
- 6/27/2015 with 72 sessions






















The most popular days (by page views, which is what the previous report contained) were:

- 4/26/2015 with 112 views
- 5/7/2015 with 104 views
- 4/30/2015 with 100 views



The amount of activity on the website spiked in May and June due to information sent in advance of the FPTA Professional Development workshop and training provided during that workshop. NCTR maintains a very close relationship with all operating transit agencies in the state of Florida.

Provided below is a summary of sessions on the Transit Safety Center website based on the country of origin (“not set” generally means that it was impossible to reliably determine based on IP address/browser settings). These numbers show how broad and international the reach of NCTR is:

Country	Sessions	% Sessions
1.  United States	1,075	 43.31%
2. (not set)	426	 17.16%
3.  Brazil	166	 6.69%
4.  China	92	 3.71%
5.  Germany	66	 2.66%
6.  Japan	66	 2.66%
7.  Italy	56	 2.26%
8.  Russia	45	 1.81%
9.  United Kingdom	35	 1.41%
10.  France	32	 1.29%

**Technologies or Techniques** – Work performed by NCTR researchers in collaboration with Georgia Tech and the University of Washington resulted in the implementation of “OneBusAway” software for the Hillsborough Area Regional Transit Authority in Tampa, Florida. This public domain software, developed by the three noted universities, allows passengers to know when the next bus is arriving in real time through their cell phones. HART officials received nothing but positive feedback from customers and believe OneBusAway is contributing to ridership increases.

The following email was provided by the Planning Manager of the Lee County, Florida, Department of Transportation whose agency benefited from NCTR’s report on Multimodal District Planning produced by NCTR in 2014:

“The quick message answer is that we have been using both the Mobility Review Guide and The Multimodal Transportation Best Practices and Model Element and course materials. Starting in 2011, county staff had started a major Lee Plan amendment <http://www.leegov.com/gov/dept/dcd/Planning/NewHorizon/Pages/default.aspx> and developed a draft Transportation Element based on the adopted EAR, which emphasized a balanced multimodal transportation system. After the EAR was adopted the 2011 Community Planning Act prompted a few more changes. From 2012-2014 staff has taken the draft Transportation Element to stakeholders, advisory committees, and the LPA. The most recent LPA review being March 2014. After the June 2014 publication of The Multimodal Transportation Best Practices and Model Element and December 2014 Mobility Review Guide, we will be using them as an internal review tool for the draft Transportation Element. The plan still has final review by the LPA, then consideration by the BOCC for consideration of transmittal, then state review.

Andy Getch, P.E., Planning Manager  
Lee County Department of Transportation

**Inventions, Patent Applications, and/or Licenses** – The six month reporting period was once again notable for another patent received by USF made possible by research funded by the UTC grants. The following patent was awarded during the reporting period:

On June 2, 2015, the United States Patent Office awarded Patent No. 9,047,384, System and Method for Automatically Determining Purpose Information for Travel Behavior to a team of researchers from the National Center for Transit Research ([www.nctr.usf.edu](http://www.nctr.usf.edu)) and College of Computer Science and Engineering at the University of South Florida. The patent is for an automated trip-purpose detection method that utilizes GPS Data collected by GPS-enabled devices. The GPS data is compared against a GIS map to obtain various spatial and location characteristics of the surrounding area. This information is then used to derive a traveler’s trip purpose. In a preferred embodiment, the inventive method is implemented automatically without any needed manipulation of GIS data. Additionally, the method integrates location information as defined by the user for critical locations such as home and work. These personalized locations allow the method to immediately identify the two most common types of trips: work-related trips and trips returning home. More information about the patent may be found at <http://tinyurl.com/ntfj5> - See more at: <http://www.nctr.usf.edu/2015/06/nctr-researchers-awarded-patent/#sthash.GHmlU8zR.dpuf>.

The University of South Florida ranks 10<sup>th</sup> nationally and 13<sup>th</sup> among universities worldwide for U.S. patents granted in 2014, according to a new report released by the National Academy of Inventors (NAI) and the Intellectual Property Owners Association (IPO) in June, 2015.

## **Other Products**

In April, 2015 the Federal Transit Administration released its 2015 Policy Manual for National Transit Database reporting and officially replaced its circular sampling plans (including 2710.1A for bus services) by the sampling manual developed through NCTR. A significant addition to this new version is that the new Excel template allows transit agencies to customize their Circular 2710.1A sampling plans for bus services to local conditions. It has been shown that the new sampling plans developed by NCTR will save transit agencies considerable time and money associated with the collection of data for NTD reports.

## **Participants and Collaborating Organizations**

### **What organizations have been involved as partners?**

The National Center for Transit Research (NCTR), through its transit-focused grant, 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 that is part of 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), 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.

As described earlier in this report, the four universities are collaborating on four different projects, lending their expertise toward completing research reports. Collaboration with other parties has been quite extensive as noted below:

1. **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. FTA established an internal process to solicit, screen, and submit research ideas to the two transit-focused UTCs to be funded through both the first and second year of the federal grant. FTA submitted eight project proposals. Four of them are being completed by USF’s consortium and three were undertaken by the San Jose State consortium. FTA staff have served as peer reviewers of the projects.
2. **The Florida Department of Transportation** – FDOT has been a vital partner in the development, selection, and funding of the majority of the research that will be conducted by USF and FIU researchers under this grant. FDOT is providing cash match to USF’s and FIU’s portion of the grant. It is also providing project managers for each project to manage and oversee the completion of each project done by USF and FIU. 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.
3. **The Florida Public Transportation Association** – FPTA, in conjunction with FDOT, is collaborating on a number of training projects through the engagement of various public transit networks (e.g., Transit Operations Network, Planning Network, Maintenance Network) to serve as advisors and peer reviewers of research projects. Several Florida transit agencies are also providing vital information for some of the research projects and the time and effort they have devoted has been indispensable to the success of the projects.
4. **The Washington State Department of Transportation** has provided full cash match funding for the project entitled “Incorporating Managing Demand into Washington State DOT Planning and Programming.”
5. **The Florida Commission for the Transportation Disadvantaged** served as the project managers and reviewers of the project entitled “Impacts of Dialysis Transportation on Florida’s Coordinated Public Transportation Programs” and provided final approval of the report in the last six months.
6. Consortium members have worked closely with the **American Public Transportation Association** on the Higher Education Subcommittee of the Human Resources Committee (Dr. Jill Hough of NDSU is the Chair of that subcommittee); with the Research and Development Committee on making a closer connection between UTC transit research results and APTA members (NCTR Director Joel Volinski is Chair of the University Liaison subcommittee); with the Alternative Fuels Committee in providing information for NCTR’s Advanced Transit Energy Portal; and with the Bus Safety Committee. A draft Memorandum of Agreement between CUTC and APTA was discussed

at the APTA Annual Meeting in October 2014 and further meetings will be held to formalize a memorandum of agreement.

7. USF has collaborated with the **Texas Transportation Institute** in developing a new methodology to determine the impact of transit services on roadway congestion for its Annual Congestion Study.
8. USF collaborated with the **Mineta Transportation Institute** to provide two case studies for a report dealing with best practices in improving access to transit services for disabled people.
9. The TDM group at USF continued planning with the Florida Prevention Research Center with USF College of Health for their 2nd Social Marketing in Transportation certificate.
10. NCTR Director Joel Volinski was asked to participate as part of the Problem Statement Screening Panel to be held in August 2015 to help ensure no research projects selected for TCRP would duplicate ongoing research.
11. NCTR Director participated as a member of the Executive Board of the National Institute for Transportation and Communities to identify research priorities and share information on the activities as USF. He was also elected to the position of Vice President of the Council of University Transportation Centers While Dr. Jill Hough was elected Vice President of CUTC. Dr. Hough also took a leadership role in redesigning the CUTC website so it would be more usable to UTCs around the country.
12. CUTR's Transportation Program Evaluation and Economic Analysis program, partially funded through NCTR projects dealing with alternative fuels, staffs a statewide legislatively created committee to make recommendations on cleaner transportation fuels to the governor and state legislature; works with FDOT on an ongoing project to evaluate the performance of alternatively fueled buses; assists FTA with its transit electrification research plan and other fuel-related research; established the Tampa Bay Clean Cities Coalition; and received grants from the University of Central Florida to assist in developing markets for alternative fuel vehicles.
13. Julie Bond of USF was appointed to be a Friend, Transportation Demand Management Subcommittee, TRB and the Smart Commutes Expert, Union of Concerned Scientists. Diana Byrnes of USF was appointed as a Commissioner for the National Substance Abuse Program Administrators Certification Commission (SAPACC)

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

Michael Melaniphy, President – American Public Transportation Association

David Spacek, Public Transportation Office – North Dakota Department of Transportation

Tim Garling, Director, Broward County Mass Transit Division – President, Florida Public Transportation Association

Ed Coven, Manager, Public Transportation Office, Florida Department of Transportation

Darryll Dockstader, Manager, Research Office, Florida Department of Transportation

Bill McCloud, Senior Vice President, Veolia Transportation

Donna Vlasak, Senior Program Officer, The National Academies, TRB

Jon Martz, Vice President, Van Pool Services, Inc.

Joe Calabrese, GM/CEO, Greater Cleveland Regional Transit Authority

Michael Baltes, Director – Office of Technology, Federal Transit Administration

Dr. Minnie Fells Johnson, Chair, Project for Public Spaces

Perry Maull, Director – Indiana University Bus Services

### **Have other collaborators or contacts been involved?**

Most of the significant collaboration has been described in previous sections. It should be noted again that consortium members are collaborating on four projects listed in the federal projects to be undertaken after discussions were held with the Mineta Transportation Institute. NCTR completed two case studies on a federally funded project headed by MTI that identifies ways to improve access to transit stops for people with disabilities.

## **Impact**

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

As noted earlier, FDOT accepted the report entitled “**Improved Traffic Control Measures to Prevent Incorrect Turns at Highway-Rail Grade Crossings.**” With the information collected through this study, FDOT has awarded another contract to USF to continue work on this subject through the deployment and testing of the remedies that were identified in the initial study in as many as six locations throughout the state.

The project entitled “**Investigation, Quantification, and Recommendations - Performance of Alternatively-fueled Buses**” was completed and the Advanced Transit Energy Portal continued to provide information on the pros and cons of alternative fuels. During this time frame, another transit agencies in Florida (Miami-Dade Transit), aided to some extent by the information developed by NCTR, decided to switch to compressed natural gas.

The most important outcome/potential outcomes of the report entitled “**Bus Operator Safety Critical Issues Examination and Model Practices**” are those activities underway and planned to modify Florida state law and individual transit agency policies and procedures related to training (which includes assault prevention) and criminal history background checks. Activities include:

- Florida Operators Network (FON) and the Florida Transit Safety Network (FTSN) have established “Minimum Fixed-Route Bus Operator Training Guidelines” that have been distributed statewide - this research study contributed to the completion of this process, recognizing the importance of transit operator training in how they can help de-escalate situations to contribute to the reduction of incidents.
- FON and FTSN are establishing “Minimum Fixed-Route Bus Operator Annual Refresher Training Guidelines” (which will include assault avoidance/defusing volatile situations module).
- FDOT will begin rule change processes in the immediate future. Potential modifications to Chapter 14-90, Florida Administrative Code, governing “Equipment and Operation Standards for Bus Transit Systems” will likely include minimum training standards and the requirement of Florida’s transit agencies to perform Level 1 Criminal History Background Checks for new bus operator hires and could also include rechecks on a specific rotation (every 2 years as an example).

**What is the impact on other disciplines?**

FDOT has funded a series of training workshops on the results of the research associated with the project entitled “Multimodal Transportation Best Practices and Model Elements.” Through the workshops, the FDOT project manager and NCTR are soliciting feedback from participants on use of the report and also will be identifying potential locations for pilot application of the model elements (an example from Lee County was provided earlier in the report). A goal of the pilot applications will be to provide additional guidance and further refine the research results.

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

The results of the various training programs conducted by USF and NDSU were documented in the section entitled “**What opportunities for training and professional development has the program provided?**”

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

All of the consortium partners represent well established universities with long standing research programs. The grant has not resulted in any significant capital improvements, but it has provided the funds to permit research faculty to manage things such as listservs and webinar series that provide a wealth of information to the thousands that participate at no cost to the participants.

## **What is the impact on technology transfer?**

NCTR has been a leader in providing webinars that are free and can be watched on a live or recorded basis. This helps to minimize expense to those who participate since they can do so from their offices or other remote locations. Over 500 people have watched the webinars during the six month reporting period. NCTR has also been a leader in the management of listservs that allow flexible and frequent communication among transportation professionals on a variety of subjects. Some decisions cannot wait many months or years for research to be completed, but the listservs allow participants to share information and provide mutual assistance by providing all participants with the best information available.

The TDM Listserv now has 2,450 members after another 40 people joined during the six month reporting period. NCTR manages these listservs with the intent of transferring information within this large transportation community. During the six month reporting period, over 630,000 messages were successfully transmitted.

The website for NCTR ([www.nctr.usf.edu](http://www.nctr.usf.edu)) was described on page 22 of this report.

## **What is the impact on society beyond science and technology?**

The “Best Workplaces for Commuters” designation acknowledges employers who have excelled at implementing green commuter programs. These programs include ridesharing, transit benefits, biking/walking/teleworking, flexible work schedules and other transportation demand management strategies designed to decrease traffic congestion and improve traffic related air pollution levels. By offering these commuter benefits, the recognized employers are committing to regional pollution reduction, greater economical savings related to commuting costs and lessening employee stress caused by single occupant vehicle travel to and from work. Over 320 workplaces (many of the largest companies in the country) throughout the country have earned the designation as a Best Workplace for Commuters.

On May 12, the New North Transportation Alliance (NNTA) hosted a Go Hillsborough public workshop on the USF Tampa Campus. NNTA members and others met representatives of Hillsborough County to learn about the long range planning process and the transportation infrastructure and service development options under consideration for the USF area and beyond. This workshop was one in a series of forums that are being held at various public venues throughout the County. Workshop participants filled out surveys and submitted their comments relating to infrastructure financing options. Go Hillsborough is an initiative of the Transportation for Economic Development Policy Leadership Group, which includes all seven Hillsborough County Commissioners; the mayors of Plant City, Tampa and Temple Terrace; and the chair of the HART board. NNTA is a transportation management initiative of public and private members. USF’s TDM Team provides technical support to NNTA.

Dr. Steve Polzin, Director of Mobility Policy Research at NCTR/CUTR, was selected as a member of the Committee for Study of Innovative Urban Mobility Services by the Transportation Research Board (TRB) Executive Committee. This ad hoc committee is examining the growth of new on-demand and peer-to-peer mobility services and exploring the implications these services have for consumers and existing transportation services. The study will identify policy, regulatory, and other issues that policy makers will need to consider as they regulate these services, including the existing regulatory structure for taxi,

limousine, and transit services. Priority areas of research to inform public policy decisions will also be identified. The committee is expected to have a final report available in late 2015.

Steve Polzin presented the following: “From Millennials to Uber to Autonomous Vehicles: How Demographics, Economics and Technologies are Impacting Public Transportation,” at the 2015 Southeastern Regional Transit Conference, and also to the Central Florida Transportation Planning Group and a Transtalk Lecture for the Intermodal Transportation Student Organization at the University of Minnesota.

Sean Barbeau, Phil Winters, and Nevine Georggi coordinated efforts with USF Division of Patents and Licensing to find potential licensees for several of their patents. Their technology (including a patent) to help mobile phone users alert first response teams of emergency situations was licensed to the company EmergenSee (<http://emergensee.com/>). This technology, noted earlier and developed through UTC funding, will help save lives for those who need immediate care due to accidents on our highways. (<http://www.bizjournals.com/tampabay/news/2014/07/09/new-tech-at-usf-helps-alert-response-teams-during.html>)

The New North Transportation Alliance and the WalkWise and BikeSmart programs managed by CUTR helped organize this Cyclovia event with much help and support from the City of Temple Terrace, FDOT, and others. At the NNTA/Walkwise booth, many people took the pledge to be ambassadors for bicycle and pedestrian safety and walked away with t-shirts and bicycle lights. Many more children and adults were properly fitted by CUTR personnel with bicycle helmets.

The **Tampa Bay Clean Cities Coalition (TBCCC)**, a partnership between the University of South Florida, the Environmental Protection Commission of Hillsborough County, and TECO Energy, celebrated its official designation under the national Clean Cities program by the U.S. Department of Energy (DOE) during a November 17 ceremony. CUTR is a founding member of the coalition, which promotes the use of advanced transportation fuels and technologies in the Tampa Bay region. The ceremony, held at the Patel Center for Global Solutions, included a display of alternative fuel vehicles from coalition members - Tampa International Airport, Precision Alternative Fuel Conversions, and Florida Transportation Systems. Also on display were a couple of the latest electric vehicles, a Tesla Model S and a BMWi3. Linda Bluestein, National Clean Cities Co-Director, spoke about the Clean Cities program, which has saved nearly 6.5 billion gallons of petroleum since 1993. She presented USF with a plaque from DOE commemorating the coalition’s designation and in recognition of its “leadership and commitment to reducing petroleum dependence and improving air quality.” The highlight of the ceremony was the certification presentation to coalition members, acknowledging their shared commitment to the Clean Cities program. Many of the 30-plus public and private organizations are already using successful petroleum displacement initiatives. Federal designation will help the Tampa Bay region to identify funding opportunities for clean fuel projects through a network of partners on the cutting edge of alternative fuels. The coalition’s efforts going forward will continue to support the Clean Cities petroleum displacement goals. The U.S. Department of Energy will work closely with the coalition, providing national program resources to assist in outreach and educational efforts.

The “Excellence in Scholarship Award” from the Association for Commuter Transportation was awarded to the team of Chanyoung Lee, Phil Winters, Debbie Shultz, and Joan Pino for the NCTR project, “Improving Cost Effectiveness of Financial Incentives in Managing TDM” in August 2014. The Excellence in Scholarship award acknowledges an ACT member for recent scholarly work in transportation demand

management, one of its sub-disciplines, or in a related field when the research demonstrates applicability to TDM goals.

The “President’s Award” from the Association for Commuter Transportation was awarded to CUTR for everything USF’s TDM program does to assist the association’s members such as webinars, hosting the TRANSP-TDM listserv, research, training, and other things in August 2014.

## **Changes/Problems**

### **Changes in approach and reasons for change**

Dr. Eric Welch of UIC has left UIC and joined the faculty at Arizona State University. He will continue to be the PI for the project titled “Adapting Transit to Climate Change Impacts” which is two-thirds finished, with assistance from Dr. Sriraj of UIC.

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

There are no anticipated problems due to delays. All subcontracts are well in place among consortium members and all funds are dedicated toward projects that have already been identified and scoped.

### **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 other than the move of Dr. Eric Welch from UIC to Arizona State University.

## **Additional information regarding Products and Impacts**

### **Outputs**

Nothing more to report

### **Outcomes**

Nothing more to report.

### **Impacts**

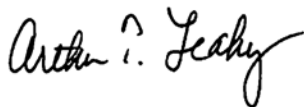
The following letter was received from the CEO of the Los Angeles Metropolitan Transportation Authority after NCTR's director met with him, his staff, and his board in February to do a peer review of the agency's ability to provide the level of service called for in its plans:

**Dear Mr. Volinski:**

I would like to extend my sincerest appreciation for participating in the APTA Peer Review of our agency's recently restructured fare policy. As you can see, LA Metro is a large organization that is expanding at a rapid pace. As we serve 1.5 million boardings per day, we are also building 5 new rail lines and buying hundreds of new buses and rail cars per year. Maintaining our fiscal solvency into the future will be a challenge, and the insights and recommendations you provided will help to frame some very important policy discussion with our Board.

Through your participation, you demonstrated extensive knowledge and experience in key areas of fare policy, service design, cost control, and revenue generation. Our agency has benefitted tremendously from your participation. Thank you again for your contributions and I wish you continued success into the future.

Sincerely,

A handwritten signature in black ink that reads "Arthur T. Leahy". The signature is written in a cursive style with a large initial "A" and "L".

Arthur T. Leahy  
Chief Executive Officer

Nothing more to report.

### **Special Reporting Requirements**

Nothing to report.