



NATIONAL CENTER FOR TRANSPORTATION SYSTEMS PRODUCTIVITY AND MANAGEMENT

Program Progress Performance Report for University Transportation Centers

U.S. Department of Transportation
Research and Innovative Technology Administration
Federal Grant Number: DTRT12 G UTC04

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Signature of Submitting Official:

Michael Hunter, Ph.D.

3/14/14
Date

Accomplishments

What are the major goals of the program?

The National Center for Transportation Systems Productivity and Management (NCTSPM), a Tier I University Transportation Center, was founded to facilitate, coordinate and conduct research and educational programs toward the following goals:

- Conduct multi-disciplinary research on topics relevant to the relationship among transportation infrastructure (state-of-good-repair), economic competitiveness and safety
- Disseminate research results and other products of the Center to the transportation community
- Promote transportation education and professional development on topics relating to Center research topics
- Establish a central point of contact and promotion of best practices (e.g., through a web site or list serve) for materials relating to transportation systems performance and management
- Promote diversity in the workforce through active recruitment of women and minority students into degree programs
- Act as a national resource for the debates and discussions that focus on the evolving national transportation program and future directions
- Explore international cooperative activities with research entities in selected countries where similar research interests exist

What was accomplished under these goals?

Accomplishments for the reported period are discussed below and organized by major center goal.

Conduct multi-disciplinary research on topics relevant to the relationship among transportation infrastructure (state-of-good-repair), economic competitiveness and safety

The twenty-one (21) research projects which were brought under contract in 2012 continued to progress during the reporting period. In Fall 2013, twenty (20) additional research grants were awarded to researchers at NCTSPM's 4 universities. An announcement with a full listing of these projects [can be viewed on the NCTSPM website](#).

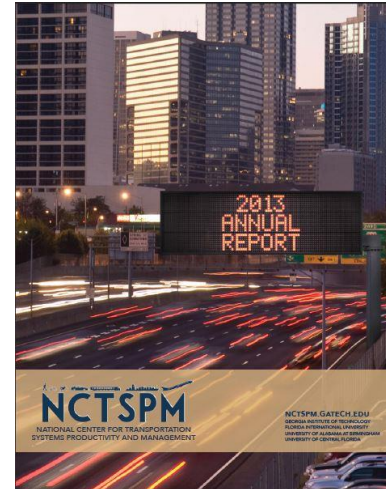
Disseminate research results and other products of the Center to the transportation community

In December 2013, NCTSPM released its 2013 Annual Report. This report provided an update on projects which were awarded in 2012 - highlighting 4 projects of significance in a "Featured Projects" article - and announced the 20 new research projects which were awarded in 2013. The report also showcased other

NCTSPM accomplishments: K-12 STEM initiatives; symposia, seminars, and workshops organized by each university; supporting minority students; international collaboration; and student awards and internships. The 2013 Annual Report can be viewed at <http://nctspm.gatech.edu/2013AnnualReport>.

In addition to the annual report, NCTSPM also distributed an electronic newsletter in September 2013. Each of NCTSPM’s newsletters features highlights on 3 research projects, a profile of a Principal Investigator and student, and updates on events and announcements. The September newsletter can be viewed at <http://nctspm.gatech.edu/newsletter>.

In addition to putting out a newsletter, NCTSPM also posts news items regularly on its website. These announcements can be viewed at <http://nctspm.gatech.edu/news>.



Research results were also disseminated by researchers, through publications and presentations, as seen below in Table 1, “Research Dissemination in 2013.”

	TOTAL
Number of research final reports	5
Number of refereed journal publications (after the first year)	7
Number of conference proceedings	25
Number of invited presentations/lectures on research findings	24
Number of workshops, seminars, and webinars held on research projects	16
Number of keynote presentations at conferences	2
Number of times papers produced by center faculty have been cited	9
Number of refereed and professional publications	6
Number of peer-reviewed articles submitted/accepted	11

Table 1. Research Dissemination in 2013

Promote transportation education and professional development on topics relating to Center research topics

2013 was a busy year for education and professional development.

8 seminars were held in fall 2013, on topics ranging from travel behavior to autonomous vehicles to transportation asset management. Attendees included university students and researchers, as well as employees at transportation agencies including the Georgia Department of Transportation and Atlanta Regional Commission.

The University of Alabama-Birmingham developed a K-12 Transportation Program in conjunction with the City of Birmingham. The Sustainable Smart Cities Youth Champions program, a program of the Sustainable Smart Cities Research Center at the University of Alabama at Birmingham (UAB SSC), is starting with middle school students (between the ages of 12- 14) attending inner-city Birmingham City

Schools. It provides inner-city youth with hands-on learning opportunities. Lessons are taught by UAB faculty, graduate students, and staff.

Florida International University developed a college-level summer course co-taught by four adjunct instructors who work at the Florida Department of Transportation; Miami-Dade Public Works; Miami Seaport; AASTHO; and Kimley-Horn. This course, which focuses on real world applications, introduced students to advanced strategies and technologies for planning and operations of transportation systems. Additionally, this FIU course provided students with opportunities to interact with academic faculty and leading professionals in the industry.

In September 2013, Georgia Tech co-hosted a poster session at the Georgia Department of Transportation (GDOT). Over 90 posters were displayed at this two hour event, which attracted more than 100 attendees from Georgia Tech and GDOT. In November 2013, NCTSPM sponsored an event entitled “Connected Places: Freight Movements and Megaregions” Peer Exchange. Co-sponsored by Georgia Tech, the Federal Highway



Administration, the Atlanta Regional Commission, and the Metro Atlanta Chamber of Commerce, this peer exchange focused on transportation planning and freight movement by metropolitan planning organizations for megaregions. Attendees included university researchers, agency heads, and transportation practitioners from the private sector from not only Georgia but also Alabama, Florida and North Carolina.

Establish a central point of contact and promotion of best practices (e.g., through a web site or list serve) for materials relating to transportation systems performance and management

The [NCTSPM website](#) serves as the main point of contact for all NCTSPM research. The website hosts individual webpages for each research project, as well as a News section. Moreover, NCTSPM regularly distributes newsletters, which are housed on the NCTSPM website. The newsletter features updates on research projects as well as initiatives at each of NCTSPM’s universities.

Promote diversity in the workforce through active recruitment of women and minority students into degree programs

During the period, three minority graduate students (two female, one male Hispanic) from FIU completed their internships at three different transportation agencies. During the same period, two undergraduate students, one female and one Hispanic minority student were recruited and paperwork processed for their internships to start in January, 2014. In addition, two minority students are employed at UCF through NCTSPM funding, one of whom runs the K-12 programs supported by NCTSPM. Other recruitment activities at FIU included poster presentations at the Engineering Research Day on September 26, 2013 and hosting of a “Civil and Environmental Engineering Table” at the FIU Recruitment Exhibit on September 28, 2013. UAB will be running a Middle School Youth Program in 2014; during the reporting period, they conducted several planning meetings to prepare for the program. They also held planning meetings to plan the Summer Enrichment Program which hosts minority and female students on the university’s campus for one month.

Act as a national resource for the debates and discussions that focus on the evolving national transportation program and future directions

NCTSPM sponsored an event in November 2013 entitled “Connected Places: Freight Movements and Megaregions” Peer Exchange. Co-sponsored by Georgia Tech, the Federal Highway Administration, the Atlanta Regional Commission, and the Metro Atlanta Chamber of Commerce, this peer exchange focused on transportation planning and freight movement by metropolitan planning organizations for megaregions. The meeting provided an opportunity for private sector industry leaders, decision makers, national experts, elected officials, and academics to share ideas on increasing the efficiency of freight movement within and between regions. Attending the exchange were members of the Federal Highway Administration, Federal Transit Administration, Atlanta Regional Commission, CQGRD, Metro Atlanta Chamber, and the National Center for Transportation System Productivity and Management.

Explore international cooperative activities with research entities in selected countries where similar research interests exist

NCTSPM researchers are very active internationally:

- Kari Watkins (GT) and Mohamed Abdel-Aty (UCF) presented at ITS World Congress in Tokyo, Japan
- Nasim Uddin (UAB) is using UTC funds to leverage an ongoing NSF collaboration on Bridge Weigh-in-Motion (WIM) Systems with universities in Ireland and the UK
- Mohamed Abdel-Aty (UCF) conducted two seminars at Central South University (CSU) in China
- Essam Radwan (UCF) invited to be keynote speaker at RSS2013 (Roadway Safety and Simulation) International Conference in Rome, Italy

- Kari Watkins (GT) presented at the International Conference on Urban Transportation Systems (ICUTS) in Paris, France
- Essam Radwan (UCF) invited to speak at 2nd International Conference on Traffic and Logistic Engineering in Istanbul, Turkey

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

NCTSPM provides a number of opportunities for training and professional development.

NCTSPM is funding more than 70 graduate students to work on research projects. These projects provide students with the opportunity to not only learn about salient transportation issues but also to contribute to the greater body of knowledge of transportation research. Moreover, nine (9) students held internships at transportation agencies, providing them with real-world experience.

In the fall of 2013, 8 seminars were held on topics ranging from travel behavior to autonomous vehicles to transportation asset management. Attendees included university students and researchers, as well as employees at transportation agencies.

The University of Alabama-Birmingham developed a K-12 Transportation Program in conjunction with the City of Birmingham. The Sustainable Smart Cities Youth Champions program, a program of the Sustainable Smart Cities Research Center at the University of Alabama at Birmingham (UAB SSC), is starting with middle school students (between the ages of 12- 14) attending inner-city Birmingham City Schools. It provides inner-city youth with hands-on learning opportunities. Lessons are taught by UAB faculty, graduate students, and staff. The UAB Summer Enrichment Program hosted six freshman-level minority and female students on the university's campus for one month. Through the program, these students studied topics related to technical writing, research methods, transportation infrastructure, transportation operations, congestion management, and environmental issues, while exposing them to contemporary transportation issues.

Florida International University developed a college-level summer course co-taught by four adjunct instructors who work at the Florida Department of Transportation; Miami-Dade Public Works; Miami Seaport; AASTHO; and Kimley-Horn. This course, which focuses on real world applications, introduced students to advanced strategies and technologies for planning and operations of transportation systems. Additionally, this FIU course provided students with opportunities to interact with academic faculty and leading professionals in the industry.

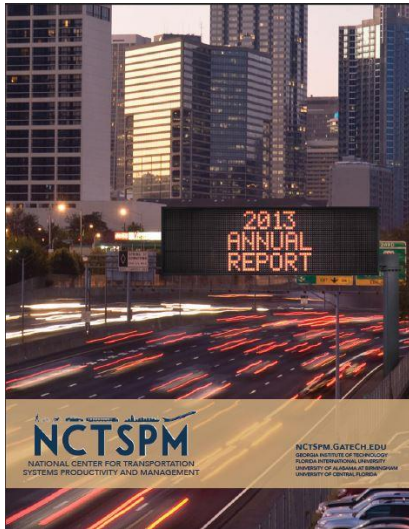
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How have the results been disseminated?

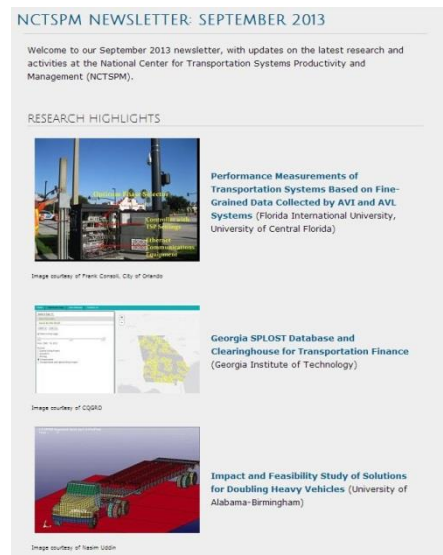


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newsletters features highlights on 3 research projects, a profile of a Principal Investigator and student, and updates on events and announcements. The September newsletter can be viewed at <http://nctspm.gatech.edu/newsletter>.

In addition to putting out a newsletter, NCTSPM also posts news items regularly on its website. These announcements can be viewed at <http://nctspm.gatech.edu/news>. The website received 1800 unique visitors, from more than 30 countries, to the Center website in 2013.



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

The next reporting period will see the first of the final research reports from the projects which were awarded in 2012. Two reports are expected in April 2014, and 3 more are expected for summer 2013. These reports will be available on the NCTSPM website and announced in a newsletter.

Additionally, the twenty projects which were awarded in fall of 2013 will be kicking off in the first half of 2014. This will contribute to the goal of “Conduct multi-disciplinary research” as well as “Promote transportation education and professional development,” as these new projects will be able to double the number of graduate students who are funded by NCTSPM.

NCTSPM will be sponsoring TransportationCamp South and Govathon. TransportationCamp is an “unconference” bringing together thinkers and doers in the fields of transportation and technology for a day of learning, debating, connecting, and creating. Govathon is a civic hackathon series created by the City of Atlanta, Invest Atlanta, and Startup Atlanta. Govathon brings together technologists, developers, designers, subject matter experts, civic veterans and city officials to help solve problems that affect the local government and the community, making everything from websites and mobile apps to designing other types of innovative products and services. Both events will be in one weekend, maximizing the exchange of ideas between transportation planners, advocates, experts, and technologists. The result will be a series of tangible, technology-based solutions to our most pressing transportation challenges.

UCF plans to recruit one more minority student and to sponsor a summer camp for K-12 with emphasis on minority students.

FIU plans to develop and organize a two-week Transportation Summer Camp that is planned for July 2014. They also will work with two current interns to complete their internships at transportation agencies in Spring 2014 and recruit two new interns to start in Summer.

UAB will initiate the Middle School Youth Program, targeting Carver Middle School as the first school, and conduct a Summer Enrichment Program for minorities and underrepresented incoming freshman. UAB will also conduct a undergraduate transportation engineering internship program and plan and hold the Sustainable Cities Annual Symposium in June 2014.

Products

The following is a list of products (seminars, reports, etc) produced during the reported period.

Papers:

- White paper:
 - “Digital Roadside Advertising and Traffic Safety” by Virginia P. Sisiopiku, PhD, Daniel Hester, Albert Gan, PhD, Despina Stavrinou, PhD, and Andrew Sullivan, MSCE
- Final reports:

- “User Manual for Georgia SPLOST Database & Clearinghouse for Transportation Finance” by Dr. Catherine Ross and Ms. Sarah Smith - http://nctspm.gatech.edu/sites/default/files/u60/SPLOST_User_Manual_2013.pdf
- Final drafts:
 - “Integrating Safety in Developing a Variable Speed Limits System” by Dr. Mohammed Abdel-Aty
 - “Impact of GDOT’s Highway Expenditures on State, District and Local Economies: 2009 to 2013” by Dr. Thomas “Danny” Boston

Presentations:

- 90+ posters at the Georgia Department of Transportation/ Georgia Transportation Institute Research Symposium (a full listing of posters can be seen here: <http://nctspm.gatech.edu/content/gdotgti-poster-session>)



Seminars and other events:

- “Connected Places: Freight Movements and Megaregions” Peer Exchange (Atlanta, GA, November 2013)
- Ricardo A. Daziano, Ph.D., Cornell University, “On the gap between the willingness to pay for and the marginal cost of battery electric vehicles with improved driving range.” (Atlanta, Georgia, November 2013).
- Patricia L. Mohkhtarian, Ph.D., Georgia Institute of Technology, “It’s all about the People: What Insights Can Travel Behavior Research Bring to Transportation Policy and Planning?” (Atlanta, Georgia, November 2013).
- Georgia Tech’s School of Civil & Environmental Engineering Graduating Student Showcase (Atlanta, Georgia, October 2013).
- Jesus Martinez, P.E., Southwest Research Institute, “Autonomous Vehicles: State of Practice and Applications.” (Miami, Florida, October 2013).
- Julie Price, Ph.D., UAB Sustainability Facilities Management, “Sustainability Initiatives by UAB Facilities.” (Birmingham, Alabama, October 2013).
- Natalie Kelly, Kelly Green Marketing, “Sustainability Efforts of the City of Birmingham.” (Birmingham, Alabama, October 2013).
- Catherine Owens, P.E., LEED AP, Atlanta Beltline (Atlanta, Georgia, October 2013).
- Catherine Ross, Ph.D., and Peter Hylton, Georgia Institute of Technology, “Multi-Jurisdictional Transportation Efforts in the Megaregion.” (Atlanta, Georgia, September 2013).
- Sarah Peek, Shelley Lamar, Kathy Masters, Jaimi Tapp, Hartsfield-Jackson International Airport, “Panel: Hartsfield- Jackson Atlanta International Airport.” (Atlanta, Georgia, September 2013).
- Butch Wlaschin, P.E., Federal Highway Administration “Transportation Asset Management: Beyond MAP-21”

Participants and Other Collaborating Organizations

NCTPSM Participants at Georgia Institute of Technology

The following individuals from Georgia Tech have worked on the NCTSPM at the programmatic level.

Name	<i>Michael Hunter, Ph.D.</i>
Program/Project Role	<i>NCTSPM Director</i>
Number of hours worked during the reporting period	<i>Approximately 300 hrs.</i>
Contribution to Program/Project	<i>Responsible for oversight and governance of the National Center for Transportation Productivity and Management</i>
Funding Support	<i>UTC, GDOT</i>
Collaborated with individual in foreign country	<i>N/A</i>
Country(ies) of foreign collaborator	<i>N/A</i>
Travelled to foreign country	<i>N/A</i>
If traveled to foreign country(ies), duration of stay	<i>N/A</i>

Name	<i>Catherine Ross, Ph.D.</i>
Program/Project Role	<i>NCTSPM Deputy Director</i>
Number of hours worked during the reporting period	<i>Approximately 160 hrs.</i>
Contribution to Program/Project	<i>Responsible for administrative oversight and faculty coordination; liaison to NCTSPM researchers.</i>
Funding Support	<i>UTC, GDOT</i>
Collaborated with individual in foreign country	<i>N/A</i>
Country(ies) of foreign collaborator	<i>N/A</i>
Travelled to foreign country	<i>N/A</i>
If traveled to foreign country(ies), duration of stay	<i>N/A</i>

Name	<i>Michael O. Rodgers, Ph.D.</i>
Program/Project Role	<i>NCTSPM Deputy Director</i>
Number of hours worked during the reporting period	<i>Oversees subcontract reporting requirements and research products and is responsible for coordinating technology transfer activities of the center</i>
Contribution to Program/Project	<i>Approximately 250 hrs.</i>
Funding Support	<i>UTC, GDOT</i>
Collaborated with individual in foreign country	<i>N/A</i>

Country(ies) of foreign collaborator	N/A
Travelled to foreign country	N/A
If traveled to foreign country(ies), duration of stay	N/A

Name	<i>Mr. Kenneth Stewart</i>
Program/Project Role	<i>UTC Board Liaison</i>
Number of hours worked during the reporting period	<i>Approximately 40 hrs.</i>
Contribution to Program/Project	<i>Liaison between UTC management and Board of Advisors.</i>
Funding Support	<i>UTC, GT</i>
Collaborated with individual in foreign country	N/A
Country(ies) of foreign collaborator	N/A
Travelled to foreign country	N/A
If traveled to foreign country(ies), duration of stay	N/A

Name	<i>Ms. Audrey F. Leous</i>
Program/Project Role	<i>UTC Research Coordinator</i>
Number of hours worked during the reporting period	<i>950 hours</i>
Contribution to Program/Project	<i>Responsible for administrative support of Center; coordinate with sub-grantees and contractors</i>
Funding Support	<i>UTC, CQGRD</i>
Collaborated with individual in foreign country	N/A
Country(ies) of foreign collaborator	N/A
Travelled to foreign country	N/A
If traveled to foreign country(ies), duration of stay	N/A

Name	<i>Ms. Susan Sumners</i>
Program/Project Role	<i>Assistant to Civil Engineering department</i>
Number of hours worked during the reporting period	<i>Approximately 150hrs.</i>
Contribution to Program/Project	<i>Provides administrative support to UTC</i>
Funding Support	<i>CEE, GDOT</i>
Collaborated with individual in foreign country	N/A
Country(ies) of foreign collaborator	N/A

Travelled to foreign country	N/A
If traveled to foreign country(ies), duration of stay	N/A

NCTSPM University Partner Representatives

These individuals have served as liaisons between NCTSPM and their institutions to organize joint efforts related to research, education, technology transfer, and workforce development. They communicate regularly with the NCTSPM Director via email and teleconference and will continue to be the Director's primary contact at each university.

University of Alabama, Birmingham

Dr. Fouad H. Fouad, Professor and Chair, Department of Civil Construction and Environmental Engineering
 Email: ffouad@uab.edu

Name	<i>Fouad H. Fouad, Ph.D.</i>
Program/Project Role	<i>NCTSPM Partner Representative/University of Alabama, Birmingham</i>
Number of hours worked during the reporting period	<i>Approximately 100 hrs.</i>
Contribution to Program/Project	<i>Liaison between UTC and the University of Alabama, Birmingham</i>
Funding Support	<i>UTC, ADOT, UAB</i>
Collaborated with individual in foreign country	N/A
Country(ies) of foreign collaborator	N/A
Travelled to foreign country	N/A
If traveled to foreign country(ies), duration of stay	N/A

Florida International University

Dr. Albert Gan, Email: gana@fiu.edu

Name	<i>Albert Gan, Ph.D.</i>
Program/Project Role	<i>NCTSPM Partner Representative/Florida International University</i>
Number of hours worked during the reporting period	<i>Approximately 100 hrs.</i>
Contribution to Program/Project	<i>Liaison between UTC and Florida International University</i>
Funding Support	<i>UTC, FDOT, FIU</i>
Collaborated with individual in foreign country	N/A

Country(ies) of foreign collaborator	N/A
Travelled to foreign country	N/A
If traveled to foreign country(ies), duration of stay	N/A

University of Central Florida

Dr. Essam Radwan, Executive Director, Center for Advanced Transportation Systems Simulation
 Email: Ahmed.Radwan@ucf.edu

Name	<i>Essam Radwan, Ph.D.</i>
Program/Project Role	<i>NCTSPM Partner Representative/University of Central Florida</i>
Number of hours worked during the reporting period	<i>Approximately 100 hrs.</i>
Contribution to Program/Project	<i>Liaison between UTC and the University of Central Florida</i>
Funding Support	<i>UTC, FDOT, UCF</i>
Collaborated with individual in foreign country	N/A
Country(ies) of foreign collaborator	N/A
Travelled to foreign country	N/A
If traveled to foreign country(ies), duration of stay	N/A

Advisory Board and Other Collaborators

The following are members of the NCTSPM Advisory Board:

- Tread Davis – Lawyer and Board Member, Atlanta Regional Commission (Chair)
- James Balloun – Financial Investor and Former CEO (Past Chair)
- Harry L. Anderson - Senior Vice President, Global Business and Technology Services, The Coca-Cola Company
- Harold Barley – Executive Director, MetroPlan Orlando
- Mark Bartlett – FHWA Division Administrator, Alabama
- Jeffrey W. Brown – Alabama DOT Bureau Chief, Research and Development
- Toby Carr - Director of Planning, GDOT
- Keith Golden – GDOT Commissioner
- Bill Johnson – Director, Port of Miami
- Michelle Livingston – Vice President for Supply Chain Distribution, The Home Depot
- Todd Long – GDOT Deputy Commissioner
- Wick Moorman – CEO, Norfolk Southern Railway
- George Overstreet – Executive Board Member of the Alabama Trucking Association, Vice President of Operations
- G. P. “Bud” Peterson – President, Georgia Tech, Ex Officio

Daniel L. Rodgers – President, Dunn Investment Company
Randy Stashick – Global Vice President of Engineering, UPS
Yvette Taylor – Regional Administrator, FTA
John Williams – Developer

Other Partnering Organizations:

Georgia Department of Transportation (GDOT)
Florida Department of Transportation (FDOT)
Alabama Department of Transportation (ADOT)

Other Collaborators:

Morehead State University
Saint Louis University
Georgia State University
Georgia Southern University
Southern Polytechnic State University

Impact

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

NCTSPM’s research projects are advancing knowledge on transportation systems and its many components. For instance, the research project “Full-Scale Wall of Wind Testing of Variable Message Signs (VMS) Structures to Develop Drag Coefficients for AASHTO Supports Specifications,” is expected to significantly contribute to an AASHTO safety standard by studying the impact of design of VMS signs on wind drag. Another project, “Next-Generation Wireless Bridge Weigh-in-Motion (WIM) System Incorporated with Nondestructive Evaluation (NDE) Capability for Transportation Infrastructure Safety,” will provide new methodology to assess bridge health with wireless technology. This technology provides potential cost savings and efficiencies to state DOTs.

What is the impact on other disciplines?

While many of NCTSPM’s research projects are led by civil engineering researchers, some projects draw on the expertise of researchers in other fields, such as the following:

1. “Digital Advertising Billboards and Driver Distraction” – co-PI (Despina Stavrinou) is a professor of Psychology
2. “Factors Influencing Visual Search in Complex Driving Environments” – co-PIs Greg Corso and Peter Hancock are professors of Psychology at Morehead State University and UCF
3. “Optimizing EMS Through The Use of Intelligent Transportation Systems (ITS) Technologies” – co-PI Russell Griffin is professor in the School of Public Health/Department of Epidemiology

4. “Micro-Dynamics of Business Location and Growth and its Effects on the Transportation Network and Congestion in Georgia and the Southeast Region” – co-PI Vivek Ghosal is a professor of Economics
5. “Information Services in Social Networked Transportation” – PI Hans Klein is a professor of Public Policy
6. “Economic Development and Workforce Impacts of State DOT Expenditures” – PI Danny Boston is professor of International Affairs

The projects enable cross-pollination between transportation engineering and these other fields (Psychology, Public Health, Economics).

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

NCTSPM invests heavily in outreach, technology transfer, and workforce development initiatives. In 2013, NCTSPM sponsored research symposia, conferences, workshops, and seminars. These events touched not only NCTSPM researchers and students but elected officials and transportation professionals in the public and private sectors as well.



NCTSPM sponsored an event in November 2013 entitled “Connected Places: Freight Movements and Megaregions” Peer Exchange. The purpose of this event was to provide an opportunity for private sector industry leaders, decision makers, national experts, elected officials, and academics to share ideas on increasing the efficiency of freight movement within and between regions. Executives from Home Depot and Genuine Parts provided their perspective on corporate logistics, while National MPO Peers shared from their perspective. This event serves an example of an effective and innovative form of workforce development, but facilitating networking and knowledge sharing across sectors.

NCSTPM is also contributing to the development of transportation workforce development through its educational initiatives. K-12 summer camps and youth enrichment programs make students aware of careers within the transportation industry and provide them with opportunities to pursue such a career.

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

None to report.

What is the impact on technology transfer?

None to report.

What is the impact on society beyond science and technology?

None to report.

Changes/Problems

Changes in approach and reasons for change:

None.

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

None.

Changes that have a significant impact on expenditures:

None

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

None

Change of primary performance site location from that originally proposed:

None

Special Reporting Requirements

Specific Requirements

Website: Newly-designed website launched spring 2013: <http://nctspm.gatech.edu/>

Directory of Key Personnel: Information available on the program website:

<http://nctspm.gatech.edu/nctspmstaff>

Financial and Annual Share Reports: The SF425 requirements will be met by separate report.

FFATA Sub award and Executive Compensation Report: Will be met by separate submission

Research Project Descriptions: Available on program website:

<http://nctspm.gatech.edu/researchprojects> The projects selected and funded by the center are provided below.

NCTSPM-Funded Research Projects

<u>Project Title</u>	<u>Lead University</u>	<u>Principal Investigator</u>
Integrating Safety in Developing a Variable Speed Limit System	UCF	Mohamed Abdel-Aty
Reducing Service Interruptions in Linear Infrastructure Systems (Transportation and Water/Sewer) by Synchronizing Schedules	FIU	Berrin Tansel

for Selected Maintenance Activities		
Performance Measurements of Transportation Systems based on Fine-Grained Data Collected by AVI and AVL Systems	FIU	Mohammed Hadi
Full-Scale Wall of Wind Testing of Variable Message Signs (VMS) Structures to Develop Drag Coefficients for AASHTO Supports Specifications	FIU	Arindam Chowdhury
Information Services in Social Networked Transportation	GT	Hans Klein
Traffic Management Centers: Challenges, Best Practices, and Future Plans	FIU	Xia Jin
Digital Advertising Billboards and Driver Distraction	UAB	Virginia Sisiopiku
Impact and Feasibility Study of Solutions for Doubling Heavy Vehicles	UAB	Nasim Uddin
Optimizing EMS Through The Use of Intelligent Transportation Systems (ITS) Technologies	UAB	Andrew Sullivan
Efficient Utilization of the Existing Its System and the Viability of a Proactive Traffic Management System for the Orlando-Orange County Expressway Authority System	UCF	Mohamed Abdel-Aty
Evidence-Based Design Applications in Transportation Asset Management	GT	Adjo Amekudzi
Bringing Freight Components into Statewide and Regional Travel Demand Forecasting	GT	David Lee
Development of Risk Management Strategies for State DOTs to Effectively Deal with Volatile Prices of Transportation Construction Materials	GT	Baabak Ashuri
Freight movement, port facilities, and economic competitiveness	GT	Catherine Ross
Economic Development and Workforce Impacts of State DOT Expenditures	GT	Danny Boston
Factors Influencing Visual Search in Complex Driving Environments	GT	Mike Hunter
Next-Generation Wireless Bridge Weigh-in-Motion (WIM) System Incorporated with Nondestructive Evaluation (NDE) Capability for Transportation Infrastructure Safety	GT	Yang Wang
Micro-Dynamics of Business Location and Growth and its Effects on the Transportation Network and Congestion in Georgia and the Southeast Region	GT	Frank Southworth
Automated Data Collection for Origin/Destination Studies of Freight Movement	UCF	Amr A. Oloufa
Enhanced Role of Activity Center Transportation Organizations in Regional Mobility	GT	Angshuman Guin
Georgia SPLOST Database and Clearinghouse for Transportation Finance	GT	Catherine Ross
GRTA/GDOT Real-Time Tracking and Choice Data	GT	Randall Guensler
Evaluation of Signage Alternatives for Express Lane Facilities	FIU	Albert Gan
Innovative Modular High Performance Lightweight Decks for Accelerated Bridge Construction	FIU	Amir Mirmiran
Field Validation of a Drive-By Bridge Inspection System with Wireless BWIM + NDE Devices	GT	Yang Wang
Development of a Web-based Decision Making Tool for the	FIU	Priyanka Alluri

Highway Safety Manual Implementation		
A Data Driven Approach to State Transportation Investment Decisions: a Transportation Project Investment and Evaluation Resource (T-Pier)	GT	Timothy F. Welch
Freight impacts on Small Urban and Rural Areas	GT	Catherine Ross
HOV to HOT Conversion Impacts on Carpooling	GT	Ann Xu
Consumer Response to Road Pricing: Macro and Micro Modeling Tools for Socioeconomic Evaluation and Pricing of Managed Lanes	GT	Randall Guensler
Evaluation of the Cost Effectiveness of Illumination as a Safety Treatment at Rural Intersections	GT	Angshuman Guin
Assessment of High Early Strength Limestone Blended Cement for Next Generation Transportation Structures	GT	Kimberly Kurtis
Managing Transportation System Health: Setting Performance Targets and Policies in Non-Uniform Regions and Jurisdictions to Achieve Uniform Statewide and National Objectives	GT	Adjo Amekudzi
Extending HYRISK to Predict Scour Risk as a Function of Soil Erodibility Characteristics	GT	Laurie Garrow
Cooperative Vehicle-Highway Automation (CVHA) Technology: Simulation of Benefits and Operational Issues	GT	Michael Rodgers
Next Generation Crack Sealing Planning Tool for Pavement Preservation	GT	James Tsai
Estimating the Monetary Benefits of Reducing Delays on Heavily Trafficked Truck Freight Corridors in Georgia	GT	Frank Southworth
A Comprehensive Investigation of Visibility Problems on Highways: Developing Real Time Monitoring and Prediction System for Reduced Visibility and Understanding Traffic and Human Factors Implications	UCF	Mohamed Abdel-Aty
Evaluating the Impact of Real-time Transit Passenger Information on Ridership and Mode Share	GT	Kari Watkins
Bridge Rail Design Procedures	UAB	Dean Sicking
Evaluation of Anchor Bolt Clearance Discrepancies	UAB	Ian Hosch
Examining the Value of Travel Time Reliability for Freight Transportation to Support Freight Planning and Decision-Making	FIU	Xia Jin

Ongoing Matching Projects

Mobile Technology Usage amongst the Transit-Riding Populace	GT	Kari Watkins
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