University Transportation Center (UTC) Conference for the Southeastern Region

April 4-5, 2013
Rosen Plaza Hotel Orlando, Fla.

Conference Program
It is our pleasure to host this University Transportation Centers (UTC) Conference for the Southeastern Region, the first such event that has brought together a variety of transportation professionals – faculty, students, practitioners, and public officials – from the Southeast, to disseminate information about ongoing activities at partner universities and to further enhance collaboration among the academic community and the private and public sector agencies in the region. In attendance are university faculty, staff and graduate students, as well as federal and state agency representatives, MPOs, transit managers, and consultants in the region and around the country.

The conference, which we hope will evolve into an annual event, is organized jointly by the four UTCs located in Federal Region 4 (Southeast): The Southeastern Transportation, Research Innovation, Development and Education Center (STRIDE), the National Center for Intermodal Transportation for Economic Competitiveness (NCITEC), the National Center for Transportation Systems Productivity and Management (NCTSPM), and the National Center for Transit Research (NCTR). The following universities are consortium members in one or more of those four centers: Auburn University (UAB), Florida International University, Georgia Institute of Technology, Georgia Transportation Institute, Hampton University (FIU), Louisiana State University (LSU), Mississippi State University (MSU), North Carolina State University (NCSU), North Dakota State University (NDSU), University of Alabama at Birmingham (UAB), University of Central Florida (UCF), University of Denver (DU), University of Florida (UF), University of Illinois (U of I), University of Mississippi (UM), the University of North Carolina at Chapel Hill (UNC Chapel Hill), and University of South Florida (USF). Brief descriptions of each of the four sponsoring UTCs are provided below. For more information on the UTC program, please see www.rita.dot.gov/utc/about/grant_recipients/html/2012_grant_recipients.html.

The Southeast Transportation Research, Innovation and Education Center (STRIDE) is the Regional UTC for Federal Region 4, a consortium of eight universities led by the University of Florida. The center endeavors to develop a strong interdisciplinary network of researchers and educators across the Southeastern U.S. and nationally among U.S. DOT/RITA research clusters to advance the state-of-the-art in transportation and to develop a strong workforce for designing, implementing, and managing the transportation systems of the future. STRIDE focuses its activities in the areas of safety, livable communities, and economic competitiveness. The center aims to expand the workforce of transportation professionals through a variety of on-site and electronic educational offerings targeting professional development, recruitment, and preparation of graduates to address issues of livability, safety, and economic competitiveness, as well as other key priorities for the Southeast and the U.S.

The National Center for Transportation Systems Productivity and Management (NCTSPM) at Georgia Tech seeks to understand and improve the interactions between transportation systems and the society in which they function. Ultimately, this should improve both the infrastructure and the services that will handle future needs. The NCTSPM objectives include:

- Conduct multidisciplinary research on topics relevant to the relationship among transportation infrastructure, 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 issues.
• Establish a central point of contact and promotion of best practices (e.g., through a website or listserv) for materials relating to transportation systems performance and management.
• Promote diversity in the workforce through active recruitment of women and minority students for degree programs.
• Act as a national resource for discussions on the evolving national transportation program.
• Explore international cooperative activities with research entities in selected countries where similar interests exist.

The National Center for Intermodal Transportation (NCITEC) at Mississippi State promotes the development of an integrated, economically competitive, efficient, safe, secure, and sustainable national intermodal transportation network by integrating all transportation modes for both freight and passenger mobility. The primary objective of NCITEC is to develop an integrated and sustainable intermodal transportation system network for North America. This network vision for the 21st century transportation system integrates highways and airport hubs with rail networks and shipping terminals to offer efficient intermodal freight movement and passenger mobility. The integrated approach reduces congestion on highways, saves fuel, reduces vehicle emissions, protects the environment, and provides the U.S. an economic competitive edge, all of which are essential to maintain our quality of life, compete in the global economy, and enhance business retention.

The National Center for Transit Research (NCTR) at the University of South Florida is one of two transit-focused University Transportation Centers in the United States. The mission of NCTR is to select and conduct research intended to make public transit and alternative means of transportation safe, efficient, effective, desirable, and secure. This will be done by receiving input from the Federal Transit Administration, the Florida Department of Transportation, and transit professionals from throughout Florida and the nation. Research will be subject to peer review. NCTR also contributes 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 field of public transportation in particular. It will disseminate the results of research as broadly as possible through every means available. 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.
UTC Conference for the Southeastern Region – Program

Thursday, April 4, 2013

7:00 am to 8:00 am  Continental Breakfast (Salon 5, 6, & 7)

8:00 am to 8:10 am  Welcome and Opening Remarks (Salon 3 & 4)

8:10 am to 9:30 am  Keynote Presentation & Introductions by UTC Directors (Salon 3 & 4)

Keynote Speaker:  FHWA Deputy Administrator Greg Nadeau

UTC Directors:  Burak Eksioglu, Mississippi State University

Lily Elefteriadou, University of Florida

Mike Hunter, Georgia Institute of Technology

Joel M. Volinski, University of South Florida

9:30 am to 10:00 am  Morning Break (Salon 5, 6, & 7)

(Jointly with student posters)

10:00 am to 12:00 pm  Presentations by Principal Investigators

Session One (Salon 3)

Moderator: Mike Hunter, GaTech

Traffic Performance & Access Management

(Each presentation including Q&A is 15 min)

Roundabouts and Access Management, Ruth Steiner, UF; Scott Washburn, UF, Lily Elefteriadou, UF; Albert Gan, FIU; Amy Cavaretta, UF; Ruoying Xu, UF; Shanty Rachmat, UF; Priyanka Alluri, FIU; Kirolos Haleem, FIU; Dibakar Saha, FIU; and Andres Diaz, FIU

Presenter: Ruth Steiner, UF

Applications of Traffic Signal Priority Technology for Transit Service (TSP), Haitham Al-Deek, UCF; Frank Consoli, UCF; John Rogers, UCF; Ahmad Alomari, UCF; Omer Tatari, UCF; Mehdi Noori, UCF; and Mohammed Hadi, FIU

Presenter: Haitham Al-Deek, UCF

Performance Measurements of Transportation Systems based on Fine-Grained Data Collected by AVI and AVL Systems, Mohammed Hadi, FIU; Yan Xiao, FIU; Somaye Fakharian Qom, FIU; and Haitham Al-Deek, UCF

Presenter: Yan Xiao, FIU

Investigation of ATDM Strategies to Reduce the Probability of Breakdown, Mohammed Hadi, FIU; Lily Elefteriadou, UF, Alexandra Kondyli, UF; Yan Xia, FIU; Clark Letter, UF; and Ali Darroudi, FIU

Presenter: Mohammed Hadi, FIU
Traffic Management Centers: Challenges, Best Practices, and Future Plans, Xia Jin, FIU Albert Gan, FIU and Md Sakoat Hossan, FIU
Presenter: Xia Jin, FIU

Impact and Feasibility Study of Solutions for Doubling Heavy Vehicles, Nasim Uddin, UAB; Necati Catbas, UCF; Ton-Lo Wang, FIU; and Adel A Elfayoumy, UAB
Presenter: Nasim Uddin, UAB

Transportation Network Congestion Mitigation using Dynamic Social Network Analysis, Islam El-adaway, MSU; Eric Vechan, MSU; and Marwa Hassan, LSU
Presenter: Eric Vechan, MSU

Using Mobile Phones to Track Multimodal Travel Behavior: Lessons Learned, Phil Winters, USF
Presenter: Phil Winters, USF

Session Two (Salon 4)
Moderator: Jason Bittner, USF/CUTR
Planning & Economics
(Each presentation including Q&A is 15 min)

Presenter: Guangqing Chi, MSU

Distributional Impacts of Mileage-based User Fees in Florida, Yafeng Yin, UF; Md Shahid Mamun, UF; and Siriphong Lawphongpanich, UF
Presenter: Yafeng Yin, UF

Identifying Mobility Gaps in North Carolina Communities: A Mixed-Methods Approach to Understanding the Relationships among Transportation Supplies, Built Environments, and Mobility, Tabitha S. Combs, UNC; David A. Salvesen, UNC; and Elizabeth Shaya, UNC
Presenter: Tabitha Combs, UNC Chapel Hill

Location of Automobile Manufacturing Plants, Development of Supply-Chains, and the Effects on Economic Development and Demand for Transportation, Vivek Ghosal, GaTech and Frank Southworth, GaTech
Presenter: Vivek Ghosal, GaTech

Can Housing and Accessibility Information Influence Residential Location Choice and Travel Behavior? An Experimental Study, Daniel Rodriguez, UNC Chapel Hill; and Jennifer Rogers, Triangle Transit
Presenter: Daniel Rodriguez, UNC Chapel Hill

Planning for Incorporating Ancillary Demands in the Next Generation FSUTMS, Siva Srinivasan, UF and Xia Jin, FIU
Presenters: Siva Srinivasan, UF and Xia Jin, FIU
Quantifying the Costs of School Transportation, Ruth Steiner, UF; Noreen McDonald, UNC Chapel Hill; Benjamin Lytle, UF; Mathew Palmer, UNC Chapel Hill; and Mike Clark, UNC Chapel Hill
Presenter: Ruth Steiner, UF

The Relative Impact of Highway and Airport Accessibility on Population Change, Guangqing Chi, MSU
Presenter: Guangqing Chi, MSU

12:00 pm to 1:30 pm
Lunch and Student Posters (Salon 5, 6, & 7)

1:30 pm to 3:30 pm
Presentations by Principal Investigators

Session Three (Salon 3)
Moderator: Burak Eksioglu, MSU
Infrastructure & Safety
(Each presentation including Q&A is 15 min)

The Efficiency of Sampling Techniques for NTD Reporting, Xuehao Chu, USF
Presenter: Xuehao Chu, USF

Georgia SPLOST Database and Clearinghouse for Transportation Finance, Catherine L. Ross, GaTech; David Jung-Hwi Lee, GaTech; Subhrajit Guhathakurta, GaTech; and Sarah M. Smith, GaTech
Presenter: Catherine L. Ross, GaTech

Florida Minority Occupant Protection Task Force, Dimitra Michalaka, UF
Presenter: Dimitra Michalaka, UF

Impacts of Digital Advertising Billboards on Traffic Safety, Virginia Sisiopiku, UAB; Albert Gan, FIU; Andrew Sullivan, UAB; and Despina Stavrinos, UAB
Presenter: Virginia P. Sisiopiku, UAB

Reducing Service Interruptions in Linear Infrastructure Systems by Synchronizing Schedules for Selected Maintenance Activities, Berrin Tansel, FIU; Xia Jin, FIU; and Adjo Amekudzi, GaTech
Presenter: Berrin Tansel, FIU

Consequence-Based Route Selection for Hazardous Material Cargo: GIS-Based Time Progression of Environmental Impact Radius of Accidental Spills, Berrin Tansel, FIU; Xia Jin, FIU; Adjo Amekudzi, GaTech; and Nasim Uddin, UAB
Presenter: Berrin Tansel, FIU

Wireless Bridge Weigh-in-Motion (WIM) System Integrated with Nondestructive Evaluation (NDE) Capability for Transportation Infrastructure Safety, Yang Wang, GaTech
Presenter: Yang Wang, GaTech
Full-Scale Wall of Wind Testing of Variable Message Signs (VMS)
Structures to Develop Drag Coefficients for AASHTO Supports Specifications, Arindam Gan Chowdhury, FIU

Presenter: Arindam Gan Chowdhury, FIU

Session Four (Salon 4)
Moderator: Daniel Rodriguez, UNC Chapel Hill
Intermodal Transportation & Observational Studies
(Each presentation including Q&A is 15 min)

Automated Capture of Freight Origin/Destination Data using License Plate Readers, Haluk Laman, UCF; Yahya Alassaf, UCF; Amr A. Olooufa, UCF; and John Zielinski, UCF
Presenter: Amr A. Olooufa, UCF

OneBusAway: Sharing Real-time Transit Information via Open-source Software, Sean J. Barbeau, USF; Candace Brakewood, GaTech; and Kari Watkins, GaTech
Presenter: Sean J. Barbeau, USF

The Effect of Urban Form on Residential Relocation and Non-Work Travel Patterns – A Case of Florida Households, Sisinnio Concas, USF
Presenter: Sisinnio Concas, USF

Building a Sidewalk Inventory and Prioritization System, Alexandra Frackelton, GaTech; Alice Grossman, GaTech; Evangelos Palinginis, GaTech; Felipe Castrillon, GaTech; Vetri Elango, GaTech; and Randall Guensler, GaTech
Presenter: Randall Guensler, GaTech

Demand Routing for Intermodal Transportation Networks using a Design-as-Inference Approach, Lei Cao, UM; Paul M. Goggans, UM; R. Wesley Henderson, UM
Presenter: R. Wesley Henderson, UM

Development of a Naturalistic Study of Driving Across the Lifespan, Despina Stavrinos, UAB; Erica Schmidt, UAB; Erick Caamano, UAB; Shannon Witting, UAB; Virginia Sisiopiku, UAB; Sherrilene Classen, UF; and Lesley Ross, UAB
Presenters: Lesley Ross, UAB and Despina Stavrinos, UAB

Empirically-Based Performance Assessment and Simulation of Pedestrian Behavior at Unsignalized Crossings, Bastian Schroeder, NCSU; Lily Elefteriadou, UF; and Virginia Sisiopiku, UAB
Presenter: Bastian Schroeder, NCSU

Implementation and Outcomes of Fare-Free Transit, Joel Volinski, USF
Presenter: Joel Volinski, USF

3:30 pm to 4:00 pm Afternoon Break (Salon 5, 6, & 7)
(Poster Competition Awards)
4:00 pm to 5:30 pm  Breakout Sessions

ITE and WTS Student Chapters Meeting (Salon 3)
State DOT Panel Discussions (Salon 4)

5:30 pm to 7:00 pm  Reception and Posters on Workforce Development (Salon 5, 6 & 7)

Friday, April 5, 2013

7:00 am to 8:00 am  Breakfast (Salon 7 & 8)

8:00 am to 8:30 am  Keynote Presentation by FDOT Assistant Secretary Brian Blanchard (Salon 5 & 6)

8:30 am to 10:00 am  Student Presentations (Salon 5 & 6)
Moderator: Downey Brill, NCSU (10 min each)

  Anya Abseen, NCSU - Method and Case Study for Quantifying Local Emissions Impacts of a Transportation Improvement Project Involving Road Re-alignment and Conversion to a Multi-Lane Roundabout

  Stephanie Amoaning-Yankson, GaTech - Natural Disasters and Linear Infrastructure Management

  Hamidreza Asgari, FIU and Miguel Lugo, UF - Towards a Holistic Understanding of Quality of Life: An Analysis of Activity-Travel Patterns on Non-Mid-week Days

  Thomas Chase, UF - Instrumented Vehicle Study and Micro-simulation Models of Pedestrian-Vehicle Interaction at Midblock Crosswalks

  Benjamin Felton, USC - Integration of the Incident Command System (ICS) Protocol for Effective Coordination of Multi-Agency Response to Traffic Incidents

  Makarand J. Gawade, USF - Influence of Multimodal Network on Public Transit Performance

  Md Sakoat Hossan, FIU - Developing Traffic Incident Management (TIM) Framework

  Kia Mostaan, GaTech - Opportunities and Challenges for Expediting Delivery of Transportation Design Build Projects

10:00 am to 10:30 am  Morning Break (Regency Foyer)

10:30 am to 11:45 am  Student Presentations (Salon 5 & 6)
Moderator: Virginia Sisiopiku, UAB (10 min each)
Mohammad Ilbeigi, GaTech - Development of Risk Management Strategies for State DOTs to Effectively Deal with Volatile Prices of Transportation Construction Materials

Phillip Haas, UF - A Comparison of Local Improvements to the Highway Safety Manual Crash Estimation Methods on Two-Lane Highways in Florida

Rachel Mulholland, DU - Women in Transportation: A Model for Job Seeking in the Transportation Industry

Soheil Sajjadi, NCSU - Enhancements to Highway Capacity Method to Enable Travel Time Reliability Analysis

Katayoun Salamati, NCSU - Event-Based Modeling of Driver Yielding Behavior to Pedestrians at Two-Lane Roundabout Approaches

Shannon Wittig & Aref Motamedi Lamouki, UAB - The Distractibility of Digital Billboards: A Driving Simulator Study

Mahmood Zangui, UF - Differentiated Congestion Pricing of Urban Transportation Networks with Vehicle Tracking Technologies

11:45 am to 12:00 pm Student Awards (for best oral presentations) (Salon 5 & 6)

12:00 pm to 3:00 pm OPTIONAL Tour of the Turnpike’s Traffic Control Center (pre-registration required – email iaviles@ce.ufl.edu) (Meet at Registration Table)

12:00 pm to 2:00 pm STRIDE External Advisory Board Luncheon (By invitation only) (Salon 7) (In attendance: External Advisory Board, Internal Steering Committee, Faculty, Staff)

12:00 pm to 2:00 pm Meeting of the UTC partners for The National Center for Transportation Systems Productivity and Management at Georgia Tech (By invitation only) (Salon 8)
Student Poster Session Participants
Salon 5, 6, & 7

April 4, 2013

1. Candace Brakewood, GaTech - An Experiment Evaluating the Impacts of Real-Time Transit Information on Bus Riders in Tampa, Florida
2. Amy Cavaretta, UF - Examining the Viability of Transportation Development to Reduce Urban Poverty in the Developing World through Accessibility: The Case of Kibera – Nairobi, Kenya
3. Xuanwu Chen, FIU - Applying Pre-preemption of Traffic Signals at Intersections near Railroad Grade Crossing to a Micro-Simulation Model
5. Kathryn Colberg, GaTech - Real-Time Work Zone Travel Time
6. Tabitha Combs, UNC Chapel Hill - Relationships among BRT Access, Mobility Patterns, and Motorization Pressures among Lower Wealth Households: Evidence from Bogotá, Colombia
7. David Craft, NCSU - The Impact of Probe Data Resolution on the Estimation of Stitched Route Travel Times
8. Ali Darroudi, FIU - Advanced Microscopic Simulation Calibration Techniques
9. Maxim A. Dulebenets, Univ. of Memphis - Highway-Rail Grade Crossing Safety and Prioritizing Model Development
10. Aaron Greenwood, GaTech - Effect of Roadside Environment on Diverge Identification in Work Zones
11. Alice Grossman & Alexandra Frackelton, GaTech - Building a Sidewalk Inventory and Prioritization System
12. Rui Guo, USF - Estimating Benefits of Traffic Signal Retiming in Non-Peak Hours
13. Rui Guo, USF - Identifying Time-of-Day Breakpoints Based on Non-intrusive Data Collection Platforms
14. Rui Guo, USF - An Investigation of the Relationship between Mobility and Environmental Externalities at Signalized Intersections
15. Sashikanth Gurram, USF - Characterization of Exposures to Ambient NOX Levels in the Tampa Area Considering Spatiotemporal Travel Activity Data
16. Briana Hedman, DU - Organizational Inclusiveness in a Public Transportation Company
17. Fang (Jerry) He, UF - Optimal Prices of Electricity at Public Charging Stations for Plug-in Electric Vehicles
18. Daniel Hester & Aref Motamedi Lamouki, UAB - Digital Advertising Billboards and Driver Distraction
19. Marc A. Howlett, UNC Chapel Hill - The State of Practice in Metropolitan Freight Planning: Findings from a National Survey
21. Elizabeth Hunter, NCSU & Shrikanth Mamidipalli, UAB - Observational Study and Intercept Survey Approach for Modeling Pedestrian Behavior at Midblock Crosswalks
22. Bahareh Inanloo & Kollol Shams, FIU - GIS Based Air Dispersion Visualization of Spill Incidents from Hazardous Cargo
23. Amy Ingles for Stefanie Brodie, GaTech - Sustainability Evaluation of Transportation Systems and Neighborhood-Level Developments
24. Gwen Kash, UNC Chapel Hill - Expert and Transit Rider Perspectives on Public Transport Reform in Arequipa, Peru
25. Clark Letter, UF - Incorporating Probability of Breakdown into Fuzzy Logic Ramp Metering
26. Miguel Lugo, UF - Study on Utilitarian Walking and Health from Time-Use Survey
27. Aidin Massahi, FIU - Multi-criteria Risk Management Framework for Integrated Linear Infrastructure
28. Louis Ari Merlin, UNC Chapel Hill - Changing Accessibility in U.S. Metropolitan Areas
29. Kia Mostaan, GaTech - Opportunities and Challenges for Expediting Delivery of Transportation Design Build Projects
31. Seckin Ozkul, UF - Heavy Vehicle Effects on Florida Freeways and Multilane Highways
33. Ioannis Psarros, Univ. of Memphis - Transit System Efficiency in No-Notice Emergency Evacuation Operations
34. Landon Reed, GaTech - Transit Data Standards: Informing Federal Policy and ITS Requirements
35. Ben Reibach, UF - Mode Choice Models for Airport Access and Egress Trips
37. L. Schmitt, GaTech - Calibration of the HCM 2010 Single-lane Roundabout Capacity Equations for Georgia Conditions
38. Shaghayegh Shabanian, FIU - Estimating Capacity in Dynamic Traffic Assignment Tools
40. Nima Shirmohammadi, UF - Analysis and Design of Tradable Credit Schemes under Uncertainty
41. Vijayaraghavan (Vijay) Sivaraman, USF - Perspectives on Long Distance Travel Measurement, Substitution and Assessment
42. Donald Watson, UF - Two-Lane Highway Operations under a Lane Closure
44. Ruoying Xu, UF - Carpooling Behavior in the Presence of High-Occupancy/Toll Lanes: Examination of Carpooling Behavior on the 95 Express in Miami, Florida
45. Keaton Zucker, DU - Predicting Career Change in the Transportation Industry
Workforce Development Poster Session Participants

Salon 5, 6, & 7

(Includes Reception)

April 4, 2013

1. Edward Bart & Amber Reep, USF - Transit Manager Certificate Program - An Educational Space of Technology and Innovation

2. Edward Bart & Amber Reep, USF - Certified Transit Technician Program: Leveraging Technology for State of the Art Training

3. Kelwyn A. D’Souza & Sharad K. Maheshwari, Hampton University - Interdisciplinary Transportation Education and Workforce Development Modules (ITEWDM)

4. Eric Heiselt, MSU - Family Engineering Night: The Onramp to STEM

5. Ian E. Hosch, Virginia P. Sisiopiku, & Ordell Smith, UAB - Transportation Engineering Workforce Development Programs


7. Dan Pallme, Univ. of Memphis - Opening Doors and Minds to Engineering Professions at Many Levels


9. Danielle Soriano, UF - WTS Student Chapter at the University of Florida Transportation Workforce Development

10. Berrin Tansel, Muhammed Hadi, & Xuanwu Chen, FIU - K-12 Workforce Development and Outreach in Transportation Engineering at FIU

11. Leslie Washburn, STRIDE (UF, NCSU, FIU, UAB, & MSU) - STRIDE K-12 Transportation Workforce Development - A Collaborative Effort

12. Leslie Washburn, UF - LEGO® Robot Vehicle Lesson Plans for Secondary Education: A Transportation Recruitment Tool

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