Center Theme

The Southeastern Transportation Research, Innovation, Development and Education (STRIDE) Center is a USDOT/RITA grant-funded, regional University Transportation Center (UTC) headquartered at the University of Florida that conducts transportation-related research in the areas of safety, livable communities and economic competitiveness. Through a strong interdisciplinary network of researchers, educators, state DOTs, private and public agencies, and professional organizations throughout the Southeast and across the U.S., the Center aims to advance the state-of-the art in transportation and develop a robust workforce for designing, implementing and managing the transportation systems of the future.

Follow Us!

Keep up to date with STRIDE activities, events, research publications, workshops, conferences, K-12 workforce development, and student awards and accomplishments by following us on the STRIDE website, Facebook and Twitter.

Website: www.stride.ce.ufl.edu
Facebook: www.facebook.com/southeasterntransportationcenter
Twitter: twitter.com/STRIDE_UTC
Contents

Center Theme 2
Director’s Message 4
Milestones & STRIDE by the Numbers for 2012 (Year 1) 5
Financial Report for Year 1 6
Staff 7
Organizational Chart 8
Research Activities 9
Education 14
Student of The Year 16
Awards 17
Transportation Research Internship Program (TRIP) 19
Workforce Development 20
  K-12 Workforce Development 20
  Gator Trax 21
  Family Engineering Night 22
  UAB Career Day, UF Engineering Fair 23
  Engineering: It’s for Girls Too! 24
  LEGO® Robot Vehicle Lesson Plans 25
Technology Transfer 26
  WTS Transportation Symposium 26
  UFTI/STRIDE Reception and Student Poster Competition, TRB 2013 27
  Transportation Safety Symposium 28
  UTC Conference for the Southeastern Region 30
  WTS Advancing Women in Transportation Student Chapter Creation 32
  Webinars 33
Publications and Presentations 34
List of Projects 37
Dear Colleagues,

The Southeast Transportation Research Innovation Development and Education (STRIDE) Center is the new U.S. DOT Regional University Transportation Center in the Southeast (Region 4), headquartered at the University of Florida. The Center was awarded a $3.5 million grant from the Research and Innovative Technology Administration (RITA) of the USDOT to lead a consortium of universities in the Southeast. Our consortium partners are: Auburn University, Florida International University, Georgia Institute of Technology, Mississippi State University, North Carolina State University, the University of Alabama at Birmingham, and the University of North Carolina at Chapel Hill. Funding for STRIDE was announced in January 2012, and our mission is to serve as a central point for transportation research, education, workforce development, and technology transfer activities as they relate to the areas of safety, livability, and economic competitiveness in the Southeast.

As soon as we launched our operations, the STRIDE Center issued its first call for pre-proposals to all its partner universities to identify and select research and educational projects that would advance the state of the art and best serve the needs of the region. We received a total of 99 pre-proposals, and after a rigorous external peer review process, we invited 18 pre-proposals to the full proposal stage. These, were all funded for a total of $1,872,287 million. These projects are currently ongoing and are scheduled to be completed in December 2013 (see pages 37 for a complete list). Consistent with the STRIDE priorities, a good majority of these projects are collaborative in nature, each involving faculty from two or three universities.

In another important collaboration, STRIDE, along with the other three current UTCs in our region (headquartered at GaTech, Mississippi State University, and University of South Florida), spearheaded the organization of a regional UTC conference. The purpose of this conference was to exchange information and interact with state DOTs, our major partners in the UTC program; discuss opportunities to enhance and expand our collaborative activities; and provide a forum for our students to interact and present their work. The conference took place in Orlando, Fla., in April 4-5, 2013 (see pages 30 of this report for additional information). Based on the success of this conference, we look forward to making this event an annual occurrence in for our region. Stay tuned for information on the next regional UTC conference which will take place in Atlanta, Ga., in Spring 2014.

This annual report provides an overview of our activities to date, as well as performance indicators for our first year of operation. Our website (stride.ce.ufl.edu) provides up-to-date information on STRIDE-related projects, events and activities. As always, we welcome suggestions, feedback, and collaboration.

Sincerely,

Lily Elefteriadou, Ph.D.
Professor, STRIDE Director
Milestones & STRIDE by the Numbers for 2012 (Year 1)

Milestones:

• Call for proposals issued, February 2012

• First, two of three STRIDE workforce development activities took place at UF: Family Engineering Night and Engineering Fair, February 2012

• First STRIDE-wide webinar, “Geometric Design, Speed, and Safety”, hosted at UF and presented by John Mason, Ph.D., PE, Vice President for Research, Auburn University, March 2012

• RITA site visit conducted, May 2012

• First STRIDE Internship began, May 2012

• STRIDE website launched, July 2012

• UF/STRIDE teamed up with the Cade Museum, a science museum in Gainesville, Fla., to host the LEGO® Robotics Workshop—a set of lesson plans for middle-school-aged students—funded and developed by the Center for Multimodal Solutions, a Tier-1 UTC at UF, October 2012

• First STRIDE newsletter released, October 2012

• WTS Transportation Symposium hosted at UF by the WTS UF Student Chapter, November 2012

• Transportation YOU event hosted by NCSU at NCDOT, December 2012

• STRIDE Student of the Year selected: Amy Cavaretta, December 2012

By the Numbers (Year 1):

• Pre-proposals received: 99

• Projects selected for funding: 18

• Amount awarded in projects: $2,177,420 (research projects: $1,872,287; education projects: $226,219; workforce development projects: $78,914)

• Projects considered to be applied research: 11

• Match projects: 24

• Amount of funds in match projects: $2,931,229

• Transportation-related graduate and undergraduate courses offered by faculty and graduate students associated with STRIDE: 25 (undergraduate); 27 (graduate)

• Undergraduate and graduate students participating in transportation research projects funded by this grant: 59 (undergraduate); 75 (graduate)

• M.S. and Ph.D. students supported by this grant: 27 (M.S.); 25 (Ph.D.)

• M.S. and Ph.D. students supported by this grant who received degrees: 5 (M.S.); 3 (Ph.D.)

• Transportation-related advanced degree programs that utilize grant funds to support graduate students: 14 (M.S.); 12 (Ph.D.)

• Summer interns: 11

• Webinars: 5

• Conferences, workshops, symposia: 5

• K-12 events organized: 16

• Participants in K-12 events: 2,645
Financial Report for Year 1

Chart 1

This pie chart represents STRIDE awarded funds from January 2012 to March 2013. Funding for research accounted for 77.3 percent of the STRIDE budget while funding for education and workforce development activities were 8.8 percent and 4.2 percent, respectively. General administrative functions accounted for 9.7 percent of the budget.

Chart 2

The pie chart below represents STRIDE expenditures and associated match from January 2012 to March 2013. Expenditures accounted for 52.5 percent and matching funds accounted for 47.5 percent of the center’s activities during this time.
STRIDE Headquarter Staff

Lily Elefteriadou, Ph.D.
STRIDE Director & Professor
University of Florida

Ines Aviles-Spadoni, M.S.
STRIDE Coordinator of Research Programs/Services
University of Florida

Richard Long
STRIDE Outreach Coordinator
University of Florida

Nina Barker, M.S.
T2 Interim Director
Florida Transportation Technology Transfer (T2) Center
University of Florida

Leslie Washburn, PE
K-12 Workforce Development Coordinator
University of Florida

Morgan Witter, B.S.A
Administrative Assistant
University of Florida

STRIDE Internal Steering Committee – University Partner Representatives

Al Giffin
Director, Auburn Transportation Research Center
Auburn University

Mohammed Hadi, Ph.D.
Associate Professor
Florida International University

Randall Guensler, Ph.D.
Professor
Georgia Institute of Technology

Burak Eksioglu, Ph.D.
Associate Professor
Mississippi State University

Downey Brill, Ph.D.
Professor
North Carolina State University

Virginia Sisiopiku, Ph.D.
Associate Professor
University of Alabama at Birmingham

Ruth Steiner, Ph.D.
Professor
University of Florida

Daniel Rodriguez, Ph.D.
Professor
University of North Carolina at Chapel Hill

STRIDE External Advisory Board

Ronnie Baldwin
Chief Engineer
Alabama Department of Transportation

Randy Battey
Asst. Chief Engineer (Operations)
Mississippi Department of Transportation

Yvette Taylor
Regional Administrator
Federal Transit Administration

Georgene M. Geary
State Research Engineer
Georgia Department of Transportation

Howard Glassman
Executive Director
Florida MPO Advisory Council

Anita Vandervalk
Principal
Cambridge Systematics, Inc.

Kris Milster
ITS/Traffic Operations Specialist
Federal Highway Administration

STRIDE Annual Report 2012 | 7

Support Staff from the UF Department of Civil & Coastal Engineering/College of Engineering

Sharon Henry, B.S.
Grants Assistant
Civil & Coastal Engineering

Nikki Martin, M.S.
Grants Specialist
College of Engineering

Tony Murphy
Computer Support
Civil & Coastal Engineering
Organizational Chart

US DOT / RITA

STRIDE Center Director
Lily Elefteriadou

STRIDE Center Coordinator
Ines Aviles Spadoni

External Advisory Board (EAB)

- Auburn University
  - Al Giffin
- Florida International University
  - Mohammed Hadi
- Georgia Tech
  - Randall Guensler
- Mississippi State University
  - Burak Eksioglu
- North Carolina State University
  - Downey Brill
- University of Alabama at Birmingham
  - Virginia Sisiopiku
- University of Florida
  - Ruth Steiner
- University of North Carolina at Chapel Hill
  - Daniel Rodriguez

Internal Steering Committee (ISC)
Research

Increasing Children’s Health While Saving School Districts Money

Investigators: Noreen McDonald, Ph.D., UNC at Chapel Hill; Ruth Steiner, Ph.D., UF; Jeff Tsai, Ph.D., NCSU

Researchers at UNC at Chapel Hill and UF, along with a team of graduate students in city planning, are looking at the costs of getting children to school in North Carolina and Florida. Their study will be one of the first to look at all modes of transportation (e.g., walking, biking, school buses, cars) to consider how the location of the school along with state policies impact transportation costs. Cuts to municipal budgets have made it harder for school districts to pay to bus students to school. This study will provide districts with the tools to minimize transportation costs from the start.

Project Title: Quantifying the Costs of School Transportation (2012-022S)

To Yield or Not to Yield: Three Universities Join Forces to Tackle Pedestrian Behavior at Crosswalks

Investigators: Bastian Schroeder, Ph.D., NCSU; Lily Elefteriadou, Ph.D., UF; Virginia Sisiopiku, Ph.D. UAB

Researchers from NCSU State, UF and the UAB are collaborating to develop models to predict the conditions under which drivers yield to pedestrians at crosswalks. The research combines observational studies, pedestrian surveys, and controlled experiments using an instrumented vehicle to discover the root of driver behavior and quantify the factors that contribute to increased yielding. “The interplay of driver yielding and pedestrian crossing decisions is a very dynamic and complex process,” says principal investigator Bastian Schroeder, Ph.D., of ITRE at NCSU. “Through this project, we will be able to enhance and apply microsimulation to evaluate this interaction, and to derive key performance measures for both modes.” The project is expected to be completed in early 2014.

Project Title: Livability Considerations for Simulation-Based Performance Assessment of Non-motorized Transportation Modes (2012-016S)

Total System Cost Can be Minimized with a Wide Range of Congestion Pricing Strategies

Investigators: Jorge Laval, Ph.D., GaTech; Yafeng Yin, UF; Yingyan Lou, University of Alabama at Tuscaloosa

This research has shown that System Optimum can be achieved with an infinite number of pricing strategies as long as a few conditions are met. The pricing algorithms differ depending on the importance attributed to various traffic conditions on managed lanes and on general purpose lanes.

Project Title: Comparative Analysis of Dynamic Pricing Strategies for Managed Lanes (2012-089S)
New Traffic Management Strategies Help Reduce Traffic Congestion

Investigators: Mohammed Hadi, Ph.D., FIU; Lily Elefteriadou, Ph.D., UF

Researchers at FIU and UF are working on a project to develop and assess methods to improve the operations at critical bottlenecks. These methods utilize optimal combinations of ramp metering and variable speed limit algorithms while considering the probability of breakdown. The research will also explore the effects of using combinations of mobile and infrastructure devices to support these strategies.

Project Title: Investigation of ATDM Strategies to Reduce the Probability of Breakdown (2012-042S)

UAB Department of Psychology Investigators Develop Innovative Naturalistic Data Collection Methodology to Study Driving

Investigators: Despina Stavrinos, Ph.D., UAB; Leslie Ross, Ph.D., UAB; Virginia Sisiopiku, Ph.D., UAB; Sherrilene Classen, Ph.D., UF

A Naturalistic Driving Study across the Lifespan is addressing one of the leading causes of death for individuals across the lifespan: motor vehicle crashes. The overarching goal is to examine unbiased real-world driving in at-risk drivers across the lifespan, namely younger (16-25) and older (65+) adults. The study is an interdisciplinary effort from developmental psychology, civil engineering, occupational therapy and public health.

Project Title: A Naturalistic Driving Study across the Lifespan (2012-095S)

UAB and GaTech Assess Green/Sustainable Design Evaluation Methodologies

Investigators: Robert W. Peters, Ph.D., UAB; Adjo Amekezzi, Ph.D., GaTech; Virginia Sisiopiku, Ph.D., UAB

In a project funded by STRIDE, researchers at UAB and GaTech are developing a curriculum to raise awareness on sustainable design options and associated benefits and to educate college students and the transportation/sustainability workforce about the basic principles for green/sustainable design and evaluation procedures. Among these evaluation systems, the researchers are examining ranking systems such as the Leadership in Energy and Environmental Design for Neighborhood Development methodology, GreenLITES, Greenroads, Greenpave, STAR Communities, among others. These ranking systems are being compared and contrasted in terms of various categories and impacts, including: water conservation, energy conservation, environment/ecosystem, sustainable land use, waste/materials management, noise/light pollution, climate change, transportation impact, access, cost effectiveness, innovation/design, safety, operations/maintenance, economy/jobs, affordability, equity/inclusion, indoor environment, health/well-being, culture/place-making, and food sustainability. The researchers plan to teach the new course during the Fall 2013 semester. Modules may be developed for professional development/continuing education credits.

Project Title: Development of Educational and Professional Training Modules on Green/Sustainability Design and Rating Systems for Neighborhood Development and Transportation (2012-051S)

Greenroads rating systems certification levels

Ten guiding principles for the One Planet Communities program that are used as a framework to examine sustainability challenges and solutions in neighborhood development
GaTech Develops Method to Evaluate Sidewalk Quality

Investigator: Randall Guensler, Ph.D., GaTech

The research team at GaTech is collecting data on sidewalks in the Atlanta region and conducting expert evaluation surveys to assess sidewalks and pedestrian accessibility, which will lead to the development of a sidewalk quality index. The system will aid decision makers in prioritizing future investments in pedestrian facilities and provide a publicly available database of mapped sidewalk segments with their corresponding ratings.

Project Title: Automated Sidewalk Quality and Safety Assessment System (2012-067S)

Incident Impact Radius Depends on Type of Hazardous Cargo

Investigator: Berrin Tansel, Ph.D., FIU; Adjo Amekudzi, Ph.D., GaTech; Nasim Uddin, UAB

Coupling air quality modeling with GIS will provide a management tool for transporting hazardous cargo based on routing options, weather conditions and type of cargo. In the U.S., about 1 million shipments of hazardous cargo are transported by land, sea, and air. About 14,000 incidents are reported each year, with the majority occurring during the loading, transporting, and unloading of hazardous cargo. The impact radius and number of people affected by these incidents are highly dependent on type of cargo as well as land use and atmospheric stability at the incident locations. This research focuses on the variation of impact radius depending on the hazardous cargo characteristics (e.g., volatility, dispersion) as well as identification of the areas based on exposure levels. GIS is used to quantify the impact areas, population and population characteristics (e.g., age) in the impact zones.

Project Title: Consequence Based Route Selection for Hazardous Material Cargo: GIS-Based Time Progression of Environmental Impact Radius of Accidental Spills (2012-036S)
Reducing Emissions as a Function of Supply Chain Activities

**Investigators:** Sandra Eksioglu, Ph.D., MSU; Joseph Geunes, Ph.D., UF

Researchers at MSU and UF are collaborating to develop models that optimize costs and emissions due to supply chain activities, such as transportation and inventory. This research indicates that great reductions in supply chain emissions can be achieved at minimum cost by modifying business practices related to supplier selection and transportation mode selection. The figure below shows the results of our model output under a carbon cap mechanism for a biofuel supply chain. This figure illustrates the tradeoff between costs and travel distances for supplied materials as a function of the carbon cap level.

*Project Title: Analyzing the Impact of Carbon Regulatory Mechanisms on Supply Chain Management (2012-078S)*

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Leveraging the Tanglefoot Trail to Increase Transportation Options in Mississippi

**Investigators:** Brian Morton, Ph.D., UNC; John Poros, Ph.D., MSU; Joe Huegy, Ph.D., NCSU

The Tanglefoot Trail will create new opportunities in northeast Mississippi for heritage-based tourism, but it has an even greater potential for increasing livability and sustainability. The project explores ways to use the trail as the spine of new transportation corridors for bicycle and pedestrian travel in Union, Pontotoc and Chicksaw counties.

*Project Title: A Regional Land Use Transportation Decision Support Tool for Mississippi (2012-003S)*
Are Mid-week Travel Surveys Adequate?

Investigators: Siva Srinivasan, Ph.D., UF; Xia Jin, Ph.D., FIU

The practice of travel-demand forecasting continues to place substantial (if not all) emphasis on travel during a typical “mid-week” (Tuesday – Thursday) day. While this is adequate from the standpoint of understanding congestion due to commute, such an approach does not paint a complete picture of the overall travel patterns of people, and consequently, their overall quality of life. This is primarily because non-work/school-related travel is often satisfied on days when individuals are not constrained by the work/school activity. Thus, the intent of this study is to examine the activity-travel patterns for non mid-week days (Friday – Monday) that are typically ignored by the state-of-practice methods and assess their implications for transportation planning.

Project Title: Towards a Holistic Understanding of Quality of Life: An Analysis of Activity-Travel Patterns on Non-Mid-week Days (2012-024S)

UF and NC State Integrate Emissions Modeling Traffic Micro-simulator

Investigators: Scott Washburn, Ph.D., UF; Nagui Rouphail, Ph.D., NCSU

This study will measure the impact from a vehicle’s energy use and emissions on the environment by incorporating Vehicle Specific Power (a vehicle activity measure of engine load) into CORSIM to make it a valuable tool, not only for evaluating traffic operations, but also one that can be used to assess the air quality impacts of various traffic management strategies. With this tool, transportation planners and engineers can more reliably and accurately consider the potential tradeoffs in traffic performance and air quality.

Project Title: Emissions Modeling and Integration into Traffic Micro-simulation (2012-014S)
Education

Teaching Transit to the Masses

Investigators: Kari Edison Watkins, Ph.D., GaTech; Jeffrey LaMondia, Ph.D., Auburn

Dr. LaMondia, Auburn, and Dr. Watkins, Georgia Tech, are creating course modules for Introduction to Transportation and Transit Planning and Operations to better integrate transit into the curriculum and distribute the materials for others without transit analysis experience to use in their classrooms.

Project Title: Developing a New Course for Public Transportation Education (2012-029S)

Introducing Civil Engineering Students to Bicycle and Pedestrian Facilities

Investigators: Daniel Rodriguez, Ph.D., UNC – Chapel Hill; Rod Turochy, Ph.D., Auburn

Three educational modules have been developed that can be used in introductory transportation courses for undergraduates in civil engineering, planning, and policy. The three modules are: Pedestrian and Bicycle Data and Performance Analysis; Pedestrian and Bicycle Facilities; and Planning for Pedestrians and Bicycles. The modules are intended to address operations (performance analysis), design, and planning for bicycle and pedestrian facilities. These modules provide material for about one week in a typical semester-long introductory transportation engineering class. The three modules were successfully tested with students at Auburn University. Modules will be available soon for download through the FHWA’s Pedestrian and Bicycle Information Center (www.pbic.org).

Project Title: Development of Pedestrian and Bicycle Transportation Course Modules (2012-028S)

Course Module Designed to Teach Engineering Students about Safety Considerations

Investigator: Lesley Strawderman, Ph.D., MSU

Lesley Strawderman, an assistant professor at MSU, is developing an educational module in transportation safety. This module will target undergraduate engineering students as exposure to this topic is extremely limited. The module includes lecture material (both instructor and student versions), in-class activity, and laboratory exercises. It is expected that the module will be an effective tool for improving student understanding, appreciation and interest in transportation safety.

Project Title: Engaging Engineering Students with Transportation Safety: An Educational Module (2012-085S)

Traffic Simulation Program Helps Students Learn Theories and Concepts

Investigator: Scott Washburn, Ph.D., UF

Two of the most difficult topics for students to learn in an Introduction to Transportation Engineering class are queuing theory and signal operation and analysis. With the majority of students being visual learners, active learning techniques are proving to be a more effective teaching method than the traditional lecture. Using computer software in transportation engineering education significantly enhances the learning experience. However, the currently available software is primarily designed for use by practitioners and/or researchers more so than for educational purposes. Scott Washburn, an associate professor at UF, is working on developing a signalized intersection simulation program that will more efficiently and visually teach students about these two difficult topics.

Project Title: Signalized Intersection Simulation Program Created for Use in Teaching (2013-076S)
Investigators: James Martin, PE, NCSU; Nancy Bailey, NCSU; Leslie Washburn, PE, UF; Lily Elefteriadou, Ph.D., UF

The Center for Transportation and the Environment (CTE) at NCSU has been working with the NCDOT and Women’s Transportation Seminar on a series of workshops to offer transportation engineering as a viable career option for girls. To date, six workshops targeting sophomore and junior high school-level students in North Carolina have provided experiential hands-on activities, speakers, role models, and mentoring opportunities.

Project Title: Engineering: It’s for Girls, Too! (2012–009S)

Auburn Students Learn to Make All Roads Green

Investigator: James R Willis, Ph.D., Auburn

Auburn’s civil engineering graduate program launched its first graduate course on sustainable pavements in January 2013. The course, entitled Design and Assessment of Sustainable Pavements, was developed as a result of a STRIDE-funded project (Development of Graduate Level Course on Sustainable Asphalt Pavements, 2012-049S) to introduce graduate students to the concept of sustainability, teach them the importance of making decisions based on triple-bottom-line concepts: economic benefits, environmental stewardship and social well-being. The class design differed from civil engineering classes, which focus on calculations and formulas. “The real goal of the class was to change the way the students thought about pavements,” Willis said. “They needed to go further and to consider how their choices affect things such as greenhouse gas emissions, neighborhood livability, and the economics of the Department of Transportation.” Overall, the class was successful in not only providing students with a new way of thinking, but also in giving the students appropriate information for making more sustainable choices in both their professions as pavement engineers and life in general.

Project Title: Development of Graduate Level Course on Sustainable Asphalt Pavements, (2012-049S)
Amy Cavaretta, M.S. (UF 2013) is the STRIDE Student of the Year for 2012. She received this honor during the CUTC Awards Banquet in January 2013 during the 92nd Meeting of the Transportation Research Board in Washington, D.C. Amy has her sights set on urban planning and has demonstrated her interest by participating in several internships such as the Harvard University Graduate School of Design Urban Planning Summer Program, the City of Casselberry, Fla., and Kittelson & Associates, a transportation engineering and planning firm. Cavaretta also was selected as the first Thomas J. O’Bryant Transportation Policy and Finance Fellow of the Eno Center for Transportation, a non-partisan think-tank in Washington, D.C. While at Eno, Cavaretta co-authored a paper examining the Federal Discretionary Grants Program titled “Lessons Learned from the TIGER Discretionary Grant Program”. Amy Cavaretta is an active leader in the UF Student Planning Association and has been involved with the Woman’s Transportation Seminar (WTS) UF student chapter since 2009, serving as vice president, secretary, and newsletter/website chair. Other accolades include: David F. & Cynthia A. Davis Engineering Scholarship (UF, 2011), Frankee Hellinger Undergraduate Scholarship (WTS Central Florida Chapter, 2009), and the Sharon D. Banks Memorial Undergraduate Scholarship (WTS National, 2010). More recently, Cavaretta has received recognition via the WTS International Helen Overly Graduate Scholarship (2012-2013), and the WTS South Florida Helen Overly Memorial Graduate Scholarship (2012-2013). The Florida American Planning Association named Cavaretta their Outstanding Student Planner (2012-2013) and Student Planner of the Year (2012). Amy Cavaretta plans to pursue a career in Washington, D.C. in federal and state transportation/infrastructure policy and hopes to become a certified and licensed planner.
Awards

Abdul Muqueet Abro, Doctoral student, UAB
Civil Construction & Environmental Engineering/Transportation
GAFP Scholarship from the UAB Graduate School, 2012

Anya Abseen, Master’s student, NC State
2nd Place, Student Presentation, 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, UTC Conference for the Southeastern Region, Orlando, Fla., 2013

Muhammad Ali, Master’s student, UF
International Road Federation (IRF) Fellowship, 2012-2013
President for IRF Fellows’ Class of 2013
Gerald P. Shea Award, IRF Executive Leadership Program, 2013
4th Place in Hydraulics Competition, ASCE Southeastern Student Chapter, 2013

Candace Brakewood, Doctoral student, GaTech
Advancing Science in America Fellowship, 2012

Eileen Cabrera, Master’s student, FIU
Anne Brewer Scholarship Award, ITS Florida, 2013

Grady Carrick, Ph.D., 2012, UF
STC Poster Competition at TRB, 2012

Felipe Castrillon, Master’s student, GaTech
Eisenhower Transportation Fellowship, 2013

Amy Cavaretta, Master’s student, UF
STRIDE Student of the Year, 2013
AICP Outstanding Student of the Year, UF Department of Urban & Regional Planning, 2012-2013
Graduate Student Academic Achievement Award, UF College of Design, Construction & Planning, 2013
Helen Overly Memorial Graduate Scholarship, WTS International, 2012-2013

Thomas Chase, Master’s student, UF
1st Place, Student Presentation, Instrumented Vehicle Study and Micro-simulation Models of Pedestrian-Vehicle Interaction at Midblock Crosswalks, UTC Conference for the Southeastern Region, Orlando, Fla., 2013

Xuanwu Chen, Doctoral student, president, FIU ITE Student Chapter
Outstanding Leadership Award, 2013
3rd Place, STRIDE Student Research Poster Showcase, UF/STRIDE Reception, TRB, 2013

Harley Cooper, M.S., 2012, UNC at Chapel Hill
Elsie Van Dyke Dewitt Fellow, 2011-2012

Tabitha Combs, Doctoral student, UNC Chapel Hill
2nd Place, STRIDE Student Research Poster Showcase, UF/STRIDE Reception, TRB, 2013

Shannon Denny, Undergraduate student, UAB
1st Place, Presentation Competition, 10th Annual University of Alabama System Honors Research Conference, 2013
1st Place, Student Poster Competition, University of Alabama Summer Undergraduate Research Expo, 2012

Ms. Dhakar, Doctoral candidate, UF
International Road Federation (IRF) Fellow, 2012-2013

Amanda Douglas, Master’s student, UF
Jeanne Fewell Award, First Coast (Jacksonville) Section of the American Planning Association, 2012

Ehsan Doustmohammadi, Doctoral student, UF
GAFP Scholarship, UF Graduate School, 2013

Alexandra Frackelton, Master’s student, GaTech
Graduate Student of the Year, 2013

Alice Grossman, Master’s student, GaTech
American Association for University Women Selected Professionals Fellowship, 2013-2014

Phillip Haas, Doctoral student, UF
Outstanding Student of the Year, Center for Multimodal Solutions for Congestion Mitigation (CMS), Tier 1 UTC, 2012

Md Shah Imran, Master’s student, UF
NSF South East Alliance for Graduate Education and the Professoriate Funding Award, 2013, UF
9th Postgraduate Forum of Beihang University Beijing, China, Exploring Bicycle Ownership Among Household Types, paper for presentation at

Gwen Kash, Master’s student, UNC at Chapel Hill
Eisenhower Transportation Fellowship, 2012-2013
2nd Place, Graduate Student Research Contest, National Conference on Rural Public and Intercity Bus Transportation, 2012

Clark Letter, Doctoral student, UF
1st Place, Student Poster, Incorporating Probability of Breakdown into Fuzzy Logic Ramp Metering, STRIDE Student Research Poster Showcase, UF/STRIDE Reception, TRB, 2013

Jinyan Lu, Doctoral student, FIU
Best Student Paper Award, District 10 ITE, 2012
Bill McGrath Transportation Studies Scholarship Award, FSITE, 2013
Helene M. Overly Memorial Scholarship awarded by Women in Transportation (WTS), 2012

Miguel Lugo, Doctoral student, UF
9th Postgraduate Forum of Beihang University Beijing, China, Exploring Bicycle Ownership Among Household Types, paper for presentation at
Beihang University, 2012
UF/NSF LSAMP Bridge to Doctorate Fellow, 2011-2012

Dimitra Michalaka, Ph.D. 2012, UF
International Road Federation (IRF) Fellow, 2012-2013
Rachel Mulholland, Master’s student, University of Denver
3rd Place, Student Presentation, Women in Transportation: A model for Job Seeking in the Transportation Industry, UTC Conference for the Southeastern Region, Orlando, Fla., 2013

Seckin Ozkul, Doctoral student, UF
IRF Fellowship, 2013-2014

Prabha “Popa” Pratyaksa, Doctoral student, GaTech
2nd Place, Student Poster Showcase, Safety Performance Evaluation of Converging Chevron Pavement Markings, UTC Conference for the Southeastern Region, 2013

Benjamin Reibach, Master’s student, UF
Graduate Student Participation Grant for the 8th National Aviation System Planning Symposium, 2012

Erica L. Schmidt, Doctoral student, UAB
3rd Place, Student Poster Showcase, Development of Comprehensive Physical, Sensory and Cognitive Assessment Battery for Driving Safety and Behavior, UTC Conference for the Southeastern Region, 2013

Shaghayegh Shabanian, Doctoral student, FIU
3rd Place, Best Essay Award, Gold Coast ITE Chapter, 2012

Jay Shannon, Doctoral student, MSU
1st Place, STRIDE Student Research Poster Showcase, UF/STRIDE Reception, TRB, 2013

Danielle Soriano, Undergraduate student, UF
Sharon D. Banks Memorial Undergraduate Scholarship, WTS South Florida Professional Chapter, 2013
Undergraduate Student Outstanding Service/Leadership Award, UF Civil and Coastal Engineering, 2013
Student Chapter President, WTS Advancing Women in Transportation, 2012-2013
Future Industry Leader Spotlight Award, American Road & Transportation Builders Association (ARTBA), 2012

Melissa Walters, Undergraduate student, UAB
1st Place, Student Poster Competition, University of Alabama Summer Undergraduate Research Expo, 2012

Donald Watson, Master’s student, UF
Dwight David Eisenhower Graduate Fellow, 2012
Dwight David Eisenhower Transportation Fellow, 2013

Lauren Wang, M.S. 2012, UNC at Chapel Hill
Leadership Legacy Scholarship, North Carolina Chapter of Women in Transportation Planning, 2012

Ruoying Xu, Master’s student, UF
Dwight David Eisenhower Transportation Fellow, 2012
Dwight David Eisenhower Transportation Fellow, 2013

Cheng Zhong, Doctoral student, UAB
GAFP Scholarship, UAB Graduate School, 2013

FACULTY

Mohammed Hadi, Ph.D., FIU
FIU College of Engineering and Computing Mentorship Award
TRB Certificate of Appreciation for organizing TRB HCQS and TFT Joint Summer Meeting

Robert W. Peters, Ph.D., P.E., UAB
Emmett B. Carmichael Award from the Alabama Academy of Science for Outstanding Paper during 2011 in the Journal of the Alabama Academy of Science (actual award date, March 2013)

Daniel Rodriguez, Ph.D., UNC Chapel Hill
Excellence in Safety Research for Active Living Poster Award, given by Active Living Research and the Robert Wood Johnson Foundation, in conjunction with the CDC National Center for Injury Prevention and Control (with Bushell, M., Poole, B., and Zeeger, C.), San Diego, 2013

Virginia P. Sisiopiku, Ph.D., UAB
Civil Construction & Environmental Engineering/Transportation Best Research Paper Award, Southern District of Institute of Transportation Engineers (SDITE), June 2012

Yafeng Yin, Ph.D., UF
Civil Engineering/Transportation University of Florida Doctoral Dissertation Advisor/Mentoring Award, March 2012

Student Chapter Awards

Outstanding Organization in the Engineering Community, Council of Student Organizations (CSO) of FIU

Florida International University, ITE District 10 Best Student Chapter Award

North Carolina State University, ITE International Traffic Bowl Champions
Transportation Research Internship Program (TRIP)

STRIDE 2012 Transportation Interns

Three undergraduate students were chosen to participate in the STRIDE Transportation Research Internship Program (TRIP) in the summer of 2012. Two students interned at the University of Florida and one at Florida International University. In TRIP, interns participate in research projects under the direction of faculty and graduate students, and the experience is valuable for students interested in going to graduate school or pursuing a career as a transportation engineer. In 2012, the interns learned to use CORSIM, assisted in gathering and processing data, searched for scholarly articles, helped to prepare research papers, and evaluated data using diverse techniques. Undergraduate students from the STRIDE consortium, as well as from other universities across the U.S., are eligible to participate in TRIP and can choose to intern at any university within the consortium. This is a paid internship that runs from May to August each year. More information is available at www.stride.ce.ufl.edu/internship-opportunities.

Imad Ghossein, senior, Civil Engineering, UAB

Project Title: Testing of Implementation of Toll Plaza Modeling in the Highway Capacity Manual Freeway Facilities Analysis Methodology

TRIP Adviser: Scott Washburn, Ph.D., associate professor, UF

Project Review: Recently, Dr. Washburn worked with two master’s students to implement toll plaza modeling into CORSIM and develop a toll plaza analysis methodology that could be integrated into the Highway Capacity Manual Freeway Facilities methodology. Ghossein performed testing of the developed toll plaza analysis methodology, with emphasis on the oversaturated (i.e., where the demand is greater than capacity) aspect of the methodology. As part of the testing, he ran simulations in CORSIM with a large number of toll plaza configurations.

Ghossein feels his exposure to transportation engineering software and the way research is conducted in transportation provided him with an abundance of useful knowledge. “My research skills have improved a lot throughout the internship program due to all the experiments that I’ve performed,” Ghossein said. “I also learned about ongoing research projects in transportation engineering from all the seminars that were presented.”

Ghossein, originally from Lebanon, moved to the U.S. in 2008 to pursue a civil engineering degree. When he is not studying, you will find him at the swimming pool or playing basketball with his friends. Ghossein graduated in December 2012.

Maria Rojas, junior, Civil Engineering, UF

Project Title: Estimation of Diversion Rate during Incidents based on Mainline Detector Data

TRIP Adviser: Mohammed Hadi, Ph.D., associate professor, FIU

Project Review: “It was a great experience because I learned more about the transportation field research-wise,” Rojas said. “Also, I observed how research and FDOT projects go hand-in-hand especially in a very transportation-focused city such as Miami.

Rojas added that she learned how to apply engineering principles to research such as data collecting and problem solving, and it provided her with a closer glimpse into conducting research in the transportation field and what graduate school could be like.

Rojas attended the Miami Dade Honors College and later transferred to the UF to pursue a degree in civil engineering. She has always had a penchant for math and science, but found that living in Miami and using public transportation was what led her to the transportation field of civil engineering. After graduation, Rojas plans to attend graduate school.

Bryan St. George, senior, Civil Engineering, UF

Project Title: Lane Changing on Freeways

TRIP Adviser: Lily Elefteriadou, Ph.D., professor, UF

Project Review: St. George’s tasks included working with a graduate student to perform data analysis related to the modeling of lane changes along freeways. St. George also took his internship experience one step further, carrying out his own research and expanding on the original topic. After consulting various publications, St. George wrote a literature review and a suggested methodology to estimate the critical gap size considering various driver behaviors and characteristics. His TRIP experience helped him to gain some insight into the thesis track and how to prepare a thesis.

“I enjoyed my experience with TRIP,” St. George said. “Aside from the connections I made while in the program, I also learned different data analysis techniques and new ways to search for scholarly articles.”

St. George graduated in December 2012 and is currently attend graduate school at UF. He certainly knows what he wants to do with his master’s degree: “After school, my dream job is to work for Disney as an Imagineer,” St. George said.
Workforce Development

K-12 Activities

The UAB School of Engineering held a “Teen Driving Safety Summit,” which took place on October 30, 2012. The Summit was an outreach event that aimed to attract students from local schools. Transportation students volunteered at the event, alongside Virginia Sisiopiku, the lead principal investigator on the workforce development STRIDE grant for UAB.

UAB also coordinated the Jefferson County Youth Transportation Program, a year-round program administered through the UAB Office of the Vice President for Equity and Diversity under the Minority Business Training and Development programs. High school students who participate in the Youth Transportation program are introduced to current and future needs within the transportation industry through field trips to transportation-related companies and governmental agencies across the Southeast, lectures presented by guest speakers in the transportation industry, and life skills training.

The goal of this comprehensive program, sponsored by the Alabama Department of Transportation, is to ensure that young adults are equipped with the resources and guidance needed to make intelligent career decisions related to the field of transportation.

On March 2, 2013, Morgan Witter, an instructor from the UF T2 Center, piloted a Careening Coaster class, in which students worked cooperatively to construct a roller coaster using wire, popsicle sticks, clay, and tape. The eight, 3rd to 8th grade students worked in pairs to build their coaster, which was required to include one 360 degree loop or spiral, one hill, or one 45-90 degree turn. Students discovered the relationship between gravity and mass, viewed videos and slides about the differences between potential and kinetic energy, and learned how engineers use these elements to build bigger and better roller coasters.

Witter piloted a second class, the Strawbridge Challenge, was held on April 13, 2013. This experience challenged students to collaborate with a partner and construct a bridge using drinking straws, tape, and paperclips. Slides and videos informed the six attendees aged 8-10 on the different types of bridges, the relationship between compression and tension, and the methods engineers use to select materials and bridge types. Students applied their new knowledge of weight, torque, force, and compression to build their bridges with the objective of holding the most weight in pennies. Pairs who finished early had the opportunity to test and re-evaluate the load-bearing capacity of their bridges.

Witter developed these curricula in partnership with Leslie Washburn, PE, workforce development coordinator at University of Florida Transportation Institute.
GatorTRAX

The Engineering GatorTRAX Math Excellence Initiative provides students in grades K-12 with opportunities to learn mathematics with hands-on activities for free. Students interested in math and careers in science, technology, engineering, or mathematics, especially those students who are underrepresented in engineering fields such as African-Americans, Hispanics and females, are encouraged to participate.

On March 17, 2012 and September 29, 2012, the WTS student chapter partnered with Tau Beta Pi to host LEGO® Car Building Workshops in Weil Hall at the UF campus. Children built LEGO® cars and learned how design affects speed. Tiffany Buster, an engineering student and vice president of the WTS UF Student Chapter (pictured to the right), spoke to participating children about transportation concepts during the GatorTRAX event. Pictured in the image above to the right, Danielle Soriano, also a civil engineering student and the president of the WTS UF student chapter, encourages children to think about urban planning concepts.
Family Engineering Night

Family Engineering Night is an informal engineering education program designed for children ages 7 to 12 and their parents or other adult caregivers. MSU, UAB, FIU, and UF are participating in this STRIDE project, and their efforts are summarized below:

MSU implemented the program in the spring of 2013 at seven schools in the Southern part of the state (or “Gulf Coast Region”). Each event was arranged with school personnel and hosted a total of 200 K-6 students and their parents. The children completed a variety of activities that introduced them to the work of engineers and a range of engineering fields. The final result was that over 1000 young people and their parents were able to explore engineering and share the learning and building experience as parent and child. In follow-up surveys, parents responded that they were very happy to have learned more about their child’s interests and potential. The parents also shared that they learned a great deal about the diverse fields of engineering, including planning for their child’s future, too.

The STRIDE teamed with WTS, ITE, and ASCE student chapters at UF to host four events with the number of volunteers ranging from 20 to 40. The first two events were held on February 15, 2012 and April 4, 2012 at Lawton Chiles Elementary and Williams Elementary with 130 students participating. The student chapters presented the activities at the P.K. Yonge Development School in Gainesville, Fla., during the school’s annual carnival on October 25, 2012. A total of 24 volunteers taught engineering concepts to 60 student during the event. The fourth event was held on February 7, 2013 at Lawton Chiles Elementary School in Alachua County, Fla. Seventy-six elementary school children participated in the activities with 38 volunteers from the UF student engineering organizations. Volunteers from the UAB ITE and the Society of Women Engineers (SWE) student chapter collaborated to host a Family Engineering Night event on March 30, 2013. More than 40 children in 4th and 5th grade attended from the Birmingham school district. The children learned about engineering disciplines and participated in fun hands-on activities. Transportation-related activities included the five-point traffic jam, straw tower building, and paper bridge building. While children worked on experiments, UAB faculty and other engineering professionals offered presentations to educate parents about engineering career options. Virginia Sisiopiku, Ph.D., an associate professor at UAB, spoke about the transportation engineering discipline and careers in transportation. FIU will be implementing Family Engineering Night activities into their summer 2013 program.

Clockwise from top: Leslie Washburn (bottom row, left) and the ITE and WTS students during a Family Engineering Night event in Gainesville Fla.; Ben Reibach, a graduate student (pictured to right) assists a parent and child with an activity; A UF student demonstrates an engineering concept to two girls.
The UAB School of Engineering held a Welcome Back event on September 6, 2012. As part of this event, transportation faculty and students shared information about careers in transportation with undergraduate students and visitors. The event also served as an opportunity for the UAB ITE student chapter to recruit new members and expose engineering students to the benefits and opportunities associated with the transportation engineering field.

WTS and ITE student chapters hosted a booth at the UF Engineering Fair on February 14-15, 2013. Over 150 participants built and raced LEGO® cars learning about center of gravity, acceleration and travel distance. The student chapters developed an urban planning model out of LEGO® blocks to introduce students of all ages to the transportation field.

A two-hour workshop was piloted at a UF computer lab on January 27, 2013, in partnership with the UF Center for Pre-collegiate Education and Training. During the workshop, the UF transportation engineering graduate students introduced attendees to traffic simulation, and used examples to demonstrate its many benefits and applications. The workshop also included hands-on experience using, CORSIM, a state-of-the-art software, which is maintained by McTrans at UF. Students set up and ran traffic simulations of signalized intersections in which they experimented with various signal timing strategies to optimize the intersection performance. Finally, students used traffic simulation to explore the interaction between multiple signalized intersections.

The ITE student chapter at FIU conducted an Engineering Expo on February 22, 2013. More than 1,700 elementary, middle and high school students from Miami-Dade County schools visited research laboratories, participated in hands-on activities, and explored engineering concepts through competitions. FIU volunteers conducted demonstrations at the traffic simulation laboratory as well as various interactive guided tours. Activities throughout the day included a paper plane building competition, races with remote control cars and water rockets, and an aviation flight simulator.

Students volunteer to work at the transportation booth during the UF Engineering Fair.

Tiffany Buster and Maria Rojas speak to middle and high school students about transportation and urban planning.

Graduate student Thomas Chase shows a high school student how to create a traffic simulation of a signalized intersection.
Engineering: It’s for Girls, Too!

The STRIDE Center has funded a project entitled *Engineering: It’s for Girls, Too*, which aims to acquaint high school girls to a variety of engineering careers, particularly in transportation engineering. The project is a response to the USDOT Transportation YOU initiative, which is a partnership with the Women Transportation Seminar (WTS) to provide hands-on interactive, mentoring programs to young girls. UF and NCSU are collaborating on the project, and several events have been offered by both institutions in support of the effort. In 2012, the Center for Transportation and the Environment (CTE) at NCSU teamed up with the North Carolina Department of Transportation and the WTS on a series of engineering workshops for sophomore and junior high school students in North Carolina. The first event, which focused on surveying, was held in Raleigh, NC on December 13, 2012, and was attended by 20 girls. A Transportation YOU event, which focused on the role of archaeology in transportation engineering, was held on February 23, 2013, also in Raleigh, and in collaboration with WTS.

The CTE then worked with NCDOT to co-sponsor three *Introduce a Girl to Engineering* workshops, which were held in various locations in the state, including Raleigh on February 14 (30 girls attended), Winston-Salem on February 19 (44 girls attended), and Greenville on March 13 (27 girls attended). The girls completed hands-on activities such as creating a safety restraint system for an egg strapped to a toy truck during a staged crash. The girls were given time to design and build their project, with guidance from an engineer, before the toy trucks were “crashed” at the bottom of a ramp. The eggs were then checked to see how well the safety restraint worked.

In Florida, local middle and high school girls have also benefitted from the STRIDE grant. In the spring of 2013, the UFTI hosted five *Engineers Change the World: A Hands-on Workshop for Girls 13-18 Years Old* events held at various Florida locations. The activities concentrated on providing a variety of exposure to different engineering fields, including chemical, civil, mining, mechanical, environmental, and geological, with emphasis on the importance of teamwork. The first workshop was attended by eight girls on January 26 at the UF campus, and was co-hosted by the UF WTS student chapter, which provided a panel discussion and answered questions prior to starting the activities. The next workshop was held at Boone High School in Orlando on March 7, with the assistance of the Central Florida WTS Chapter. Fifteen high school girls participated, as well as two volunteers from the WTS Chapter at UF.

Two additional workshops were held on April 10, 2013 and May 14, 2013 at the 21st Century Community Learning Center (CCLC) at Lincoln Middle School in Gainesville, Fla., and at Mebane Middle School. A total of 32 young girls attended, and the feedback provided was encouraging. The CCLC provides academic enrichment during non-school hours, particularly to students who attend high-poverty and low-performing schools. On April 13, 2012, UF volunteers traveled to the University of North Florida campus in Jacksonville, Fla., to co-host the final event with the WTS North Florida Chapter.
LEGO® Robot Vehicle Lesson Plans

NCSU, UF, and FIU have offered the LEGO® Robot Vehicle Lesson Plans for Secondary Education. The Introduction to Transportation Engineering curriculum, developed at UF, is being offered to students in 5th to 8th grades. The lessons contain the fundamentals of transportation engineering, which will teach students how advanced technology is integral to solving transportation problems. UF has worked with a Girl Scout troop and developed a partnership with a local science museum, the Cade Museum.

UFTI teamed with the Cade Museum to host a workshop on October 26, 2012 and February 15, 2013 with a total of 26 attendees. Instructors guided students through modules to teach them how an intelligent vehicle can help mitigate congestion through the use of sensors and computer programming. Vehicle programming exercises include the moving of the intelligent vehicle, following a route, detecting pedestrians and emergency vehicles, and calculating travel distance and travel time. Students learn the extent to which transportation affects the quality of life in our society.

The revised one-day format was well received and made available for download after it was tested at the first workshop. The curriculum has been downloaded 50 times all over the country for consideration and use in classroom and afterschool programs. The curriculum is now featured at www.transportationcareers.org, a resource for teachers.

The Center for Transportation and the Environment (CTE) at NCSU received a STRIDE workforce development grant for a workshop that uses lesson plans and LEGO® robot vehicles to introduce middle school students to congestion mitigation solutions, the importance of modeling and assessment of advanced technologies and Intelligent Transportation Systems (ITS) with respect to congestion mitigation, and improvements of traffic signal systems to reduce delays in urban corridors. These workshops, consisting of five, 1.5 hour, after-school lessons developed by UF, are scheduled to be delivered by an NCSU civil engineering graduate student late August or early September 2013, to students at the Centennial Campus Magnet Middle School on the campus of NCSU. Students will be exposed to computers, basic computer programming, and mathematics as it relates to the tasks and robots as tools.

Florida International University will be implementing the lesson plans in their summer 2013 program.
The WTS Student Chapter at the University of Florida held the second annual Transportation Symposium on November 6, 2012, at the UF Reitz Student Union. Three professional women were invited to present their experiences and insights on females in the workforce, particularly in leadership roles. These speakers included Kathy Caldwell, ASCE National Past President; Marcia Ferranto, President of WTS International; and Laura Kelley, Deputy Executive Director of the Orlando-Orange County Expressway Authority. The speakers shared with their audience their experiences as leaders and how they handled various situations they have encountered during their careers.
UFTI/STRIDE Reception and Student Poster Competition, TRB 2013

The UFTI hosted a reception during the 92nd Annual Meeting of the Transportation Research Board along with STRIDE-affiliated faculty, students and staff. The well-attended reception was held at the Marriott Wardman Park Hotel in Washington, D.C., and included a STRIDE Student Research Poster Competition. Twenty-nine posters from students representing the partner institutions were selected for presentation. The winners of the student poster competition were Jay Shannon, 1st Place, MSU; Tabitha Combs, 2nd Place, UNC at Chapel Hill; and Xuanwu Chen, 3rd Place, FIU.
Transportation Safety Symposium

A day-long symposium on *Transportation Safety: From Research to Practice* was held on April 3, 2013, at the Rosen Plaza Hotel in Orlando, Fla. The event attracted 33 practitioners from consulting firms, state agencies, and metropolitan planning organizations (MPOs). The presenters—comprising UF researchers from transportation engineering, urban and regional planning, and occupational therapy—discussed the latest technologies, analysis techniques, and data analysis tools, including the management of vulnerable populations and policy initiatives. The symposium followed in a series of technology transfer events organized by the UF Transportation Institute in collaboration with STRIDE to disseminate research findings from projects funded in part by the Center for Multimodal Solutions for Congestion Mitigation (CMS), a USDOT, grant-funded, Tier-1 University Transportation Center.
Above: The GaTech table during lunch at the UTC Conference for the Southern Region. Below: Student Poster Session participants during the UTC Conference for the Southern Region, Orlando Fla.
More than 180 people attended the University Transportation Center (UTC) Conference for the Southeastern Region in Orlando, Fla., on April 4-5, 2013, which showcased UTC projects and helped enhance collaboration amongst academic, private, and public sectors in the Southeast. STRIDE organized and hosted the conference, the first such event in the region, which aimed to bring together faculty, students, practitioners, and public agencies in the Southeast, to disseminate information about ongoing activities at all partner universities, and to further enhance collaboration among the academic community, as well as the private and public sector agencies in the region. Keynote speakers included FHWA Deputy Administrator Greg Nadeau and FDOT Assistant Secretary Brian Blanchard. This day and a half event was sponsored by the four UTCs in the region: STRIDE, the National Center for Transportation Systems Productivity and Management (NCTSPM) at GaTech, the National Center for Intermodal Transportation (NCITEC) at MSU, and the National Center for Transit Research (NCTR) at the University of South Florida, as well as the University of Florida’s Office of the Vice President. The conference incorporated 32 faculty presentations, 15 student presentations, a student poster session with 45 posters, and student poster and presentation competitions. Regional state DOT representatives held a panel discussion on research needs and potential collaborative activities. Also, during the conference, the Institute of Transportation Engineers (ITE) and Women in Transportation Seminar (WTS) student chapters organized a special session to discuss opportunities for regional events and activities, including the creation of additional WTS student chapters in the region. In addition, a tour of the Florida Turnpike Traffic Control Center was offered, and was well attended. The faculty presentations covered a wide variety of topics.
projects, including Traffic Performance and Access Management, Planning and Economics, Infrastructure and Safety, and Intermodal Transportation and Observational Studies. Students presented on subjects ranging from traffic engineering and urban planning to women in the workforce and safety-related projects.

Conference participants originated from the following academic institutions: FIU, GaTech, NCSU, MSU, UAB, UCF, UF, USF, UNC at Chapel Hill, Hampton University, University of Denver, University of Memphis, and University of Mississippi. Representatives from consulting firms such as Atkins, the Corradino Group, and Comprehensive Engineering Services, Inc., attended the conference. Also in attendance were delegates from state agencies such as the Federal Highway Administration, Floridians for Better Transportation, Florida DOT, Georgia DOT, and Mississippi DOT. Several Florida city and county agencies were also represented, including City of Palm Bay, Fla., City of Delray, Fla., Metro Plan, Jacksonville Port Authority, Manatee County Public Works, Highlands County Board of County Commissioners, and the Orlando Orange County Expressway Authority.
The WTS UF student chapter has made contact with a couple of universities in the Southeastern U.S. with the intention of initiating other WTS student chapters. Students from FIU and NCSU have shown interest. The WTS student chapter at UF has also connected with USF and GaTech. At NCSU, preliminary discussions were held about forming a WTS student chapter, which led to interest from other universities in establishing chapters, outside of the STRIDE consortium. The strategy at NCSU is to work to create a Triangle WTS student chapter, comprising students from NCSU, UNC at Chapel Hill and Duke University (a university outside of the STRIDE consortium). During the UTC Conference for the Southeastern Region in April 2013, the ITE and WTS student chapters at UF organized a special session to discuss opportunities for regional events and activities, including the creation of additional WTS student chapters in the region. Tiffany Jackson, WTS director of chapter development, spoke during the session and met with several students interested in forming WTS student chapters at their respective universities.
Computer Lab Workshop/Webinar
Managed Lanes Operations and Simulation using CORSIM

This two-part webinar and lab practicum, taught at UF by Dimitra Michalaka, Ph.D., on April 29-30, 2013, was geared toward transportation engineers and researchers to learn about pricing strategies, lane choice models, toll structures and simulation of managed lanes using CORSIM.

WEBINARS

Improved Timeliness and Accessibility to Crash Data and Tools for Safety
Presenter: Ilir Bejleri, Ph.D., associate professor, Department of Urban and Regional Planning, UF
November 29, 2012 (via GoToMeeting), sponsored by UF.

An Integrated Biofuel Supply Chain against Feedstock Seasonality and Uncertainty
Presenter: Yongxi (Eric) Huang, Ph.D., assistant professor, Glenn Department of Civil Engineering, Clemson University
April 23, 2012 (via WebEx), sponsored by FIU.

Biofuel Supply Chain Design under Competitive Agricultural Land Use and Feedstock Market Equilibrium
Presenter: Yanfeng Ouyang, associate professor, Paul F. Kent Endowed Faculty Scholar of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign
April 13, 2012 (via WebEx), sponsored by FIU.

Geometric Design, Speed, and Safety — TRB Paper 12-4151
Presenters: John M. Mason, Jr., Ph.D., PE, vice president for research, Auburn
March 28, 2012 (via AdobeConnect), sponsored by UF.
Publications and Presentations

CONFERENCE PRESENTATIONS AND POSTERS


14. Frackelton, A., Grossman, A., Palinginis, E., Castrillon, F.,
Elango, V., Guensler, R. “Building a Sidewalk Inventory and Prioritization System”, University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.


for Driving Safety and Behavior”, 3rd place in student poster competition at the University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.

31. Schroeder, B., Elefteriadou, L., Sisiopiku, V. “Empirically-Based Performance Assessment and Simulation of Pedestrian Behavior at Unsignalized Crossings”, University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.


34. Steiner, R., McDonald, N., Lytle, B., Palmer, M., Clark, M. “Quantifying the Costs of School Transportation”, University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.


JOURNAL PUBLICATIONS


List of Projects

STRIDE FUNDED

Quantifying the Costs of School Transportation
PI: Noreen McDonald, Ph.D., UNC at Chapel Hill
Co-PIs: Ruth Steiner, Ph.D., UF; Jeff Tsai, Ph.D., NCSU

Empirically-Based Performance Assessment and Simulation of Pedestrian Behavior at Unsignalized Crossings
PI: Bastian Schroeder, Ph.D., NCSU
Co-PIs: Lily Elefteriadou, Ph.D., UF; Virginia Sisiotipiku, UAB

Comparative Analysis of Dynamic Pricing Strategies for Managed Lanes
PI: Jorge Laval, Ph.D., Ga Tech
Co-PIs: Yafeng Yin, UF; Yingyan Lou, UA

Signalized Intersection Simulation Program for Education
PI: Scott Washburn, Ph.D., UF

Investigation of ATDM Strategies to Reduce the Probability of Breakdown
PI: Mohammed Hadi, Ph.D., FIU
Co-PI: Lily Elefteriadou, Ph.D., UF

Engaging Engineering Students with Transportation Safety: An Educational Module
PI: Lesley Strawderman, Ph.D., MSU

A Naturalistic Driving Study across the Lifespan
Co-PIs: Despina Stavrinos, Ph.D.; and Lesley Ross, Ph.D., UAB

Development of Educational and Professional Training Modules on Green/Sustainability Design and Rating Systems for Neighborhood Development and Transportation
PI: Robert W. Peters, Ph.D., UAB
Co-PI: Adjo Amekudzi, Ph.D., GaTech; Virginia Sisiotipiku, Ph.D., UAB

Developing a New Course for Public Transportation Education
PI: Kari Edison Watkins, Ph.D., GaTech
Co-PIs: Jeffrey LaMondia, Ph.D., Auburn

Automated Sidewalk Quality and Safety Assessment System
PI: Randall Guensler, Ph.D., GaTech

Development of Pedestrian and Bicycle Transportation Course Modules
PI: Daniel Rodriguez, Ph.D., UNC at Chapel Hill
Co-PI: Rod Turochy, Ph.D., Auburn

Consequence Based Route Selection for Hazardous Material Cargo: GIS-Based Time Progression of Environmental Impact Radius of Accidental Spills
PI: Berrin Tansel, Ph.D., FIU
Co-PIs: Adjo Amekudzi, Ph.D., GaTech; Nasim Uddin, UAB

Analyzing the Impact of Carbon Regulatory Mechanisms on Supply Chain Management
PI: Sandra Eksioglu, Ph.D., MSU
Co-PI: Joseph Geunes, Ph.D., UF

Engineering: It’s for Girls, Too!
PI: James Martin, PE, NCSU
Co-PI: Lily Elefteriadou, Ph.D., UF
A Regional Land Use Transportation Decision Support Tool for Mississippi
PI: Brian Morton, Ph.D., UNC at Chapel Hill
Co-PIs: John Poros, Ph.D., MSU; Joe Huegy, Ph.D., NCSU

Towards a Holistic Understanding of Quality of Life: An Analysis of Activity-Travel Patterns on Non-Mid-week Days
PI: Siva Srinivasan, Ph.D., UF
Co-PI: Xia Jin, Ph.D., FIU

Development of Graduate Level Course on Sustainable Asphalt Pavements
PI: James Richard Willis, Ph.D., Auburn

Emissions Modeling and Integration into Traffic Micro-simulation
PI: Scott Washburn, Ph.D., UF
Co-PIs: Nagui Rouphail, Ph.D., NCSU; H. Christopher Frey, Ph.D., NCSU

Safety Project Development Capacity for Small Communities in Coordination with Local Technical Assistance Program Center
PIs: Ilir Bejleri, Ph.D. and Siva Srinivasan, Ph.D., UF

Comparison of Methods for Measuring Travel Time at Florida Freeways and Arterials
PI: Lily Elefteriadou, Ph.D., UF

Estimation of Capacities of Florida Freeways
PI: Lily Elefteriadou, Ph.D., UF

Modeling, Implementation, and Validation of Arterial travel Time Reliability
PI: Lily Elefteriadou, Ph.D., UF

Roundabouts and Access Management
PIs: Ruth Steiner, Ph.D. and Scott Washburn, Ph.D., UF

Planning for Incorporating Ancillary Demands in the Next Generation FSUTMS
PI: Siva Srinivasan, Ph.D., UF

Deployment Strategies of Managed Lanes on Arterials
PIs: Yafeng Yin, Ph.D. and Siriphong Lawphongpanich, Ph.D., UF

Lifting HOV/HOT Lane Eligibility and Shoulder Use Restrictions for Traffic Incident Management
PIs: Yafeng Yin, Ph.D. and Lily Elefteriadou, Ph.D., UF

MATCH PROJECTS AT UF
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