

Program Progress Performance Report for University Transportation Centers

U.S. Department of Transportation
Research and Innovative Technology Administration
Federal Grant No. DTRT12 G UTC04

Project Title: Transportation, Research, Innovation Development and Education Center (STRIDE)

Program Director: Lily Elefteriadou, Ph.D.
Kisinger Campo Professor of Civil Engineering
Director of the STRIDE Consortium
University of Florida
365 Weil Hall
Gainesville, FL 32611
E-mail: elefter@ce.ufl.edu
Tel: (352) 392-9537 x 1452
Fax: (352) 392-3394

Submission Date: July 31, 2013

DUNS #: 019361885
EIN #: 59-6002052

Recipient Organization: U.S. Department of Transportation
Research and Innovative Technology Administration
(Robin Kline, University Transportation Specialist)
1200 New Jersey Ave, S.E.
E33-466 Mail Code RDT-30,
Washington, DC 20590

Project Grant Period: 1/1/2012 - 1/31/2016

Reporting Period End Date: July 31, 2013

Reporting Term, Quarterly: PPPR #3



Signature of Submitting Official: _____
Lily Elefteriadou, Ph.D.

Accomplishments

What are the major goals of the program?

The STRIDE Center is devoting its energies to three major areas that are deemed critical in Region 4: safety, livable communities and economic competitiveness. More specifically, the major goals of the center are:

- a) To develop, implement and maintain a comprehensive research program that addresses critical needs related to safety, livable communities and economic competitiveness
- b) To serve as the focal point for transportation research, education, and outreach in the region
- c) To strengthen the collaboration between the partner universities as well as between the consortium and federal, state, and local agencies
- d) To develop ties with other University Transportation Centers (UTCs) and USDOT's research clusters to create opportunities for collaborative activities across centers
- e) To disseminate research results to government, academia and private sectors through publication in peer-reviewed journals, conference papers and presentations at transportation-related industry events
- f) To establish additional communication mechanisms, including the use of social media, by which important research findings are made available to researchers and others with an interest in transportation matters
- g) To utilize research activities to promote transportation-related education as well as careers and employment opportunities
- h) To support and encourage the identification, development, and implementation of inventions and discoveries with the potential to address challenges in the core focus areas.

What was accomplished under these goals?

Accomplishments are listed below under each of the program's major goals:

a) To develop, implement and maintain a comprehensive research program that addresses critical needs related to safety, livable communities and economic competitiveness

Accomplishments:

- Research projects awarded during the first year of the grant are in progress, and we have been receiving quarterly progress reports indicating they are progressing well. All on-going projects and short descriptions are posted on the STRIDE website at <http://www.stride.ce.ufl.edu/current-projects>.
- A second call for proposals was announced on February 22, 2013. A total of 89 pre-proposals were received for a total requested amount of \$10,932,880. The pre-proposals were evaluated by external peer reviewers and 12 were invited to proceed to the full proposal stage for a total of \$1,603,654. The full proposals were received on June 21, 2013, and are currently going through a peer review process. Selections will be made by early August 2013.

b) To serve as the focal point for transportation research, education and outreach in the region

Accomplishments:

• **UFTI/STRIDE Reception and Student Poster Competition, TRB 2013:**

A STRIDE Student Research Poster Competition was held during a reception hosted by the University of Florida at the 92nd Annual Meeting of the Transportation Research Board. Twenty-nine posters from students representing partner institutions were selected for presentation. The winners of the student poster competition were Jay Shannon, 1st Place, Mississippi State University; Tabitha Combs, 2nd Place, University of North Carolina at Chapel Hill; and Xuanwu Chen, 3rd Place, Florida International University. The students received an award certificate and a monetary award for \$500, \$250, and \$100, respectively.

• **UTC Conference for the Southeastern Region:** A University Transportation Center (UTC) Conference for the Southeastern Region was organized by STRIDE and held in Orlando, Fla., on April 4-5, 2013. Co-sponsors included the National Center for Transportation Systems Productivity and Management (NCTSPM) at Georgia Institute of Technology (GaTech), the National Center for Intermodal Transportation (NCITEC) at Mississippi State University (MSU), and the National Center for Transit Research (NCTR) at the University of South Florida (USF) —as well as the University of Florida’s Office of the Vice President. A total of 180 people registered for the conference, which showcased UTC projects and helped enhance collaboration amongst academic, private, and public sectors in the Southeast. Regional state DOT representatives held a panel discussion on research needs and potential collaborative activities, and 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.

• **Transportation Safety Symposium:** A day-long symposium on *Transportation Safety: From Research to Practice* was held on April 3 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 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 Research Center 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.

• **WTS Chapter Development in the Southeast:**

The STRIDE Center continues to work with WTS International to create additional student chapters in the Southeast region. This effort has been spearheaded by the WTS student chapter at the University of Florida which met with Marcia Ferranto, president of WTS International and Tiffany Jackson, chapter development director of WTS International on

various occasions to discuss, propose ideas, and collaborate on this effort. The WTS student chapter at UF also has met with students at FIU and Georgia Tech interested in forming chapters. A special student chapter session was held during the UTC Conference for the Southeast Region, where students from GaTech, NCSU, FIU, USC, USF, UAB met and discussed this effort with Tiffany Jackson of WTS International.

- **Webinar and Computer Lab Workshop on Managed Lanes Operations and Simulation using CORSIM:**

This two-part webinar and lab practicum, taught by Dimitra Michalaka, Ph.D., at the University of Florida, 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. This webinar and workshop built upon research previously completed under the CMS), a USDOT, grant-funded, Tier-1 University Transportation Center.

c) To strengthen the collaboration between the partner universities as well as between the consortium and federal, state, and local agencies

Accomplishments:

- To encourage collaboration among the STRIDE partner universities, the center's second call for proposals continued to require partnerships and gave preference and additional points to those proposals that involved researchers from two or more partner universities. Of the 12 pre-proposals invited to the full proposal phase, all but two are multi-university efforts.
- Also, as indicated above, the first regional UTC conference was organized to bring together researchers, students, state DOT representatives, and transportation professionals across the region. STRIDE is spearheading the organization of the second regional UTC conference, to take place in Atlanta, Georgia, in spring 2014.
- STRIDE organized a panel discussion with State DOT representatives during the UTC Regional Conference in Orlando, Florida. We are planning a follow-on discussion at the next conference, and we are reaching out to the state DOTs in the region to increase their participation and involvement in STRIDE activities.
- The External Advisory Board was formulated and met during the UTC Regional Conference in Orlando, Florida.

d) To develop ties with other University Transportation Centers (UTCs) and USDOT's research clusters to create opportunities for collaborative activities across centers.

Accomplishments:

Collaboration has been initiated with the three other current UTCs in the region to organize the second UTC Conference for the Southeastern Region, which will be hosted by the National Center for Transportation Systems Productivity and Management (NCTSPM) at Georgia Tech. STRIDE will be a co-sponsor and co-organizer of this conference.

- e) To disseminate research results to government, academia and private sectors through publication in peer-reviewed journals, conference papers and presentations at transportation-related industry events**

Accomplishments:

- A “Transportation Safety: From Research to Practice” Symposium was held on April 3, 2013, in conjunction with the UTC Conference for the Southeastern Region, which presented results from two-CMS (Tier-1, grant-funded UTC at UF) projects.
- A webinar/workshop titled “Managed Lane Operations and Simulation using CORSIM” was offered on April 29-30, 2013 at the University of Florida to disseminate research results produced as part of a CMS-funded project.
- We are continuing to create workshops, webinars and conferences from completed CMS-funded projects and will continue this process as STRIDE projects are completed.
- Several publications, presentations and course modules were produced. These are listed below under “Products”.

- f) To establish additional mechanisms, including the use of social media, by which important research findings are made available to researchers and others with an interest in transportation matters**

Accomplishments:

The STRIDE center website (<http://stride.ce.ufl.edu>), Facebook and Twitter pages continue to be used to announce events, webinars, conference, completed projects, and other important information related to UTC activities.

- g) To utilize research project activities to promote transportation-related careers and employment opportunities for education and workforce development**

Accomplishments:

- Three STRIDE-funded educational projects are nearly complete and draft final reports are being prepared:
 - Developing a New Course for Public Transportation Education (STRIDE Project Number 2012-029s)
 - Development of Graduate Level Course on Sustainable Asphalt Pavements (STRIDE Project Number 2012-049s)
 - Development of Pedestrian and Bicycle Transportation Course Modules (STRIDE Project Number 2012-028s)

The course modules will be made available on the STRIDE website (<http://www.stride.ce.ufl.edu/>).

- Five STRIDE interns have been selected and placed to work with researchers at STRIDE partner schools:
 - Andrew Fell, UF civil engineering, Adviser: Dr. Yafeng Yin, UF
 - Cory Dorman, UF civil engineering, Adviser: Dr. Siva Srinivasan, UF
 - Sarah Huestis, UF civil engineering, Adviser: Dr. Toi Lawphongpanich, UF
 - Amarius Ramirez, University of Delaware civil engineering, Adviser: Dr. Mohammed Hadi, FIU
 - Britton Hammit, University of Wyoming civil engineering, Adviser: Daniel Findley, NCSU

Accomplishments:

- MSU and UF continued to host several Family Engineering Nights (FEN) at local elementary schools. UAB hosted their first event on March 30, 2013, with over 40 children in attendance. FIU will be hosting an event in the coming months as part of their summer program.
- NCSU and UF continue their partnership with the North Carolina Department of Transportation (NCDOT) and the Women's Transportation Seminar (WTS) for the STRIDE funded "Engineering It's for Girls, Too" project, which includes a series of one-day workshops targeted at girls in middle school and high school. Several events were held in both states and several more are planned.
- As part of the Transportation Career Day effort, UAB School of Engineering hosted an Open House March 10-12, 2013. UAB civil engineering students and faculty educated and entertained over 700 area high school students (interested in engineering) over 3 days. This year Civil Engineering conducted a skit centered around the popular cartoon Phineas and Ferb. Participants learned the importance of Structural, Environmental, and Transportation engineering, and how it affects the community. Then they utilized their newly found knowledge to help save the day! They built a model structure, used their knowledge of the transportation system, and solved the Environmental riddles to help save Perry, before the evil Dr. Doofenschmirtz slimed him with multiple gallons of green slime.
- The University of Florida hosts an annual Engineering and Science Fair (E-Fair) as part of E-Week, which spans over two days. Each student organization provides an interactive table set up for students from elementary to high school, to explore and experience a taste of engineering in a new way. UFTI sponsored the WTS UF Student Chapter to bring the ever-popular LEGO car building supplies and large wooden ramp for small scale transportation engineering application. FIU presented an Engineering Gala during the Engineering Week. Transportation activities included hands on demonstrations to K-12 students.
- Also a part of the Transportation Career Day effort, UF developed a 2 hour Traffic Simulation Workshop for high school students. UF piloted the program in January of 2013 and will host the workshop again in the fall of 2013.
- NCSU, UF, and FIU organized and will be offering the LEGO® Robot Vehicle Lesson Plans for Secondary Education. The "Introduction to Transportation Engineering" curriculum, which was developed at UF, is being offered to students in grades 5-8. UF has developed a partnership with a local science museum (Cade Museum) and hosted a full class of 16

students February 15, 2013. FIU will be implementing the curriculum in their summer program. NCSU will be working with eight students at the Centennial Campus Magnet Middle School on the campus of NCSU for a 5-day after school workshop. These workshops will be held in late August or early September.

- At the request of the local science museum, UF STRIDE developed curricula and taught two children's workshops, *Careening Coasters*, held March 2, 2013, and *Strawbridge Challenge*, held April 13, 2013. In *Careening Coaster* students worked cooperatively to construct a roller coaster using wire, popsicle sticks, clay, and tape to discover 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. In *Strawbridge Challenge* students collaborate with a partner and construct a bridge using drinking straws, tape, and paperclips. Slides and videos inform the students of the different types of bridges, the relationship between compression and tension, and the methods engineers use to select materials and bridge types. These classes have been combined and an Engineering Day will be hosted by STRIDE at the museum in July.
- An Ethics and Workplace Dynamic Workshop was held on March 21, 2013 and organized by the WTS student chapter at UF. The guest speaker was Marsha Anderson Bomar from Stantec. Attendees took a short test to find out their personality types, and then gathered in groups of similar personality types to discuss ethical situations.

How have results been disseminated?

Research results have been disseminated through the UTC Regional conference as well as workshops, publications, and other events described in the previous section. Three educational projects are nearly complete and their results will be posted as soon as feasible.

Project research results disseminated include the following efforts associated with CMS:

- Two workshops are being organized to present the results from previously completed research projects under the CMS UTC (as discussed above).
- The LEGO Robot Lesson Plans, created from a project funded by the CMS and incorporated into the STRIDE workforce development activities, have been downloaded 50 times as of May 2013. Agencies that have downloaded these range from UTCs and other universities, to K-12 and after-school programs across the US and as far away as Alaska and California. Chamblee Middle School in Atlanta, Georgia implemented the lesson plans into their curriculum in the spring of 2013 in their effort to become an accredited STEM school. The lesson plans were utilized by over 300 students in their school science program.
- Principal investigators of CMS projects are in the process of developing additional courses and workshops related to recently completed projects. It is expected that results from STRIDE projects will be disseminated in the same way.

With respect to STRIDE the following events helped disseminate center findings:

- Two workshops and a regional conference were organized and took place during spring 2013. The target audience for these events was academics, students, transportation practitioners and public agencies.
- Additional courses, workshops, and webinars are being developed and will be offered during the next academic year.

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

1. Monitor the 18 ongoing projects from STRIDE 1 (January 2012 – January 2016) via quarterly reports to ensure they are progressing on schedule, and products and results are disseminated as expected.
2. Make final selections on full proposals for STRIDE 2 (March 2013 – January 2016) and begin monitoring these projects to ensure they are progressing on schedule.
3. Interface with Georgia Tech during the planning of the 2nd Annual UTC Regional Conference for the Southeast, which is scheduled to occur in the spring 2014. Plan to hold the second meeting of the External Advisory Board for STRIDE, in conjunction with the conference.
4. Complete and disseminate a STRIDE progress report that showcases the work accomplished to-date (expected publication date is July 2013.)
5. Continue to engage in discussions with state DOTs in the region and nationally for potential collaborations.
6. Continue to engage in discussions with WTS International to create student chapters in the southeast region.
7. Continue offering K-12 workforce development activities and expand offerings of the LEGO Robot Vehicle Lesson Plans across the region.
8. Continue with seminar/webinar (webcast or recorded) offerings.
9. Continue planning for technology transfer opportunities (including webinars and short courses) such as those from completed CMS research projects.
10. Continue postings of events and products on website, Facebook, and Twitter.

Products

List any products resulting from the program during the reporting period

The following products are in the final refinement stage:

- Auburn University is completing the development of a graduate level course on sustainable asphalt pavements (STRIDE Project Number 2012-049s.)
- UNC Chapel Hill and Auburn University are producing three educational modules 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 (STRIDE Project Number 2012-028S.)
- Georgia Tech and Auburn University are finalizing course materials for Introduction to Transportation and Transit Planning and Operations classes to better integrate transit into classroom curriculum (STRIDE Project Number 2012-029S.)

- Presentations, posters and journal articles based on STRIDE-funded projects are listed below:
 1. Asgari, H. and Lugo, M. "Towards a Holistic Understanding of Quality of Life: An Analysis of Activity-Travel Patterns on Non-Mid-week Days", University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
 2. Brakewood, C., Seidband, S., Watkins, K., LaMondia, J. "Developing a New Course for Public Transportation Education: Matching Academic Content to Workforce Needs". STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board (TRB) conference, held in Washington, D.C., on January 2013.
 3. Brodie, S., Ingles, A., Colville, Z., Amekudzi, A., Peters, R., Sisiopiku, V. "Sustainability Evaluation of Transportation Systems and Neighborhood-Level Developments". STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board (TRB) conference, held in Washington, D.C., on January 2013.
 4. Brodie, S., Ingles, A., Colville, Z., Amekudzi, A., Peters, R.W., and Sisiopiku, V. "Sustainability Evaluation of Transportation Systems and Neighborhood-Level Development", University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
 5. Chase T., Zheng Y., Elefteriadou L., Schroeder B., Sisiopiku V., Instrumented Vehicle Study and Microsimulation Models of Pedestrian-Vehicle Interaction at Midblock Crosswalks, Poster presented the Regional Conference for University Transportation Centers (UTCs) in the Southeastern Region, Orlando, FL, April 2013.
 6. Chase, T. and Elefteriadou, L. "Incorporating Pedestrians and Pedestrian-Vehicle Interaction in the CORSIM Microsimulation Package". STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board (TRB) conference, held in Washington, D.C., on January 2013.
 7. Cho, H. "Comparative Analysis of Dynamic Pricing Strategies for Managed Lanes", STRIDE Student poster presented at the University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
 8. Darroudi, A. and Hadi, M. "Advanced Microscopic Simulation Calibration Techniques to Model Emerging Strategies". STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board (TRB) conference, held in Washington, D.C., on January 2013.
 9. Doustmohammadi, E., Sisiopiku, V., and Peters, R.W. "Green Design and Rating Systems for Neighborhood Development", STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board, Washington, DC, January 2013.
 10. Frackelton, A. and Grossman, A. "Sidewalk Data in the Age of the App: Tools for Asset Management", APA National Planning Conference, Chicago, IL, April 2013.
 11. Frackelton, A., Grossman, A. and Guensler, R. "Development of an Automated Sidewalk Quality Assessment System". STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board (TRB) conference, held in Washington, D.C., on January 2013.

12. 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.
13. Grossman, A. and Frackelton, A., et. al. "Methods in Developing a Sidewalk Rating System", University Transportation Center (UTC) Poster presented at the University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
14. Grossman, A. "Building a Sidewalk Inventory and Prioritization System", STRIDE Student poster presented at the University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
15. Guensler, R., and Frackelton, A. Grossman, A. "Development of a Sidewalk Quality Index to Support Accessible Urban Environments", Expected presentation at Planning for Resilient Cities and Regions: 5th joint AESOP-ACSP Congress, 2013.
16. Hadi, M., Elefteriadou, L., Kondyli, A., Xia, Y., Letter, C., Darroudi, A. "Investigation of ATDM Strategies to Reduce the Probability of Breakdown", University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
17. Hunter, E. S. Mamidipalli, N. Roupail, B. Schroeder, V. Sisiopiku, L. Elefteriadou, "Observational Study and Intercept Survey Approach for Modeling Pedestrian Behavior at Midblock Crosswalks", STRIDE Student poster presented at the University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
18. Inanloo, B., Shams, K., Tansel, B., Jin, X., and Bernardo-Bricker, A. "GIS Based Air Dispersion Visualization of Spill Incidents from Hazardous Cargo", STRIDE Student poster presented at the University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
19. Inanloo, B., and Tansel, B., "Consequence Based Route Selection for Hazardous Material Cargo: GIS-Based Time Progression of Environmental Impact Radius of Accidental Spills", Poster at the FIU Civil and Environmental Engineering Graduate Student Research Day, Miami, Florida, February 22, 2013.
20. Letter, C. "Incorporating Probability of Breakdown into Fuzzy Logic Ramp Metering", STRIDE Student poster presented at the University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
21. Letter, C. and Elefteriadou, L. "Incorporating Probability of Breakdown into Fuzzy Logic Ramp Metering". STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board (TRB) conference, held in Washington, D.C., on January 2013.
22. McManus, B., Stavrinou, D., Wittig, S., Odom, E., Patel, R., Underwood, L., Schmidt, E., & Ross, L. A "Systematic Review of Driving Safety in Naturalistic Studies", Poster presented at the 92nd Annual Meeting of the Transportation Research Board. Washington, DC, January, 2013.

23. Palak, G. and Eksioglu, S.D. "Bi-Objective Optimization Models for Inventory Replenishment Decisions of Perishable Products in Green Supply Chains", Analytics Research Workshop, Deep South Chapter of INFORMS, University of Alabama, Tuscaloosa, AL, April 2013.
24. Palak, G., Eksioglu, S.D., Geunes, J. "Models for Cost Efficient and Environmentally Friendly Inventory Replenishment Decisions of Perishable Products", ISERC Annual Meeting, San Juan, PR, May 2013.
25. Palak, G., Eksioglu, S.D, and Geunes, J. "Analyzing Replenishment Decisions for Perishable Products under Carbon Regulatory Mechanisms", ISERC Annual Meeting, San Juan, PR, May 2013.
26. Ramadan, O. and Sisiopiku, V. "Quantifying Costs of School Transportation: Identifying Cost Items". STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board (TRB) conference, held in Washington, D.C., on January 2013.
27. Schmidt, E., Ross, L. A., Caamano, E., and Stavrinou, D. "Development of a Comprehensive Physical, Sensory, and Cognitive Assessment Battery 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.
28. 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.
29. Shams, K., Inanloo, B., Jin, X., Tansel, B., and Bernardo-Bricker, A. "Spatial Analysis of Hazardous Cargo Incidents: Time Progression Impact Modeling", STRIDE Student poster presented at the University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
30. Sisiopiku V., Gan A., Stavrinou D. and Sullivan A. "Impacts of Digital Advertising Billboards on Traffic Safety", UTC Conference for the Southeastern Region, Orlando, FL, 2013.
31. Sisiopiku V., Hosch I., Smith O., "UAB Transportation Engineering Workforce Development Programs", UTC Conference for the Southeastern Region, Orlando, FL, April 2013.
32. Stavrinou, D., Schmidt, E., Caamano, E., Wittig, S., Sisiopiku, V., Classen, S., and Ross, L. A. "Development of a Naturalistic Study of Driving Across the Lifespan", University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
33. Steiner, R., McDonald, N., Lytle, B., Palmer, M., and Clark, M. "Quantifying the Costs of School Transportation", University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.
34. Tansel, B., Jin, X., Amekudzi, A., Uddin, N., Inanloo, B., Shams, K., Boadi, R., and Bernardo-Bricker, A. "Consequence-Based Route Selection for Hazardous Material Cargo: GIS-Based Time Progression of Environmental Impact Radius of Accidental Spills", University Transportation Center (UTC) Conference of the Southeastern Region, Orlando, FL, April 2013.

35. Wittig, S., Ross, L., McManus, B., Stannard, S., Parrish, H., Walters, M., Decker, J. S., Denny, S., Robinson, E., Motamedi Lamouki, A., and Stavrinou, D. "Distracted Driving: A systematic literature review of naturalistic studies", Poster presented at the 92nd Annual Meeting of the Transportation Research Board. Washington, DC, January 2013.
36. Wittig, S., Ross, L., Stannard, S., Parrish, H., Walters, M., Decker, J., Denny, S., Robinson, E. and Stavrinou, D. "Distracted Driving: A Systematic Literature Review of Naturalistic Studies". STRIDE Student Poster Competition at the 92nd Annual Meeting of the Transportation Research Board (TRB) conference, held in Washington, D.C., on January 2013.

- **Journal Publications:**

1. Frackelton, A., Grossman, A. et. al. "Measuring Walkability: Development of an Automated Sidewalk Assessment Tool." *Journal of Suburban Sustainability*, expected publication 2013.
 2. Grossman, A. "The role of Sidewalks in Sustainable Development and Healthy Communities." *The New Planner* (expected Publication, 2013).
 3. Hirsch, J., Moore, K. Diez-Roux, A., Evenson, K.R., and Rodriguez, D. A. "Associations of Walk Score[®] with Walking in the Multi-Ethnic Study of Atherosclerosis." *American Journal of Preventive Medicine*, 12 pages. In press.
 4. Palak, G., S.D. Eksioğlu, and J. Geunes. "Impact of Carbon Regulatory Mechanisms on Supplier and Mode Selection Decision: An Application in Biofuel Supply Chain." Submitted to *International Journal of Production Economics*.
 5. Rodriguez, D. and J. Rogers. In press. "Can Housing and Accessibility Information Influence Residential Location Choice and Travel Behavior? An Experimental Study." *Environment and Planning B*, 25 pages.
 6. Strawderman, L., Lewie, C., and King, K. (Sep 2013). Engaging Engineering Students with Transportation Safety. *Proceedings of the HFES 2013 International Annual Meeting*, San Diego, CA.
- A day-long symposium on *Transportation Safety: From Research to Practice* (as described in previous sections)
 - Webinar and Computer Lab Workshop on Managed Lanes Operations and Simulation using CORSIM

Participants and Other Collaborating Organizations

What organizations have been involved as partners?

Organization Name	Location	Contribution
University of Florida	Gainesville, FL	Lead University
Auburn University	Auburn, AL	Partner University
Georgia Institute of Technology	Atlanta, GA	Partner University
Mississippi State University	Mississippi State Univ.,	Partner University

	MS	
North Carolina State University	Raleigh, NC	Partner University
University of Alabama at Birmingham	Birmingham, AL	Partner University
University of North Carolina	Chapel Hill, NC	Partner University
Florida Department of Transportation (FDOT)	Tallahassee, FL	Matching funds commitment
Alabama Department of Transportation (ALDOT)	Montgomery, AL	Matching funds commitment
Georgia Department of Transportation (GDOT)	Atlanta, GA	Matching funds commitment
Mississippi Department of Transportation (MDOT)	Jackson, MS	Matching funds commitment
North Carolina Department of Transportation (NCDOT)	Raleigh, NC	Matching funds commitment

Other collaborators

Organization Name	Location	Contribution	Comments
Federal Highway Administration	Washington, D.C.		
Federal Transit Administration	Washington, D.C.		
Woman's Transportation Seminar (WTS) International	Washington, D.C.	Collaboration in the creation of new chapters in the Southeast	Various K-12 workforce development programs for STRIDE Project Number 2012-009S
WTS NC Triangle Chapter	Raleigh, NC	Collaboration	Various K-12 workforce development programs for STRIDE project Number 2012-009S
University of North Florida	Jacksonville, FL	Facilities, collaboration, personnel exchanges	K-12 workforce development program for STRIDE Project Number 2012-009S
21 st Century Community Learning Center of Alachua County	Gainesville, FL	Facilities, collaboration, personnel exchanges	Various K-12 workforce development programs for STRIDE project Number 2012-009S
North Florida WTS Chapter	Jacksonville, FL	Facilities, collaboration, personnel exchanges	Various K-12 workforce development programs for STRIDE Project

			Number 2012-009S
WTS Central Florida Chapter	Orlando, FL	Facilities, collaboration,	Various K-12 workforce development programs for STRIDE Project Number 2012-009S
Center for Transportation and the Environment (CTE) at North Carolina State University	Raleigh, NC	Facilities, Collaborative research, Personnel exchanges	Various K-12 workforce development programs for STRIDE Project Number 2012-009S
Highway Safety Research Center at North Carolina State University	Raleigh, NC	Facilities, Collaborative research personnel exchanges	For data extraction of injuries and crashes on STRIDE Project Number 2012-022S
Roybal Center for Translational Research on Aging and Mobility, University of Pennsylvania	Philadelphia, PA	Collaborative research, personnel exchanges	The director of the Roybal Center, Dr. Karlene Ball, is a member of the multidisciplinary Advisory Committee for STRIDE research project 2012-095 . The center has a vast expertise in cognitive research aimed to older adults
Safe Routes to School	Federal program, various states	Personnel exchanges, Collaborative research on STRIDE project 2012-067S	Assisted in collecting sidewalk data for STRIDE Project Number 2012-067S
Atlanta Regional Commission	Atlanta, GA	Personnel exchanges, Facilities, Collaborative research on STRIDE project 2012-067S	Transportation Division, bicycle and pedestrian planning for STRIDE Project Number 2012-067S
City of Atlanta	Atlanta, GA	Personnel exchanges, Facilities, Collaborative research on STRIDE project 2012-067S	Department of Public Works, Department of Planning and Community Development for STRIDE Project Number 2012-067S

Atlanta City Council Sidewalk Task Force	Atlanta, GA	Personnel exchanges, Facilities, Collaborative research on STRIDE project 2012-067S	Members of the research team on STRIDE Project Number 2013-067S participate in the Atlanta City Council Sidewalk Task Force, which involves attending general meetings and subcommittee meetings related to policy and funding for pedestrian facility maintenance. The full Sidewalk Task Force includes city staff from the department of Public Works and department of Planning, elected officials, and pedestrian advocates.
Atlanta Pedestrian Organization (PEDS)	Atlanta, GA	Personnel exchanges on STRIDE project 2012-067S	Staff and volunteers at PEDS participated in initial testing of the sidewalk survey instrument and provided feedback that was then incorporated into the instrument before full scale deployment.
Tulane University	New Orleans, LA	Personnel exchanges, collaborative research, Financial support	Collaboration and as partial match for petroleum related releases
Stantec	Atlanta, Georgia	Marsha Anderson Bomar conducted a workshop for the UF WTS Student Chapter, on March 21, 2013	
Cambridge Systematics	Tallahassee, Florida	Anita Vandervalk participates on the STRIDE External Advisory	

		Board	
National Center for Transportation Systems Productivity and Management (NCTSPM), Georgia Institute of Technology	Atlanta, GA	Financial support	Co-sponsors for the UTC Conference for the Southeastern Region
National Center for Intermodal Transportation (NCITEC), Mississippi State University	Miss. State, MS	Financial support	Co-sponsors for the UTC Conference for the Southeastern Region
National Center for Transit Research (NCTR), University of South Florida,	Tampa, FL	Financial support	Co-sponsors for the UTC Conference for the Southeastern Region
UF - Lawton Chiles Elementary School	Gainesville, FL	Facilities	For K-12 activities:
MSU – St. Martins Middle School, Arthur Watson Elementary School; Jackson County Schools, Mississippi; St. Martins Elementary, Mississippi;	Pascagoula, MS and St. Martins, MS.	Facilities	For K-12 activities at Mississippi State University
Centennial Campus Magnet Middle School	Raleigh, NC	Facilities	For K-12 activities at North Carolina State University
Cade Museum	Gainesville, FL	Facilities	For K-12 activities at UF
UF Center for Pre-collegiate Education and Training	Gainesville, FL	Facilities	For K-12 activities at UF
University of Florida LTAP	University of Florida, Gainesville, FL	Personnel exchanges, Facilities, Collaborative Research on STRIDE project 2012-067S	STRIDE K-12 workforce development activities at UF and on STRIDE project 2012-009S
North Carolina Local Technical Assistance Program (NC LTAP)	Raleigh, NC	Personnel exchanges	STRIDE K-12 workforce development activities at UF and on STRIDE project 2012-009S

Impact

What is the impact of the program? How has it contributed to transportation education, research, and technology transfer?

- *What is the impact on the development of the principal discipline(s) of the program?*
Continued focus and increased emphasis on the safety, livability, and economic competitiveness for the southeast region of the U.S.; increased collaboration between the STRIDE partner universities; increased collaboration with the state DOTs in the region; production of educational materials related to the research focus areas; production and delivery of various educational and workforce development activities and programs.
- *What is the impact on other disciplines?*
Interdisciplinary collaboration in research projects, education, workforce development and technology transfer. Collaboration between transportation researchers at the partner universities is likely to increase broader collaboration between the universities involved.
- *What is the impact on transportation workforce development?*
Five of out of the eight STRIDE consortium members universities are participating in workforce development programs geared toward K-12 students, and as a result have held various activities in each state. For example, NCSU, UF, and FIU have offered the LEGO® Robot Vehicle Lesson Plans for Secondary Education. The LEGO® Robot Vehicle Lesson Plans have been downloaded from our website 25 times this reporting period by individuals and organizations across the US. Engineering outreach activities geared toward young girls have been held at UF and at NCSU at various local schools and in collaboration with WTS chapters. Family Engineering Night programs are currently ongoing at Mississippi State University (MSU), the University of Alabama at Birmingham (UAB), Florida International University (FIU), and the University of Florida (UF).
- *What is the impact on physical, institutional, and information resources at the university or other partner institutions?*
There is increased emphasis and awareness of the importance and breadth of transportation at all partner institutions, as well as other collaborating institutions in the region and nationwide. Availability of various products and reports on our website and distribution through social media will enhance the flow of information.

- *What is the impact on technology transfer?*
Several workshops and webinars have been offered (described earlier) which have increased the presence of the STRIDE and the UTC program in the southeast, and will facilitate the technology transfer process as we continue to complete our projects and produce research results.
- *What is the impact on society beyond science and technology?*
Increased collaboration between academic institutions; increased collaboration between academia, public and private sectors; development and implementation of path from research to technology transfer; development and implementation of workforce development activities

Changes/Problems

- *Changes in approach and reasons for change* - Nothing to report.
- *Actual or anticipated problems or delays and action or plans to resolve them* –Nothing to report.
- *Changes that have a significant impact on expenditures* – Nothing to report.
- *Significant changes in use or care of human subjects, vertebrate animals and/or biohazards* – Nothing to report.
- *Change of primary performance site location from that originally proposed* – Nothing to report.

Special Reporting Requirements

(Award-specific reporting requirements)

- Federal Financial Report - this report is prepared by the grants specialist at UF responsible for managing all STRIDE related financial duties
- Federal Financial Accountability and Transparency Act (FFATA) Sub-award and Executive Compensation Reporting Requirement - This report is prepared by the College of Engineering contracts office

List of Selected Projects and PIs (STRIDE 2012)

(The following projects were selected for funding)

Quantifying the Costs of School Transportation

PI: Noreen McDonald, Ph.D., University of North Carolina at Chapel Hill

Co-PIs: Ruth Steiner, Ph.D., University of Florida; Jeff Tsai, Ph.D., North Carolina State University
\$250,313

Empirically-Based Performance Assessment and Simulation of Pedestrian Behavior at Unsignalized Crossings

PI: Bastian Schroeder, Ph.D., North Carolina State University

Co-PIs: Lily Elefteriadou, Ph.D., University of Florida; Virginia Sisiopiku, University of Alabama at Birmingham
\$315,148

Comparative Analysis of Dynamic Pricing Strategies for Managed Lanes

PI: Jorge Laval, Ph.D., Georgia Institute of Technology

Co-PIs: Yafeng Yin, University of Florida; Yingyan Lou, The University of Alabama

\$204,526

Signalized Intersection Simulation Program for Education

PI: Scott Washburn, Ph.D., University of Florida

\$34,212

Investigation of ATDM Strategies to Reduce the Probability of Breakdown

PI: Mohammed Hadi, Ph.D., Florida International University

Co-PI: Lily Elefteriadou, Ph.D., University of Florida

\$190,792

Engaging Engineering Students with Transportation Safety: An Educational Module

PI: Lesley Strawderman, Ph.D., Mississippi State University

\$2,610

A Naturalistic Driving Study across the Lifespan

Co-PIs: Despina Stavrinos, Ph.D. and Lesley Ross, Ph.D., University of Alabama at Birmingham

\$125,071

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., University of Alabama at Birmingham

Co-PI: Adjo Amekudzi, Ph.D., Georgia Institute of Technology

\$45,809

Developing a New Course for Public Transportation Education

PI: Kari Edison Watkins, Ph.D., Georgia Institute of Technology

Co-PIs: Jeffrey LaMondia, Ph.D., Auburn University

\$70,000

Automated Sidewalk Quality and Safety Assessment System

PI: Randall Guensler, Ph.D., Georgia Institute of Technology

\$196,667

Development of Pedestrian and Bicycle Transportation Course Modules

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

Co-PI: Rod Turochy, Ph.D., Auburn University

\$25,750

Consequence Based Route Selection for Hazardous Material Cargo: GIS-Based Time Progression of Environmental Impact Radius of Accidental Spills

PI: Berrin Tansel, Ph.D., Florida International University

Co-PIs: Adjo Amekudzi, Ph.D., Georgia Institute of Technology; Nasim Uddin, University of Alabama at Birmingham

\$70,000

Analyzing the Impact of Carbon Regulatory Mechanisms on Supply Chain Management

PI: Sandra Eksioglu, Ph.D., Mississippi State University

Co-PI: Joseph Geunes, Ph.D., University of Florida

\$128,629

Engineering: It's for Girls, Too!

PI: James Martin, PE, North Carolina State University

Co-PI: Lily Elefteriadou, Ph.D., University of Florida

\$38,895

A Regional Land Use Transportation Decision Support Tool for Mississippi

PI: Brian Morton, Ph.D., University of North Carolina at Chapel Hill

Co-PIs: John Poros, Ph.D., Mississippi State University; Joe Huegy, Ph.D., North Carolina State University

\$120,380

Towards a Holistic Understanding of Quality of Life: An Analysis of Activity-Travel Patterns on Non-Mid-week Days

PI: Siva Srinivasan, Ph.D., University of Florida

Co-PI: Xia Jin, Ph.D., Florida International University

\$77,790

Development of Graduate Level Course on Sustainable Asphalt Pavements

PI: James Richard Willis, Ph.D., Auburn University

\$47,837

Emissions Modeling and Integration into Traffic Micro-simulation

PI: Scott Washburn, Ph.D., University of Florida

Co-PI: Nagui Roupail, Ph.D., North Carolina State University; H. Christopher Frey, Ph.D., North Carolina State University

\$251,764