

# Program Progress Performance Report for University Transportation Centers

U.S. Department of Transportation  
Research and Innovative Technology Administration  
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**Project Title:** Southeastern Transportation, Research, Innovation Development and Education Center  
(STRIDE)

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## 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:

Since the last reporting period of July 31, 2015, seven of the Year 1 (2012) research and education projects have been completed and one K-12 workforce development project is currently in peer-review status. As for Year 2 (2013), one research project has been completed and all the K-12 workforce development projects have been completed. A set of tables beginning on page 3 summarizes the status of each project. As shown, in Year 1 (2012) of the STRIDE Center, a total of 19 research projects were competitively awarded, including five K-12 Workforce Development (WD) projects. In Year 2 (2013) of the STRIDE Center, a total of 11 research projects were competitively awarded, including four K-12 WD projects.

All selected projects have a technology transfer component, and we continue to monitor those activities as described in progress reports. Also, we continue to reach out to the lead researchers of each STRIDE-funded project to discuss additional technology transfer opportunities (webinars or workshops). These activities are reported under item (e) below.

Reports for all completed projects are posted on the STRIDE website at:  
<http://www.stride.ce.ufl.edu/completed-projects>.

<b>YEAR 1 PROJECTS (2012)</b>		
<b>No.</b>	<b>Research Project Title</b>	<b>STATUS</b>
1	Emissions Modeling and Integration into Traffic Micro-simulation	COMPLETED
2	A Regional Land-use Transportation Decision Support Tool for Mississippi	COMPLETED
3	Engineering: It's for Girls Too!	COMPLETED
4	Empirically-Based Performance Assessment and Simulation of Pedestrian Behavior at Unsignalized Crossings	COMPLETED
5	Quantifying the Costs of School Transportation	COMPLETED
6	Towards a Holistic Understanding of Quality of Life: An Analysis of Activity-Travel Patterns on Non- Mid-week Days	In progress
7	Development of Pedestrian and Bicycle Transportation Course Modules	COMPLETED
8	Consequence Based Route Selection for Hazardous Material Cargo: GIS-Based Time Progression of Environmental Impact Radius of Accidental Spills	Under peer review
9	Comparative Analysis of Dynamic Pricing Strategies for Managed Lanes	COMPLETED
10	Investigation of ATDM Strategies to Reduce the Probability of Breakdown	COMPLETED
11	Development of Graduate Level Course on Sustainable Pavements	COMPLETED
12	Automated Sidewalk Quality and Safety Assessment System	COMPLETED
13	Engaging Engineering Students with Transportation Safety: an Educational Module	COMPLETED
14	Comparative Analysis of Dynamic Pricing Strategies for Managed Lanes	COMPLETED
15	A Naturalistic Driving Study Across the Lifespan	COMPLETED
16	Development of Educational and Professional Training Modules on Green/Sustainability Design and Rating Systems for Neighborhood Development and Transportation	COMPLETED
17	Analyzing the Impact of Carbon Regulatory Mechanisms on Supply Chain Management	COMPLETED

18	Developing a New Course for Public Transportation Education	COMPLETED
19	Signalized Intersection Simulation Program for Education	Draft final report in progress

## YEAR 1 WORKFORCE DEVELOPMENT PROJECTS (2012)

No.	Project Title	STATUS
1	LEGO Robot Vehicle Afterschool Workshops: Transportation Engineering Problem Solving (Modules 1-5)	COMPLETED
2	K-12 Workforce Development in Transportation Engineering at FIU	Draft final report out for peer review
3	Transportation Workforce Development at UAB	COMPLETED
4	Family Engineering Night STRIDE Proposal for K-12 Workforce Transportation Workforce Development (at MSU)	COMPLETED
5	K-12 Workforce Development in Transportation Engineering at UF	COMPLETED

## YEAR 2 PROJECTS (2013)

No.	Research Project Title	STATUS
1	Teaching Schoolchildren Pedestrian Safety: A Pragmatic Trial Using Virtual Reality	COMPLETED
2	Dynamic Traffic Control Interventions for Enhanced Mobility and Economic Competitiveness	Draft final report out for peer review
3	Livability Performance Measures to Transportation Plans and Projects	COMPLETED
4	Signal Timing Optimization with Consideration of Environmental and Safety Impacts	Waiting for draft final report
5	Engineers Change the World: A Hands-on Workshop for 13- to 18-Year-Old Girls	COMPLETED
6	GIS-Based Instructional Tool for Crash Prediction Methods	In progress
7	School Transportation: Development of an Education Module	Final report under peer review
8	On-Board-Diagnostics (OBD) Data Integration into Traffic Microsimulation for Vehicle-Specific Fuel Use and Emissions Modeling and In-Vehicle App Testing	In progress
9	Investigating the Effect of Drivers' Body Motion on Traffic Safety	COMPLETED
10	Distracted Driving - It Is Not Always a Choice	In progress
11	Using Crowdsourcing to Prioritize Bicycle Route Network Improvements	In progress

YEAR 2 WORKFORCE DEVELOPMENT PROJECTS (2013)		
No.	Project Title	STATUS
1	LEGO Robot Vehicle Afterschool Workshops: Transportation Engineering Problem Solving (Modules 1-5)	COMPLETED
2	K-12 Workforce Development Activities at NCSU	COMPLETED
3	Engaging in Engineering Initiative with Centennial Elementary School at GaTech	COMPLETED
4	K-12 Workforce Development Activities at UAB	COMPLETED
5	K-12 Workforce Development Activities at UF	COMPLETED

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

Accomplishments:

**Annual UTC Conference for the Southeastern Region**

The Annual UTC Conference for the Southeastern Region continues to thrive, thanks to the innovative efforts of the STRIDE Center who conceptualized the conference in 2013. Apart from the first event that took place in Orlando, Fla., the conference has also been hosted by GaTech in Atlanta, Ga. (2014), and by the University of Alabama at Birmingham in Birmingham, Ala (2015). The 2016 conference will be held at the University of Tennessee. As in other years, the STRIDE center will co-sponsor this conference.

**STRIDE Technology Transfer Program**

The STRIDE Center continues its efforts to produce webinars and workshops based on products from center-funded research, including other transportation-related topics. The STRIDE Center expects to produce and host additional webinars and workshops in Spring and Fall 2016. Below is a list of the activities that have resulted from this effort:

1. **STRIDE Center co-Sponsors a Workshop on Traffic Management for Football Games** (<http://www.transportation.institute.ufl.edu/?p=3928>)  
This workshop was co-sponsored along with the University of Florida Transportation Institute (UFTI) on September 2, 2015. The presenters discussed the methods, patterns and approaches of traffic control occurring pre-and post - football games.
2. **WORKSHOPS & WEBINAR: Planning for Schools: An Educational Module & Cost Calculator to Support School Siting & Transportation Decision Making** (<http://www.stride.ce.ufl.edu/school-transportation-educational-module-cost-calculator>)  
The webinar, delivered on November 2, 2015, focused on the connection between school site selection, nearby residential development patterns and implications

for school system transportation operations and costs. Speakers introduced audience members to the issue of school siting and transportation and discussed findings from their multi-state study, which was supported through STRIDE funding. The team's educational module is hosted on UNC's website at <http://schoolsiting.web.unc.edu/> and posted on the STRIDE Center's website at <http://stride.ce.ufl.edu/completed-projects>. Attendees also learned how to use the school site selection decision support tool, referred to as the School Travel Cost Calculator, which estimates public and private transportation costs for potential school sites. The webinar was delivered by Dr. Ruth Steiner of the University of Florida and Mathew Palmer, doctoral student at UNC Chapel Hill. The PI of the project was Dr. Noreen McDonald of UNC Chapel Hill.

3. **Managed Lanes on Arterials Workshop (<http://stride.ce.ufl.edu/fall-2015-managed-lanes-on-arterials-workshop->)**

The STRIDE Center funded two workshops on managed lanes held on October 19 and 20, 2015 that were based on results from a Florida Department of Transportation (FDOT) study titled Deployment Strategies of Managed Lanes on Arterials (BDV32-977-01). The workshops were held at the FDOT District 6 auditorium in Miami and at the Mike Rippe Auditorium in Bartow, Fla. The instructors were Dr. Yafeng Yin and Dr. Toi Lawphonpanic, both of the University of Florida. Attendees included personnel from the FDOT District 6 (Miami) and the Florida Turnpike Enterprise who learned about the benefits of using managed lanes on arterials to improve road network efficiency.

4. **Enhanced Driving Conference: An Interdisciplinary Approach (<http://www.transportation.institute.ufl.edu/?p=4548>)**

The STRIDE Center co-sponsored a conference that explored the interdisciplinary characteristics of driving and safety research. .

5. **Statewide Training of *SafetyAnalyst* in Florida (<http://stride.ce.ufl.edu/fall-2015-statewide-training-of-safetyanalyst-in-florida>)**

This one-hour session provided the background on the traditional and new highway safety analysis methods including the Highway Safety Manual (HSM) and SafetyAnalyst. The HSM provides quantitative measures to estimate crash frequency and severity at a variety of locations. SafetyAnalyst is a state-of-the-art analytical tool for making system-wide safety decisions. Often advertised as a companion to Part B of the HSM, SafetyAnalyst automates all the steps in the roadway safety management process. Florida has been preparing for deploying SafetyAnalyst for the past few years. By deploying it statewide, FDOT will, for the first time, have a standardized system to consistently conduct safety analysis across the state. A major step in implementing SafetyAnalyst is to train the FDOT district officials on using the software. Part 2 of this workshop will be offered in Spring 2016. The workshop was taught by Dr. Piryanka Alluri, an assistant professor in the Department of Civil & Coastal Engineering at FIU. The workshop was held in Orlando, Fla.

6. **Development of Case Studies, Numerical Exercises and Instruction Modules for Teaching Roadway Safety Analysis**

Dr. Siva Srinivasan and Dr. Philip Haas of the University of Florida are currently working on developing this workshop. Instruction will contain case studies,

numerical exercises and educational modules for teaching roadway safety analysis to transportation practitioners. Data and case studies will be drawn from completed projects. There will be two course modules developed: 1) performing B/C analysis of rural roadway safety projects; and 2) calibration, estimation and application of the HSM safety performance functions. It is expected that upon completion of this training course, material will be available on the STRIDE website and available for download and either a workshop or webinar created to showcase the modules. Currently, the workshop/class will be taught to graduate students at the University of Florida in February 2016. Information garnered from the course will be used to make updates to the material. The project is expected to close out in March 2016. It is expected that materials from this project will be used to teach transportation professionals as part of the STRIDE Center's technology transfer efforts.

### Educational Projects:

The table below provides a comprehensive list of the educational products produced by STRIDE-funded projects to-date. Note that one educational product has been added since the last progress report: *Planning for Schools: An Educational Module & Cost Calculator to Support School Siting & Transportation Decision Making*. Products include a cost calculator and website.

STRIDE-funded educational projects will be posted as they are completed at the following website: <http://www.stride.ce.ufl.edu/course-materials-developed-by-stride>.

<u>Project Title</u>	<u>Product</u>
Engaging Engineering Students with Transportation Safety: An Educational Module (STRIDE 2012-085S)	Course Website: <a href="http://ergo.research.ise.msstate.edu/stride-classroom-module">http://ergo.research.ise.msstate.edu/stride-classroom-module</a>
Development of Pedestrian and Bicycle Transportation Course Modules (STRIDE Project Number 2012-028s)	Course Website: <a href="http://www.pedbikeinfo.org/training/courses.cfm">www.pedbikeinfo.org/training/courses.cfm</a>
Development of Graduate Level Course on Sustainable Asphalt Pavements (STRIDE Project Number 2012-049s)	Course Website: <a href="http://eng.auburn.edu/online/professional-development/course-listing/civil-structural.html">http://eng.auburn.edu/online/professional-development/course-listing/civil-structural.html</a>
Transportation K-12 Workforce Development 2012 at FIU, GaTech, MSU, NCSU, UAB, and UF	K-12 Workforce Development projects at FIU, GaTech, MSU, NCSU, UAB, and UF have yielded lesson plans and information on how to create activities that engage school-age children in engineering and transportation. Information on these activities can be found at: <a href="http://stride.ce.ufl.edu/workforce-development">http://stride.ce.ufl.edu/workforce-development</a>  LEGO® Robot Vehicle Lesson Plans for Secondary Education; Course website:

	<a href="http://www.t2ctt.ce.ufl.edu/Forms.asp?MODE=NEW&amp;FormsFormTypeID=-17">http://www.t2ctt.ce.ufl.edu/Forms.asp?MODE=NEW&amp;FormsFormTypeID=-17</a>
Planning for Schools: An Educational Module & Cost Calculator to Support School Siting & Transportation Decision Making	<a href="http://schoolsiting.web.unc.edu/">http://schoolsiting.web.unc.edu/</a>
Developing a New Course for Public Transportation Education	<a href="http://stride.ce.ufl.edu/public-transportation-course-modules">http://stride.ce.ufl.edu/public-transportation-course-modules</a>

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

The STRIDE Center continues to encourage student WTS chapter creation in the Southeast. During the 2015 WTS International Annual Conference in Chicago, IL, representatives from the WTS student chapter at UF who attended the event met with students from San Diego State University and discussed chapter building. The UF students provided suggestions and helpful information on how to create a chapter at their institution. In 2016, the WTS student chapter at UF plans to reach out to students at the University of Central Florida and the University of South Florida to help establish more student chapters in WTS.

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

Accomplishments:

- The 4<sup>th</sup> Annual UTC Conference for the Southeastern Region will take place in March 2016, at the University of Tennessee, and the STRIDE Center is one of the co-sponsors of this conference. The conference brings together local and state agencies and includes some federal representatives as well. STRIDE partner universities attend this conference, including many other academic institutions in the Southeastern U.S.
- On November 18, 2015, the STRIDE Center co-sponsored the *WTS Transportation Symposium on Automated & Connected Vehicles*. Expert guest panelists from the public and private sectors included Mr. Ben Walker, Associate Vice President, Florida Director of Multi-Modal Planning, HNTB Corporation; Dr. David Metcalf, senior researcher at the Institute for Simulation and Training at the University of Central Florida; and Dr. Carl Crane, professor and director of the Center for Intelligent Machines and Robotics at the University of Florida. The event was attended by more than 58 students, faculty, and transportation professionals, generating lively discussions amongst the panelists and members of the audience.

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

Accomplishments:

The STRIDE Center continues to facilitate the development of ties with other UTCs and DOTs in the region by participation in the Annual UTC Conference for the Southeastern Region. This conference presents the best forum for the exchange of ideas and the initiation of collaboration amongst 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**

Accomplishments:

The following list contains selected papers and presentations from STRIDE-affiliated researchers in the past six months:

**Papers, Conference Proceeding, Workshops/Webinars:**

Barmpoutis, A., Sisiopiku, V.P., Zhao, L., and Kondyli, A. Computer Assisted Analysis of Drivers' Body Activity Using a Range Camera, *IEEE Intelligent Transportation Systems Magazine*, 7(3), 2015, p. 18-28.

Chen, X., M. Hadi, Y. Xiao, and L. Eleferiadou. Vehicle Emission Models Based on Microscopic Performance Measures Derived Utilizing the MOVES Operating Mode Distribution Method. Submitted for Publication at *Transportation Research Record: Journal of the Transportation Research Board*, 2015.

Hunter, E., Salamati, K., Elefteriadou, L., Sisiopiku, V., Roupail, N., Phillips, B., and Schroeder, B. Driver Yielding at Unsignalized Midblock Crossings, *Proceedings of the 94th Transportation Research Board Annual Meeting*, Washington, D.C.

Kondyli, A., Z. Li, L. Elefteriadou. Quantifying Weather Impacts on Traffic Operations for Implementation into Florida's Travel Time Reliability Model, *Transportation Letters: the International Journal of Transportation Research*, forthcoming, accepted for publication October 2014.

Kondyli, A., Sisiopiku, V., Zhao, L., and Barmpoutis, A. Computer assisted analysis of drivers' body activity using a range camera, *IEEE Intelligent Transportation Systems Magazine*, July 2015, Vol. 7(3), p. 18-28.

Kondyli, A., Sisiopiku, V., Barmpoutis, A. Analyzing 3D Body Posture Activity during Merging and Lane Changing Maneuvers, *Proceedings of the 2015 International Conference on Road Safety & Simulation*, Orlando, FL, 6-8 October 2015.

Kondyli, A., St. George, B., Elefteriadou, L., Bonyani, G. Are the Freeway Capacity Values Provided in the Highway Capacity Manual Accurate? Submitted for publication to the *ASCE Journal of Transportation Engineering*, August 2015.

Mamidipalli, S., V. Sisiopiku, B. Schroeder, L. Elefteriadou, K. Salamati, N. Roupail, A Probit Based Pedestrian Gap Acceptance Model for Mid-Block Crossing Locations, accepted for publication, *Journal of the Transportation Research Board*, March 2015.

Mamidipalli, S., Sisiopiku, V.P., Schroeder, B., and Elefteriadou, L. A Review of Analysis Techniques and Data Collection Methods for Modeling Pedestrian Crossing Behaviors, *Journal of Multidisciplinary Engineering Science and Technology*, Vol. 2 Issue 2, February 2015, p. 225-232

Mamidipalli, S., Sisiopiku, V.P., Schroeder, B., Elefteriadou, L., and Salamati, K. A Probit-based Pedestrian Gap Acceptance Model for Mid-Block Crossing Locations, *Transportation Research Record: Journal of the Transportation Research Board*, No. 2519, 2015, forthcoming.

Mamidipalli, S., Sisiopiku, V.P., Schroeder, B., and Elefteriadou, L. A Review of Analysis Techniques and Data Collection Methods for Modeling Pedestrian Crossing Behaviors, *Journal of Multidisciplinary Engineering Science and Technology*, Vol. 2 Issue 2, 2015, p. 225-232.

Mamidipalli, S., Sisiopiku, V.P., Schroeder, B., Elefteriadou, L., and Salamati, K. A Probit-based Pedestrian Gap Acceptance Model for Mid-Block Crossing Locations, *Proceedings of the 94th Transportation Research Board Annual Meeting*, 2015, Washington, D.C.

Massahi, A., M. Hadi, and Y. Xiao. Improved Model for Estimation Incident Impact on Urban Street Travel Time with Consideration of Upstream Intersection Capacity Reduction. Submitted for Publication at *Transportation Research Record: Journal of the Transportation Research Board*, 2015.

McDonald, N. C., McGrane, A. B., Rodgman, E. A., Steiner, R. L., Palmer, W. M., and Lytle, B. F. Assessing Multimodal School Travel Safety in North Carolina. *Accident Analysis & Prevention*, p. 74, 2015, 126-132.

McDonald, N., R. Steiner, M. Palmer, A. Bullock, V. Sisiopiku, B. Lytle. In Press. Costs of School Transportation: Quantifying the Fiscal Impacts of Encouraging Walking and Bicycling for School Travel. *Transportation*.

Schwebel, D.C., Combs, T., Rodriguez, D., Severson, J., Sisiopiku. In press, Community-based Pedestrian Safety Training in Virtual Reality: A pragmatic trial, *Accident Analysis and Prevention*, 7 pages.

Sisiopiku, V.P., Peters, R.W., and Ramadan, O. Introducing Sustainability Design and Assessment Methods into the Civil Engineering Curriculum, *Proceedings of the 122nd Annual Conference & Exposition of the American Society of Engineering Education (ASEE)*, 2015, Seattle, WA.

Strawderman, L., Rahman, M., Huang, Y., and Nandi, A. Driver Speed Limit Compliance in School Zones: Assessing the impact of sign saturation. *Accident Analysis and Prevention*, 2015, 82, 118-125.

Zheng, Y., Chase, T., Elefteriadou, L., Schroeder, B., and Sisiopiku, V.P. Where Do Pedestrians Jaywalk and How Do Drivers React? -- A Study within a Campus Environment, *Proceedings of the 94th Transportation Research Board Annual Meeting, Washington, D.C., 2015.*

Zheng, Y., T. Chase, L. Elefteriadou, B. Schroeder, V. Sisiopiku, Where Do Pedestrians Jaywalk and How Do Drivers React? -- A Study within a Campus Environment, submitted for publication to the *Transportation Letters: the International Journal of Transportation Research*, July 2015.

Zheng, Y., Chase, R.T., Elefteriadou, L., Schroeder, B., Sisiopiku, V.P., Modeling Pedestrian-Vehicle Interactions Outside of Crosswalks, *Simulation Modeling Practice and Theory*, Volume 59, December 2015, Pages 89–101.

### Presentations:

Barmpoutis, A., G. Yengera, S. R. Hosuri, M. M. Islam, A. Kondyli, S.S. Patil, V. P. Sisiopiku, L. Zhang, and L. Zhao. SHREC'15 Data Challenge Track: Driver's Motion Depth Database, Organized on-line as part of the *10th 3D Shape Retrieval Contest (Org. Afzal Godil and Remco Veltkamp)*, Jan 3- Feb 20, 2015. Web: <http://research.dwi.ufl.edu/dmddb/shrec>

Chen, X., M. Hadi, Y. Xiao, and L. Eleferiadou. Vehicle Emission Models Based on Microscopic Performance Measures Derived Utilizing the MOVES Operating Mode Distribution Method. Accepted for Inclusion in *Proceedings of the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., 2015.*

Elefteriadou, L. Signal Control Optimization for Automated Vehicles at Isolated Signalized Intersections. Presented at *2015 COTA International Conferences of Transportation Professionals*, Beijing, China, July 25-27, 2015 - Invited Plenary Speaker

Fartash, H., M. Hadi, and Y. Xiao. Utilization the HCM Urban Facility Procedures for the Estimation and Real-Time Prediction of Travel Time with Consideration of Rain Impacts. *Accepted for Inclusion in Proceedings of the 95th Annual Meeting of the Transportation Research Board, Washington, D.C., 2015.*

Godbole, M., Rodríguez, D. A., Combs, T., Sisiopiku, V. P., and Schwebel, D. C. (2015, March). Effect of Training in Virtual Reality on Children's Self-Efficacy Regarding Pedestrian Behavior. Poster presented at the *2015 University Transportation Center (UTC) Conference for the Southeastern Region*, Birmingham, AL.

Johnston, A., Sisiopiku, V. P., Rodríguez, D. A., Combs, T., Emeira, M., Severson, J., and Schwebel, D. C. (2015, March). Teaching Pedestrian Safety in Virtual Reality: A Community-University Collaboration. Poster presented at *the 2015 University Transportation Center (UTC) Conference for the Southeastern Region*, Birmingham, AL.

Mamidipalli, S., Sisiopiku, V.P., Schroeder, B., Elefteriadou, L., and Salamati, K. A Probit-based Pedestrian Gap Acceptance Model for Mid-Block Crossing Locations, *94th Transportation Research Board Annual Meeting*, Washington, D.C., 2015.

Massahi, A., M. Hadi, and Y. Xiao. Improved Model for Estimation Incident Impact on Urban Street Travel Time with Consideration of Upstream Intersection Capacity Reduction. *Accepted for Inclusion in Proceedings of the 95th Annual Meeting of the Transportation Research Board*, Washington, D.C., 2015.

McManus, B., Ross, L.A., and Stavrinos, D. (2015, March). Do Adolescents Prioritize Advanced Vehicle Safety Features? Poster presented at *the 2015 University Transportation Center (UTC) Conference for the Southeastern Region*. Birmingham, AL.

Morton, B.J., Poros, J., and Huegy, J. Linking Rural Development and Transportation Using a Land Use-Transportation Decision Support Tool, *TRB National Transportation Planning Applications Conference*, Atlantic City, NJ, May 18, 2015.

Morton, B. Linking Rural Development and Transportation Using a Land Use-Transportation Decision Support Tool, *TRB Planning Applications Conference*, Atlantic City NJ, May 28, 2015

Palmer, W. M. Tools for Schools: Addressing the Intersection of School Siting and Pupil Transportation. *North Carolina American Planning Association Conference*, Raleigh, NC, October 21, 2015.

Palmer, W. M. and Steiner, R. *STRIDE Webinar*, Planning for Schools: An Education Module & Cost Calculator to Support School Siting & Transportation Decision Making, November 2, 2015.

Parr, M.N., Ross, L.A., McManus, B., Wittig, S.M., and Stavrinos, D. (2015, April). Differential Impact of Personality Traits on Distracted Driving Behaviors in Teens and Older Adults. Poster presented at the *2015 UAB Department of Psychology*.

Parr, M.N., Ross, L.A., McManus, B., Wittig, S.M., and Stavrinos, D. (2015, March). Differential Impact of Personality Traits on Distracted Driving Behaviors in Teens and Older Adults. Poster presented at the *2015 University Transportation Center (UTC) Conference for the Southeastern Region*. Birmingham, AL.

Pope, C.N., Ross, L.A., and Stavrinos, D. (2015, March). Am I A Good Driver? Can Self-Ratings of Global Driving Experience and Quality Predict Risky Driving Behavior in Teen Drivers? Poster presented at the *2015 University Transportation Center (UTC) Conference for the Southeastern Region*. Birmingham, AL.

Pope, C.N., Ross, L.A., McManus, B., and Stavrinos, D. (2015, January) Am I A Good Driver? Can Self-Ratings of Global Driving Experience and Quality Predict Risky Driving Behavior in Teen Drivers? Poster presented at the *93rd Annual Meeting of the Transportation Research Board*. Washington, D.C.

Ramadan, O. and Sisiopiku, V.P. Merge Control Strategies at Interstate Work Zones: Review of Practice, *2015 Southern District ITE Annual Meeting*, Biloxi, MS, 2015.

Rouse, J., Smith, R., Sessions, M., Combs, T., Rodríguez, D. A., Sisiopiku, V. P., & Schwebel, D. C. (2015, March). Are Safety Rules and Experience Sufficient to Make Children Safe Pedestrians? Poster presented at the *2015 University Transportation Center (UTC) Conference for the Southeastern Region*, Birmingham, AL.

Schwebel, D. C., McClure, L. A., and Severson, J. (2015, April). Implementing and Disseminating Virtual Reality to Train Child Pedestrians in Street-Crossing. Paper presented at the *Society of Pediatric Psychology National Conference*, San Diego, CA.

Schwebel, D. C., Combs, T., Rodríguez, D. A., Sisiopiku, V. P., & Severson, J. (2015, March). Evaluating Virtual Reality to Teach Children Pedestrian Safety: Initial results from a pragmatic trial. Paper presented at the *2015 University Transportation Center (UTC) Conference for the Southeastern Region*, Birmingham, AL.

Shen, J., Sisiopiku, V. P., Rodríguez, D. A., Combs, T., Godbole, M., and Schwebel, D. C. (2015, March). The Influence of Self-Efficacy and Perceived Safety in Neighborhood on Children's Frequency of Walking to/from School. Poster presented at the *2015 University Transportation Center (UTC) Conference for the Southeastern Region*, Birmingham, AL.

Sisiopiku, V.P., Peters, R.W., and Ramadan, O. Introducing Sustainability Design and Assessment Methods into the Civil Engineering Curriculum, *122nd Annual Conference & Exposition of the American Society of Engineering Education (ASEE)*, Seattle, WA, 2015.

Sisiopiku, V.P., Mamidipalli, S. Elefteriadou, L., and Schroeder, B. Modeling Pedestrian Gap Acceptance at Mid-block Crossings in the Southeast, *2015 Southern District ITE Annual Meeting*, Biloxi, MS, 2015.

Sisiopiku, V.P., and Mamidipalli, S. Visibility Sensitive Pedestrian Gap Acceptance Models for Two Way Stop Controlled Sections, *2015 UTC Conference for the Southeastern Region*, Birmingham, AL, 2015.

Sisiopiku, V.P., Transportation Research at UAB, *ALSITE Meeting*, Montevallo, AL, 2015.

Sisiopiku, V.P., Career Information Session: Transportation Engineering, Birmingham, AL, 2015

Stavrinos, D., and Schwebel, D. C. (2015, January). Behavioral Strategies to Understand and Prevent Pediatric Pedestrian Injuries. Paper presented at the *Transportation Research Board Annual Meeting*, Washington, D.C.

Turner, M., McManus, B., and Stavrinos, D. (2015, July). Effect of Vehicle Interior Design on Adolescent Driver Safety. Poster presented at the *2015 Center for Community Outreach Development Symposium*. Birmingham, AL.

Wells, H., Rouse, J., Johnston, A., Sisiopiku, V. P., Rodríguez, D. A., Combs, T., and Schwebel, D. C. (2015, March). Associations between Self-Efficacy and Children's Pedestrian Safety Following Training. Poster presented at the *2015 University Transportation Center (UTC) Conference for the Southeastern Region*, Birmingham, AL.

Wittig, S.M., Ross, L.A., and Stavrinou, D. (2015, March). Comparisons Among Mother-Daughter and Mother-Son Self-Reported Driving Styles. Poster presented at the *2015 University Transportation Center (UTC) Conference for the Southeastern Region*, Birmingham, AL.

Wittig, S.M., and Stavrinou, D. (2015, March). Comparisons Among Mother-Daughter and Mother-Son Self-Reported Driving Styles. Presented at the *2015 UAB Graduate Student Research Day*. Birmingham, AL.

Wittig, S.M.O., Ross, L.A., and Stavrinou, D. (2015, January). Impact of Gender and Age on Self-Reported Driving Styles in Drivers across the Lifespan. Poster presented at the *95th Annual Meeting of the Transportation Research Board*. Washington, D.C.

**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 continues to use the website ([stride.ce.ufl.edu](http://stride.ce.ufl.edu)), Facebook (<https://www.facebook.com/southeasterntransportationcenter>) and Twitter ([https://twitter.com/STRIDE\\_UTC](https://twitter.com/STRIDE_UTC)) pages to announce events, webinars, conference, completed projects and other important information related to STRIDE and other UTC activities. The STRIDE Center has subscribed to Constant Contact, an online email marketing service to advertise annual reports, completed projects, events, and any other products produced by the Center.

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

Accomplishments:

The STRIDE Center selected six interns to work with STRIDE researchers in summer 2015. These students interned at STRIDE partner schools as part of the Transportation Research Internship Program (TRIP) funded by the Center. The internship began on May 21, 2015 and ended July 31, 2015. In addition, two students participated in the program funded by the Brazilian Science Mobility Program. The interns who participated were:

- Zoe Becerra, Morehead University/GaTech  
Advisers: Dr. Gregory Corso (Morehead University) and Dr. Michael Hunter (GaTech)
- Mario Rojas, Florida International University  
Adviser: Dr. Xia Jin, FIU

- Stephen Spana, University of Florida (UF)  
Adviser: Dr. Yafeng Yin, UF
- Ethan Stoop, University of Florida (UF)  
Adviser: Dr. Scott Washburn, UF
- William Wagner, University of Alabama at Birmingham (UAB)  
Adviser: Dr. Despina Stavrinos, UAB
- Tianfa Wu, University of Florida (UF)  
Adviser: Dr. Lily Elefteriadou, UF

Interns funded by the Brazilian Mobility Program:

- Bianca Farias de Souza
- Guilherme Moyses Pfeffer

### **Workforce Development Activities:**

The STRIDE Center's K-12 projects from Year 1 (2012) and Year 2 (2013) are all completed except one (from FIU). In December, we received a request from Dr. Virginia Sisiopiku at UAB for additional funding to carry out additional K-12 activities. We will continue to offer support for such activities to our STRIDE partners based on availability of funds. As an example, a STRIDE-funded project at GaTech, completed in October 2015, used cutting-edge technology from ongoing research to engage elementary and middle school students in STEM education. The program exposed the students to a broad range of transportation topics, including pedestrian accessibility design, mode choice, travel survey, traffic engineering, and transportation human factors related to visual complexity. The project resulted in modules and online materials that can be found at <http://transportation.ce.gatech.edu/node/2617>.

### **How have results been disseminated?**

1. Information on completed projects is made available to transportation professionals, students and faculty in the public and private sectors via the use of Constant Contact, an email marketing tool.
2. Reports are also posted on the STRIDE website, included in the STRIDE newsletter and annual report and in refereed journals.
3. Researchers routinely produce presentations and publications related to STRIDE-funded projects and products.
4. The STRIDE Center continues to showcase ongoing and completed projects at the Annual UTC Conference for the Southeastern Region and at the STRIDE Student Poster Showcase/Competition, which is held at the University of Florida's Reception during the Transportation Research Board's annual meeting in Washington, D.C.
5. Results are posted on the STRIDE, Facebook and Twitter pages.

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

1. Continue to create additional technology transfer opportunities such as webinars, workshops and/or short courses based on completed CMS, STRIDE and match research projects.
2. Monitor the remaining ongoing projects from STRIDE 2012 and 2016 via quarterly reports to ensure they are progressing on schedule, and products and results are disseminated as expected.
3. Monitor the draft final reports from all projects, the peer reviews of those reports and the process of receiving and editing the final reports for posting on the STRIDE website, reporting

these on the RiP database as completed projects, and providing links to completed PDFs of projects from the TRID/TRIS database.

4. Monitor the remaining K-12 Workforce Development project to ensure a peer-review is conducted.
5. Continue to publish the STRIDE e-Newsletter twice a year (Spring and Fall), using Constant Contact.
6. Continue to work with the next host of the 2016 UTC Conference for the Southeastern Region (University of Tennessee) and serve as a co-sponsor.
7. Continue to engage in discussions with State DOTs in the region and nationwide for potential collaborations.
8. Continue to engage in discussions with WTS International to create student chapters in the region, and coordinate activities with these chapters as they are created.
9. Continue posting events and products on the STRIDE website, Facebook, and via the use of Constant Contact email marketing tool to advertise the completion of final reports, events, etc.

## Products

List any products resulting from the program during the reporting period

- Planning for Schools: An Educational Module & Cost Calculator to Support School Siting & Transportation Decision Making <http://schoolsiting.web.unc.edu/>
- DMDDb: Drivers' Motion Depth DataBase, An open access dataset for studying the 3D body motion of 27 drivers while performing maneuvers. <http://research.dwi.ufl.edu/dmddb/>
- STRIDE Center Sponsors a Workshop on Traffic Management for Football Games (<http://www.transportation.institute.ufl.edu/?p=3928>)
- Managed Lanes on Arterials Workshop (<http://stride.ce.ufl.edu/fall-2015-managed-lanes-on-arterials-workshop->)
- Enhanced Driving Conference: An Interdisciplinary Approach (<http://www.transportation.institute.ufl.edu/?p=4548>)
- Statewide Training of SafetyAnalyst in FloridaFREEVAL\_DSS Software System
- Wheelchairs and “Supershoes” – Introducing Transportation Engineering to 5<sup>th</sup> Graders (<http://transportation.ce.gatech.edu/node/2617>).

## 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., MS	Partner University

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

## Other collaborators

<b>Organization Name</b>	<b>Location</b>	<b>Contribution</b>	<b>Comments</b>
Town of Carrboro (Jeff Brubaker)	North Carolina	Collaboration	
Town of Chapel Hill (Council member Jim Ward)	North Carolina	Collaboration	
Durham-Chapel Hill-Carrboro MPO (Andrew Henry and other staff)	North Carolina	Collaboration	
University of North Carolina Facilities Planning	North Carolina	Collaboration	
Carrboro Bicycle Coalition (Seth Lajeneusse North Carolina and other staff)	North Carolina	Collaboration	
Triangle J Council of Governments (John Hodges Copple and other staff)	North Carolina	Collaboration	
Federal Highway Administration	Washington, DC	Collaboration	

Federal Transit Administration	Washington, DC	Collaboration	
Woman's Transportation Seminar (WTS) International	Washington, DC	Collaboration in the creation of new chapters in the Southeast	Various K-12 workforce development programs for <b>STRIDE Project Number 2012-009S</b>
WTS NC Triangle Chapter	Raleigh, NC	Collaboration	Various K-12 workforce development programs for <b>STRIDE project Number 2012-009S</b>
University of North Florida	Jacksonville, FL	Facilities, collaboration, personnel exchanges	K-12 workforce development program for <b>STRIDE Project Number 2012-009S</b>
21 <sup>st</sup> Century Community Learning Center of Alachua County	Gainesville, FL	Facilities, collaboration, personnel exchanges	Various K-12 workforce development programs for <b>STRIDE project Number 2012-009S</b>
North Florida WTS Chapter	Jacksonville, FL	Facilities, collaboration, personnel exchanges	Various K-12 workforce development programs for <b>STRIDE Project Number 2012-009S</b>
WTS Central Florida Chapter	Orlando, FL	Facilities, collaboration	Various K-12 workforce development programs for <b>STRIDE Project Number 2012-009S</b>
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 <b>STRIDE Project Number 2012-009S</b>

Highway Safety Research Center at North Carolina State University	Raleigh, NC	Facilities, Collaborative research personnel exchanges	For data extraction of injuries and crashes on <b>STRIDE Project Number 2012-022S</b>
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 <b>STRIDE research project 2012-095</b> . 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 <b>STRIDE Project Number 2012-067S</b>
Atlanta Regional Commission	Atlanta, GA	Personnel exchanges, Facilities, collaborative research on STRIDE project 2012-067S	Transportation Division, bicycle and pedestrian planning for <b>STRIDE Project Number 2012-067S</b>
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 <b>STRIDE Project Number 2012-067S</b>
Atlanta City Council Sidewalk Task Force	Atlanta, GA	Personnel exchanges, facilities, collaborative research on STRIDE project 2012-067S	Members of the research team on <b>STRIDE Project Number 2013-067S</b> 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
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

Centennial Place Elementary School	Atlanta, GA	Facilitates	For K-12 activities
Girl Scouts of Gateway Council, Camp Kateri	Orange Springs, FL	Facilitates	For K-12 activities
Williams Elementary School	Gainesville, FL	Facilities	For K-12 activities
PK Yonge Research School	Gainesville, FL	Facilities	For K-12 activities
Lincoln Middle School	Gainesville, FL	Facilities	For K-12 activities
Mebane Middle School	Gainesville, FL	Facilities	For K-12 activities
Bishop Middle School	Gainesville, FL	Facilities	For K-12 activities
UF - Lawton Chiles Elementary School	Gainesville, FL	Facilities	For K-12 activities
Boone High School	Orlando, FL	Facilities	For K-12 activities
Arlington Middle School	Jacksonville, FL	Facilities	For K-12 activities
Jordan Glen School	Archer, FL	Facilities	For K-12 activities
21st Century Community Learning Center, Alachua County Public Schools	Gainesville, FL	Facilities and Collaboration	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 North Florida	Jacksonville, FL	Facilities and collaboration	STRIDE K-12 workforce development activities at UF and on STRIDE project <b>2012-009S</b>

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 <b>2012-009S</b>
RPCGB - Darrell Howard, Deputy Director of Planning Franchesca Taylor, Active Transportation Planner	Birmingham, AL	Personnel exchanges	
North Carolina Local Technical Assistance Program (NC LTAP)	Raleigh, NC	Personnel exchanges	STRIDE K-12 workforce development activities at UF and on STRIDE project <b>2012-009S</b>

## Impact

*What is the impact of the program? How has it contributed to transportation education, research, and technology transfer? (See below)*

- What is the impact on the development of the principal discipline(s) of the program?***  
Several products developed under STRIDE related to safety, livability and economic competitiveness used by state DOTs in our region and nationally. For example, tools for evaluating travel time reliability in Florida’s Strategic Intermodal System (SIS) are used by FDOT to evaluate mobility. Software products have been included in the Highway Capacity Software, distributed around the world by *McTrans*, a software development center at UF. Several of our educational and workforce development products have been downloaded by agencies around the U.S., and our seminars have been attended by hundreds of participants from MPOs, local, state, and national agencies, faculty, students, and other transportation professionals.
- What is the impact on other disciplines?***  
The STRIDE Center continues to engage in interdisciplinary collaboration in research projects, education, workforce development and technology transfer. For example, one of our FDOT match projects currently underway, engages mechanical engineers and computer scientists to develop new algorithms for autonomous and connected vehicle trajectory optimization. One of our STRIDE funded projects engaged computer scientists working on virtual reality to understand transportation safety while driving. Psychologists have worked on our projects to improve pedestrian safety for children and young drivers. Essentially, collaboration amongst the transportation researchers at the STRIDE partner universities has increased broader collaboration between the universities involved, as well as between universities and state agencies.
- What is the impact on transportation workforce development?***  
Information contained in completed K-12 project reports show that numerous school-age children across the southeast have been exposed to engineering and transportation concepts. For example the work by Dr. Ann Xu at GaTech with 5<sup>th</sup> graders from the Centennial Place

Academy, a school associated with the University, generated participation from 82 students where 86 percent are African Americans. These students learned about data collection and analysis, data visualization, and the importance of communicating research orally. Further work in this area is planned based on availability of funds

- ***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 enhances the flow of information.

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

Via the STRIDE Center's sponsored workshops and webinars, information related to Planning for Schools, open access dataset for studying the 3D body motion of drivers performing maneuvers, Managed Lanes on Arterials workshop, and Statewide Training of SafetyAnalyst in Florida have reached transportation professionals, faculty and students across the nation and in the Southeastern U.S. Additional workshops and webinars are planned across the Southeast.

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

Improved tools developed by our research; educational materials used widely across the country; increased collaboration between academic institutions; increased collaboration between academia, public and private sectors; development and implementation of the 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 Projects and PIs (STRIDE 2013)

### **Dynamic Traffic Control Interventions for Enhanced Mobility and Economic Competitiveness**

PI: Nagui Roupail, Ph.D., North Carolina State University  
Co-PI: Mohamed Hadi, Ph.D., Florida International University  
**\$150,000**

### **Signal Timing Optimization with Consideration of Environmental and Safety Impacts**

PI: Mohamed Hadi, Ph.D., Florida International University  
Co-PIs: Lily Elefteriadou, Ph.D., University of Florida  
**\$120,000**

### **On-Board-Diagnostics (OBD) Data Integration into Traffic Microsimulation for Vehicle-Specific Fuel Use and Emissions Modeling and In-Vehicle App Testing**

PI: Scott Washburn, Ph.D., University of Florida  
Co-PIs: Christopher Frey, Ph.D., North Carolina State University; Nagui Roupail, Ph.D., North Carolina State University  
**\$150,000**

### **Using Crowdsourcing to Prioritize Bicycle Route Network Improvements**

PI: Jeffrey J. LaMondia, Ph.D., Auburn University  
Co-PI: Kari Watkins, Ph.D., Georgia Institute of Technology  
**\$100,000**

### **Distracted Driving – It is not always a choice.**

PI: Mike Hunter, Ph.D., Georgia Institute of Technology  
Co-PI: Gregory M. Corso, Ph.D., Morehead State University  
**\$150,000**

### **GIS-Based Instructional Tool for Crash Prediction Methods**

PI: Ilir Bejleri, Ph.D., University of Florida  
Co-PI: Siva Srinivasan, Ph.D., University of Florida  
**\$89,961**

### **Investigating the Effect of Drivers' Body Motion on Traffic Safety**

PI: Angelos Barmoutis, Ph.D., University of Florida  
Co-PIs: Alexandra Kondyli, Ph.D., University of Florida; Virginia Sisiopiku, Ph.D., University of Alabama at Birmingham  
**\$132,972**

### **Applying Livability Performance Measures to Transportation Plans and Projects**

PI: Leigh Blackmon Lane, Ph.D., North Carolina State University  
**\$53,000**

### **Engineers Change the World: A Hands-on workshop for 13- to 18-Year-Old Girls**

PI: James Martin, Ph.D., North Carolina State University

Co-PI: Nina Barker, University of Florida

**\$42,452**

### **Teaching Schoolchildren Pedestrian Safety: A Pragmatic Trial Using Virtual Reality**

PI: David Schwebel, Ph.D., University of Alabama at Birmingham

Co-PIs: Daniel Rodriguez, Ph.D., University of North Carolina at Chapel Hill; Virginia Sisiopiku, Ph.D., University of Alabama at Birmingham

**\$150,000**

### **School Transportation: Development of an Education Module**

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

Co-PI: Ruth Steiner, Ph.D., University of Florida

**\$71,000**

## **List of 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, 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-PI: 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-PIs: Nagui Rouphail, Ph.D., North Carolina State University; H. Christopher Frey, Ph.D., North Carolina State University

**\$251,764**

## **List of Selected Cost Share Projects**

### **Local Technical Assistance Program (LTAP) 2013, 2014, & 2015**

PIs: Nina Barker, M.S. and Chris LeDew, PE, UFTI/T2 Center

### **Local Technical Assistance Program (LTAP) 2015-2016**

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

### **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., University of Florida

### **Comparison of Methods for Measuring Travel Time at Florida Freeways and Arterials**

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

### **Estimation of Capacities of Florida Freeways**

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

### **Modeling, Implementation, and Validation of Arterial Travel Time Reliability**

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

### **Before and After Implementation Studies of Advance Signal Technologies in Florida**

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

## **Roundabouts and Access Management**

PI: Ruth Steiner, Ph.D., University of Florida

Co-PIs: Scott Washburn, Ph.D., University of Florida; Albert Gan, Ph.D., Florida International University

## **Planning for Incorporating Ancillary Demands in the Next Generation FSUTMS**

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

## **Deployment Strategies of Managed Lanes on Arterials**

PIs: Yafeng Yin, Ph.D. and Siriphong Lawphongpanich, Ph.D., University of Florida

## **Lifting HOV/HOT Lane Eligibility and Shoulder Use Restrictions for Traffic Incident Management**

PIs: Yafeng Yin, Ph.D. and Lily Elefteriadou, Ph.D., University of Florida

## **Deployment Strategies of Managed Lanes on Arterials**

PIs: Yafeng Yin, Ph.D. and Siriphong Lawphongpanich, Ph.D. (Team is from University of Florida)

## **Crash Prediction Methods for Freeway Facilities with High Occupancy Vehicle (HOV) and High Occupancy Toll (HOT) Lanes**

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

## **Policy Implications of Automated Vehicle Technology**

PIs: Siva Srinivasan, Ph.D., Carl Crane, Ph.D., and Ruth Steiner, Ph.D. (Team is from University of Florida)

## **Evaluation of Arterial Corridor Improvements and Traffic Management Plans in Florida**

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

## **K-12 Workforce Development Projects**

### **Florida International University, K-12 Workforce Development Activities, 2012**

PI: Berrin Tansel, Ph.D.

### **Mississippi State University, K-12 Workforce Development Activities, 2012**

PI Eric Heiselt, Ph.D.

### **North Carolina State University, K-12 Workforce Development Activities, 2012**

PI: James Martin, P.E.

### **University of Alabama at Birmingham, K-12 Workforce Development Activities, 2012**

PI: Virigina Sisiopiku, Ph.D.

### **University of Florida, K-12 Workforce Development Activities, 2012**

PIs: Nina Barker, T2 Assistant Director and Leslie Washburn, P.E.

**Georgia Institute of Technology, Engaging in Engineering Initiative with Centennial Elementary School, 2013**

PIs: Yanzhi (Ann) Xu, Ph.D., and Alice Grossman (doctoral student)

**North Carolina State University, K-12 Workforce Development Activities, 2013**

PI: James Martin, P.E.

**University of Alabama at Birmingham, K-12 Workforce Development Activities, 2013**

PI: Virginia Sisiopiku, Ph.D.

**University of Florida, K-12 Workforce Development Activities, 2013**

PIs: Nina Barker, T2 Assistant Director and Leslie Washburn, P.E.

## **Additional Technology Transfer Projects**

**Workshop for Managed Lanes on Arterials**

PI: Yafeng Yin, Ph.D., University of Florida

\$25,266

**Workshops Related to STRIDE-funded Study of Multi-modal Costs of School Transportation**

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

\$21,212

**Statewide Training of SafetyAnalyst in Florida**

PI: Priyanka Alluri, Ph.D., Florida International University

\$20,000

**Development of Case Studies, Numerical Exercises, and Instructional Modules for Teaching Roadway Safety Analysis**

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

\$31,011