

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)

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Reporting Period End Date: June 30, 2012

Reporting Term, Quarterly: PPPR #1

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: Developed procedures and documents for inviting proposals; issued a call for pre-proposals on February 8, 2012; received a total of 99 pre-proposals; conducted external reviews of these (at least three reviews per pre-proposal); invited 18 full proposals on April 13, 2012; conducted external and internal reviews of these (at least three reviews per proposal, including one internal review); final projects selected for funding are listed on pages 12-14 of this progress report.
- b) To serve as the focal point for transportation research, education and outreach in the region
 - Accomplishments: Reached out to three other UTCs in the southeast region (GaTech, Mississippi State University, and University of South Florida) and are planning a joint regional conference for Spring 2013. The conference will take place in Orlando, Florida, or Atlanta, Georgia, and will engage academic institutions in the region as well as the private and public sector.
- 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 pre-proposal RFP indicated a strong preference and additional points to those pre-proposals that involved researchers from two or more partner universities.

Also, as indicated above, a regional conference is being organized to bring together researchers, students, State DOT representatives, and transportation professionals across the region. Talks have begun with State DOTs across the region for participation in various activities, including the regional conference currently being planned.

- 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 other UTCs in the region through the planning of a regional 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: Seminars and webinars specifically organized by STRIDE (webcast or recorded and available to consortium members) have been hosted at UF, FIU and UNC in the past six months. A workshop on freeway management, co-sponsored by STRIDE, will be offered in August 2012. The workshop will also report on research conducted under the CMS.
- 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: Development of STRIDE center website (<http://stride.ce.ufl.edu>), Facebook page and Twitter page
- g) To utilize research project activities to promote transportation-related careers and employment opportunities for education and workforce development
 - Accomplishments: Development and submission of "Transportation YOU" Action Plan, Family Engineering Night offered at two Gainesville, FL schools; participation of STRIDE in the UF Engineering Fair; participation in the GatorTRAX program, offered by UF to middle-school students; offering of LEGO Robot Vehicle Lesson Plans (developed by the CMS) at a local elementary school, with a Girl Scout Troup in Gainesville, Fla. Plans underway to offer these at the Cade Museum in Gainesville, FL, as well as by consortium members FIU, MSU, NCSU, UAB. Selection of three STRIDE summer interns, two at UF and one at FIU.

How have results been disseminated?

Since work under this center has begun in January 2012, research results disseminated are those under previous UTC-related efforts:

- a) Results from two FDOT funded projects under the CMS will be made available via a workshop on freeway management, which will take place in August 2012, in Orlando, FL.
- b) Principal investigators of CMS projects are in the process of developing courses and workshops related to recently completed projects. It is expected that results from STRIDE projects will be disseminated in the same way.
- c) The LEGO Robot Vehicle Lesson Plans for Secondary Education, also a CMS-funded project, are in the process of being implemented in the upcoming STRIDE Transportation Career Day held at UF and at other STRIDE member universities as well as at the Cade Museum in Gainesville, FL. The course has also been downloaded by a number of schools, homeschools, and afterschool programs.

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

- Finalize subcontracts for the selected projects
- PIs begin to work on projects
- Continue discussions with State DOTs in the region and nationally for potential collaborations
- Planning of the regional conference in collaboration with UTCs in the southeast.
- Writing and dissemination of STRIDE electronic newsletter
- Continuation of K-12 workforce development activities and module offerings across the region
- Seminars/webinars (webcast or recorded)
- Continue planning for technology transfer opportunities (including webinars and short courses)
- Posting of events and products on website, Facebook, Twitter
- Finalize the External Advisory Board for STRIDE

Products

List any products resulting from the program during the reporting period

- Website (<http://stride.ce.ufl.edu>)
- Workforce development event offerings
 - Family Engineering Night
 - Participation in GatorTRAX
 - Participation in UF College of Engineering Fair
 - Participation in local (Gainesville) elementary school career day
 - LEGO Robot Lesson Plans for Secondary Education to Girl Scouts

Participants and Other Collaborating Organizations

Individuals Who Have Worked on the Program

Dr. Lily Elefteriadou, STRIDE Center Director

Name	Lily Elefteriadou
Program/Project Role	STRIDE Director
Number of hours worked during the reporting period	Approximately 250 hours
Contribution to the Program/Project	Responsible for overall leadership and management of the STRIDE Consortium
Funding Support	STRIDE, CMS, FDOT, UF
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

Ms. Ines Aviles-Spadoni, STRIDE Center Coordinator

Name	Ines Aviles-Spadoni
Program/Project Role	STRIDE Coordinator
Number of hours worked during the reporting period	Approximately 800 hours
Contribution to the Program/Project	Manages and coordinates day-to-day activities of the center and serves as a member of the STRIDE internal steering committee. She supervises two STRIDE staff members (DOT Outreach Coordinator and Workforce Development Coordinator). Ms. Aviles-Spadoni serves as the research coordinator, web master, and managing editor of publications (newsletter, annual report, final reports.), as well as the WTS student chapter adviser.
Funding Support	STRIDE, CMS
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

Mr. Richard Long, DOT Outreach Coordinator for STRIDE

Name	Richard Long
Program/Project Role	STRIDE Outreach Coordinator (State DOTs)
Number of hours worked during the reporting period	Approximately 150 hours
Contribution to the Program/Project	Coordinates the STRIDE Center's activities with State DOTs in the region and nationally.
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

Leslie Washburn, STRIDE Workforce Development Coordinator

Name	Leslie Washburn
Program/Project Role	STRIDE Workforce Development Coordinator
Number of hours worked during the reporting period	Approximately 500 hours
Contribution to the Program/Project	Coordinates the STRIDE Center's K-12 workforce development initiatives
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

STRIDE Institutional Representatives. These serve as liaisons between STRIDE and their universities to coordinate collaborative efforts related to research, education, technology transfer, and workforce development. The representatives have met with the STRIDE director at least twice per month, participating in the consortium's teleconferences to discuss agenda items related to the management and coordination of the center's activities and tasks; they also participated in the May 22, 2012 RITA field visit. Below are the STRIDE Institutional Representatives:

Auburn University
 Al Giffin, Director, Auburn Transportation Research Center
 E-mail: giffra@auburn.edu

Name	Al Giffin
Program/Project Role	STRIDE Institutional Representative/Auburn
Number of hours worked during the reporting period	Approximately 15 hours
Contribution to the Program/Project	Serves as a liaison between STRIDE and his university
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

Florida International University
 Mohammed Hadi, Ph.D., Associate Professor
 E-mail: hadim@fiu.edu

Name	Mohammed Hadi, Ph.D.
Program/Project Role	STRIDE Institutional Representative/Florida International University
Number of hours worked during the reporting period	Approximately 15 hours
Contribution to the Program/Project	Serves as a liaison between STRIDE and his university
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

Georgia Institute of Technology
 Randall Guensler, Ph.D., Professor
 Email: randall.guensler@ce.gatech.edu

Name	Michael Hunter, Ph.D.
Program/Project Role	STRIDE Institutional Representative, Georgia Institute of Technology
Number of hours worked during the reporting period	Approximately 15 hours
Contribution to the Program/Project	Serves as a liaison between STRIDE and his university
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

Mississippi State University
 Burak Eksioglu, Ph.D., Associate Professor
 E-mail: beksioglu@ise.msstate.edu

Name	Burak Eksioglu, Ph.D.
Program/Project Role	STRIDE Institutional Representative/Mississippi State University
Number of hours worked during the reporting period	Approximately 15 hours
Contribution to the Program/Project	Serves as a liaison between STRIDE and his university
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

North Carolina State University
 Downey Brill, Ph.D., Professor
 E-mail: brill@ncsu.edu

Name	Downey Brill, Ph.D.
Program/Project Role	STRIDE Institutional Representative/North Carolina State University
Number of hours worked during the reporting period	Approximately 15 hours
Contribution to the Program/Project	Serves as a liaison between STRIDE and his university
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

University of Alabama at Birmingham
 Virginia Sisiopiku, Ph.D., Associate Professor
 E-mail: vsisiopi@uab.edu

Name	Virginia Sisiopiku, Ph.D.
Program/Project Role	STRIDE Institutional Representative/University of Alabama at Birmingham
Number of hours worked during the reporting period	Approximately 15 hours
Contribution to the Program/Project	Serves as a liaison between STRIDE and her university
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

University of Florida
 Ruth Steiner, Ph.D., Associate Professor
 E-mail: rsteiner@dcp.ufl.edu

Name	Ruth Steiner, Ph.D.
Program/Project Role	STRIDE Institutional Representative/University of Florida
Number of hours worked during the reporting period	Approximately 15 hours
Contribution to the Program/Project	Serves as a liaison between STRIDE and her university
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

University of North Carolina
 Daniel Rodriguez, Ph.D., Associate Professor
 E-mail: danrod@email.unc.edu

Name	Daniel Rodriguez, Ph.D.
Program/Project Role	STRIDE Institutional Representative/University of North Carolina at Chapel Hill
Number of hours worked during the reporting period	Approximately 15 hours
Contribution to the Program/Project	Serves as a liaison between STRIDE and his university
Funding Support	STRIDE
Collaborated with individual in foreign country	n/a
Country(ies) of foreign collaborator	n/a
Traveled to foreign country	n/a
If traveled to foreign country(ies), duration of stay	n/a

What other organizations have been involved as partners?

Florida Department of Transportation (FDOT)
 Alabama Department of Transportation (ALDOT)
 Georgia Department of Transportation (GDOT)
 Mississippi Department of Transportation (MDOT)
 North Carolina Department of Transportation (NCDOT)

Have other collaborators or contacts been involved?

Other UTCs in the region (GaTech, Mississippi State University, and University of South Florida)

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?*

Increased focus on the safety, livability, and economic competitiveness for the southeast region of the US. Increased collaboration between the STRIDE partner universities on these topics. Increased emphasis on educational materials related to these topics, and sharing of educational and workforce development resources.

- *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?*

Enhanced coordination of workforce development activities between the partner universities. The following K-12 activities will be shared and offered by FIU, NCSU, UAB, MSU, and UF:

- Hosting family engineering nights at elementary and middle schools
- LEGO educational workshops
- Transportation career day

The STRIDE Transportation Research Internship Program (TRIP), originally developed under the CMS will continue to be offered. This year, a student from UAB was selected to go to the University of Florida for his internship, and a student from UF was selected to go to FIU.

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

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?*

Findings and products from the CMS will be offered in the form of workshops, webinars, and short courses. Similarly, a plan for disseminating STRIDE products will be developed and implemented.

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

Increased collaboration between academic institutions; 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)

- Website – the STRIDE website is currently being finalized and will be live around the middle of July 2012
- Directory of Key Center Personnel – will be included in the STRIDE website
- Financial Report:
 - Federal Financial Report – this report will be 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

List of Selected Projects and PIs (STRIDE 2012)

The following projects were selected for funding. The asterisk next to the project title indicates collaborative effort between two or more partner universities.

A Regional Land use Transportation Decision Support Tool for Mississippi (2012-003S)*
Brian Morton, Ph.D.
University of North Carolina – Chapel Hill
\$120,380

Engineering: It's for Girls Too! (2012-009S)*
James Martin, PE
North Carolina State University
\$38,895

Emissions Modeling and Integration into Traffic Micro-simulation (2012-014S)*
Scott Washburn, Ph.D., PE
University of Florida
\$251,764

Livability Considerations for Simulation-Based Performance Assessment of Non-motorized Transportation Modes
Bastian Schroeder, Ph.D. (2012-016S)*
North Carolina State University
\$315,148

Quantifying the Costs of School Transportation (2012-022S)*
Noreen McDonald, Ph.D.
University of North Carolina – Chapel Hill
\$250,313

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

Siva Srinivasan, Ph.D.
University of Florida
\$77,790

Development of Pedestrian and Bicycle Transportation Course Modules (2012-028S)*

Daniel Rodriguez, Ph.D.
University of North Carolina – Chapel Hill
\$25,750

Developing a New Course for Public Transportation Education (2012-029S)*

Kari Edison Watkins, Ph.D.
Georgia Institute of Technology
\$70,000

Consequence Based Route Selection for Hazardous Material Cargo: GIS-Based Time Progression of Environmental Impact Radius of Accidental Spills (2012-036S)*

Berrin Tansel, Ph.D.
Florida International University
\$70,000

Investigation of ATDM Strategies to Reduce the Probability of Breakdown (2012-042S)*

Mohammed Hadi, Ph.D.
Florida International University
\$190,792

Development of Graduate Level Course on Sustainable Asphalt Pavements (2012-049S)*

James R. Willis, Ph.D.
Auburn University
\$47,837

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

Robert W. Peters, Ph.D.
University of Alabama - Birmingham
\$45,809

Automated Sidewalk Quality and Safety Assessment System (2012-067S)*

Randall Guensler, Ph.D.
Georgia Institute of Technology
\$196,667

Signalized Intersection Simulation Program for Education (2012-076S)

Scott Washburn, Ph.D., PE
University of Florida
\$34,212

Analyzing the impact of Carbon Regulatory Mechanisms on Supply Chain Management (2012-078S)*

Sandra D. Eksioglu, Ph.D.

Mississippi State University

\$128,629

Engaging Engineering Students with Transportation Safety: an Educational Module (2012-085S)

Lesley Strawderman, Ph.D.

Mississippi State University

\$2,610

Comparative Analysis of Dynamic Pricing Strategies for Managed Lanes (2012-089S)*

Jorge Laval, Ph.D.

Georgia Tech

\$204,526

A Naturalistic Driving Study across the Lifespan (2012-095S)*

Despina Stavrinos

University of Alabama - Birmingham

\$125,071