

Program Progress Performance Report for University Transportation Centers

U.S. Department of Transportation
Research and Innovative Technology Administration
Federal Grant No. 69A3551747104

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

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Project Grant Period: 11/30/16 – 5/30/17

Reporting Period End Date: June 30, 2017

Reporting Term, Quarterly: PPPR #1



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

1. ACCOMPLISHMENTS (What was done? What was learned?)

- a) **What are the major goals of the program?** The STRIDE Center will focus on developing novel strategies for reducing congestion in the southeast and nationally by considering new technologies in vehicles, telecommunications, shared autonomy in transportation, driver/traveler behavior and financial constraints. To do this, we will focus on five research thrusts: Technology, Management, Data, Design and Users. To implement the research products developed from these strategies and to make them available to the practitioner community, the STRIDE Center will work closely with state DOTs in the region and other entities via the Center' technology transfer, education and workforce development activities.
- b) **What was accomplished during these goals?** The STRIDE Center is in the process of establishing master agreements with the consortium members and initiating the 10 projects outlined in our proposal. We anticipate this process should be finalized by the end of July or early August 2017. The list of Year 1 projects is provided on page 5.

UF has been working with the Florida Department of Transportation (FDOT) and the City of Gainesville to develop a testbed for advanced transportation technologies (i-STREET) on the UF campus and the surrounding area to develop advanced technologies (e.g., connected and autonomous vehicles, smart devices, and sensors) invented at UF, with STRIDE partners, or in concert with industry or national leaders, and to create a model nationally and internationally for operationalizing advanced technologies to enhance transportation.

- c) **What opportunities for training and professional development has the program provided?** Under its previous grant, which was completed on June 30, 2017, the STRIDE center offered numerous workshops and webinars, and organized several professional development events and conferences. The STRIDE Center has an extensive record of creating workshops and webinars related to products stemming from the 2012 STRIDE grant. One of the last activities under the 2012 STRIDE grant was a webinar series, in which five webinars were held from May 12, 2017 to June 23, 2017. A one-day on-site seminar showcase (at the University of Florida) was held on June 2nd and included presentations related to six different research topics. Two additional workshops were held in Orlando and Tallahassee on June 15, 2017 and June 16, 2017 on School Siting & Collaboration.
- d) **How have these results been disseminated?** The STRIDE Center has used Constant Contact, an email marketing tool, to disseminate completed research, and has posted this information on the STRIDE website (<https://stride.ce.ufl.edu/>), our Facebook page, and Twitter. Numerous publications have been produced from the 2012 STRIDE grant, which are posted on our website. STRIDE researchers have presented the results of our work at various conferences nationally. We will continue to disseminate research results produced by STRIDE using these channels.
- e) **What do you plan to do during the next reporting period to accomplish the goals and objectives?** It is expected that all Year 1 STRIDE research projects will be ongoing by the next reporting period. In the meantime, the STRIDE Center plans to host and sponsor the following activities:
- i. The UTC Conference for the Southeastern Region at the University of Florida in November 2017
 - ii. The WTS Transportation Symposium on Smart Cities

- iii. We will host several transportation seminars for students, faculty and staff at several member universities
- iv. We will invite a distinguished speaker to visit and present a seminar or a workshop sometime during the Fall 2017 semester.

2. PRODUCTS (What has the program produced?)

- a) **Publications, conference papers, and presentation** – Nothing to report; the projects have not officially begun as we are still trying to establish the master agreements.
- b) **Website(s) or other Internet site(s)** – The STRIDE Center has a new website: <https://stride.ce.ufl.edu/>. It also has a Facebook (<https://www.facebook.com/southeasterntanportationcenter>) and Twitter page (https://twitter.com/STRIDE_UTC),
- c) **Technologies or techniques** – Nothing to report
- d) **Inventions, patent applications and/or licenses** - Nothing to report
- e) **Other products, such as data or databases, physical collections, audio or video products, software or NetWare, models, educational aids or curricula, instruments, or equipment** – Nothing to report.

3. Participants & Collaborating Organizations (Who has been involved?)

Below are the organizations that the STRIDE Center and its consortium members already have a relationship with. Most state DOTs provide cost-share while other entities provide a variety of contributions (in-kind, facilities, collaborative research, personnel exchanges).

Organization Name	Location of Organization	Contribution Type
Alabama Department of Transportation		Cost-share
Florida Department of Transportation	Tallahassee, Fla.	Cost-share
Georgia Department of Transportation	Forrest Park, Ga.	Cost-share
North Carolina Department of Transportation	Raleigh, NC	Cost-share
City of Gainesville	Gainesville, FL	Various
Jacksonville MPO	Jacksonville, Fla.	Various
LYNX Transit Agency	Orlando, Fla.	Various
Orlando-Orange County Expressway Authority	Orlando, Fla.	Various
Florida Highway Patrol	Florida	Various
Kittelson & Associates	Various locations in the U.S.	Various
Cambridge Systematics	Various locations in the U.S.	Various
FDOT Districts 2, 4, 5, & 6	Lake City, Ft. Lauderdale, Deland and Miami	Various

Atlanta Regional Commission		Various
Cobb County	Georgia	Various
City of Atlanta	Georgia	Various
Community Improvement Districts (Buckhead, Cobb, Perimeter)	Georgia	Various
Atlanta Chamber of Commerce	Atlanta, Ga.	Various
Oak Ridge National Labs	Tennessee	Various
U.S Army Corp of Engineering	Vicksburg, Miss.	Various
Regional Planning Commission of Greater Birmingham	Birmingham, Ala.	Various
City of Birmingham	Birmingham, Ala.	Various
IBM (Smarter Cities Challenge)		Grant i-STREET
The Triangle Regional Model Service Bureau	North Carolina	Various
Durham-Chapel Hill Carrboro MPO	North Carolina	Various

4. Impact (What is the impact of the program? How has it contributed to transportation education, research and technology transfer?)

- a) **Development of the principal disciplines of the project** – Nothing to report yet because the projects have not begun. However, researchers affiliated with the STRIDE 2012 grant have previously collaborated across the southeastern U.S. on various projects and activities.
- b) **Other disciplines** - Nothing to report. Under the STRIDE 2012 grant, projects have involved computer scientists, mechanical engineers, urban planners, civil engineers, psychologists. It is expected that STRIDE will continue to engage in interdisciplinary activities throughout the life of the grant.
- c) **Development of human resources** - Nothing to report. Some of our consortium members are engaging/will be engaged in K-12 activities.
- d) **Physical, institutional, and information resources at the university and/or other partner institution** - Nothing to report.
- e) **Technology transfer (include transfer of results to entities in government or industry, adoption of new practices, or instances where research has led to the initiation of a start-up company)** - Nothing to report. Under the STRIDE 2012 grant, a series of webinars, seminars and workshops have been held, and it is expected this will continue through the STRIDE 2016 grant.
- f) **Society beyond science and technology** - Nothing to report. Under the 2012 STRIDE grant, various tools and methods were developed and made available to transportation practitioners throughout the U.S., including strong relationships in academia and the public and private sectors. It is expected that these relationships will remain while forging new ones as well across the Southeastern U.S.

5. 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

6. Special Reporting Requirements

- Nothing to report

STRIDE Year 1 List of Projects:

Congestion Management in the Era of Decentralized Traveler Information

Lead PI: Dr. Mike Hunter, Georgia Institute of Technology

Team: Dr. Mohammed Hadi, Florida International University; Dr. A. Guin, Georgia Institute of Technology; Dr. Billy Williams, North Carolina State University; Dr. Feng Wang, Jackson State University

Technology Influence on Travel Demand & Behavior

Lead PI: Dr. Virginia Sisiopiku, University of Alabama at Birmingham

Team: Dr. Noreen McDonald, University of North Carolina at Chapel Hill; Dr. Ruth Steiner, University of Florida; Dr. Mohammed Hadi, Florida International University

Performance Measurement & Management Using Connected & Automated Vehicle Data

Lead PI: Dr. Mohammed Hadi, Florida International University; Dr. Nagui Rouhpail, North Carolina State University; Dr. Virginia Sisiopiku, University of Alabama at Birmingham; Dr. Siva Srinivasan, University of Florida; Dr. Sanjay Ranka, University of Florida

Traffic Management with Autonomous and Connected Vehicles

Lead PI: Dr. Lily Elefteriadou, University of Florida

Team: Dr. Mike Hunter, Georgia Institute of Technology; Dr. C. White, Georgia Institute of Technology; Dr. Sanjay Ranka, University of Florida; Dr. Carl Crane, University of Florida

Predicting Congestion: The Challenge of Shifting Travel Behavior on Estimating Trip Generation

Lead PI: Dr. Ruth Steiner, University of Florida

Team: Dr. Noreen McDonald, University of North Carolina at Chapel Hill

Integrated Implementation of Innovative Designs

Lead PI: Dr. Nagui Rouphail, North Carolina State University

Team: Dr. Chris Cunningham, North Carolina State University; Dr. Steven Click, Tennessee Technological University; Dr. Mike Hunter, Georgia Institute of Technology; and Dr. Jeff Davis, The Citadel

Transit in the Era of Shared Mobility

Lead PI: Dr. Kari Watkins, Georgia Institute of Technology

Team: Dr. Billy Williams, North Carolina State University; Dr. Ruth Steiner, University of Florida; Dr. Noreen McDonald, University of North Carolina at Chapel Hill

Work Zone Planning, Design, & Operations

Lead PI: Dr. Rod Turochy, Auburn University

Team: Dr. Virginia Sisiopiku, University of Alabama at Birmingham; Dr. Billy Williams, North Carolina State University; Dr. James Tsai, Georgia Institute of Technology

Strategies for Mitigating Congestion in Small Urban & Rural Areas

Lead PI: Dr. Steven Click, Tennessee Technological University

Team: Dr. Siva Srinivasan, University of Florida; Dr. Mike Hunter, Georgia Institute of Technology

Freeway Management for Optimal Reliability

Lead PI: Dr. Yafeng Yin, University of Michigan

Team: Dr. Nagui Rouphail, North Carolina State University; Dr. Jorge Laval, Georgia Institute of Technology; Dr. Rod Turochy, Auburn