Semi Annual Report for University Transportation Centers

U.S. Department of Transportation
Office of the Assistant Secretary for Research and Technology (OST-R)
Federal Grant No. 69A3551747104

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

Center Director: Lily Elefteriadou, Ph.D.
Barbara Goldsby Professor of Civil Engineering
Director, STRIDE Consortium
University of Florida
512-A Weil Hall
Gainesville, FL 32611
Tel: (352) 294-7802
Fax: (352) 846-1609

Submission Date: 10/31/2022

DUNS #:969663814
EIN #: 59-6002052

Recipient Organization: U.S. Department of Transportation
Office of the Assistant Secretary for Research and Technology (OST-R)
(Dawn Tucker-Thomas, M.S., J.D., UTC Grant Manager)
1200 New Jersey Ave, S.E.
Washington, DC 20590

Project Grant Period: 4/1/2021 to 9/30/2023

Reporting Period End Date: 11/1/2022

Reporting Term or Frequency: Semi Annual

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

Contents

ACCOMPLISHMENTS 1

What are the major goals of the program? 1

What was accomplished under these goals? 1

How have the results been disseminated? 6

(Note: Dissemination activities in this section remain the same and have not changed as these activities are part of the STRIDE Center's strategy for disseminating its research results and products.) 6

What do you plan to do during the next reporting period to accomplish the goals and objectives? ... 7

SELECTED PARTICIPANTS & COLLABORATING ORGANIZATIONS 7

OUTPUTS 8

Products 9

Completed Technical Reports 10

Publications, Conference Papers, Posters& Presentations 11

OUTCOMES 12

Trainings & Professionals Trained 13

IMPACTS 14

Stakeholder Meetings 14

Product Adoption 16

CHANGES/PROBLEMS 17

SPECIAL REPORTING REQUIREMENTS 17

STRIDE Year 1, Year 2, Year 3, Year 4, Year 5, and Year 6 List of Projects 17

The complete list of projects can be found at: https://stride.ce.ufl.edu/stride-research/active-research-projects/) 17

Cost Share Projects 17

ACCOMPLISHMENTS

What are the major goals of the program?

- To develop 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 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 continues to work closely with state DOTs in the region and other stakeholders via the Center's technology transfer, education, and workforce development activities to disseminate the results of our work and facilitate implementation.

What was accomplished under these goals?

- **Careers in Transportation Course (funded by STRIDE with matching funds by CUTC):** The course is being taught this fall semester (2022). We have seven undergraduate students who are registered for university credit and 58 students who have registered for the Certificate of Completion option. The class is comprised of 48 college students and 17 working professionals from the private and public sectors. Each week, students learn about a transportation-related topic and guest speakers talk about their career pathways and the important skills needed to be successful in the transportation industry. A total of 36 speakers from the transportation industry are participating as guest speakers in this class. The course materials developed by STRIDE, including the syllabus and the list of guest speakers and other resources can be found at https://stride.ce.ufl.edu/education/stride-careers/ . This class was made possible by a grant from the Council of University Transportation Centers (CUTC) under their New Initiatives program. The grant was awarded January 2022 and the ultimate goal is to offer this class at other universities around the country using the resources developed in this project, in order to increase the transportation workforce.
- ***Update on Year 1 projects: YEAR 1 PROJECTS ARE* COMPLETED.** All 10 research projects are now completed. All of these reports, including the technology transfer reports (TRRs)s, the project briefs (PBs), and the webinars, are posted to the STRIDE Center's projects webpage and shown as "Completed". All these completed projects have an associated TTR, PB, and a recorded webinar, and their data have been uploaded to the STRIDE Center's community page in the Zenodo data repository. The 10 completed projects for Year 1 are:
    - Project A - *Impact of Smartphone Applications on Trip Routing and Congestion Management*
    - Project B - *Technology Influence on Travel Demand and Behaviors*
    - Project C - *Performance Measurement and Management Using Connected and Automated Vehicle Data*
    - Project D - *Evaluation of Advanced Vehicle and Communication Technologies through Traffic Microsimulation*
    - Project E - *Predicting Congestion: The Challenge of Shifting Travel Behavior on Estimating Trip Generation, Traffic and Other System Impacts*
    - Project F - Integrated Implementation of Innovative Intersection Designs
    - Project G - *Transit in the Era of Shared Mobility*
    - *Project H - Strategies for Mitigating Congestion in Small Urban and Rural Areas*
    - Project I - *Freeway Management for Optimal Reliability*
    - *Project J – Improving Work Zone Mobility through Planning, Design, and Operations*

- ***Update on Year 2 projects:*** Eleven out of 17 projects are completed. The final reports (including the TRRs, the PBs, and the webinars) have been posted to the STRIDE Center's project webpage. We have also disseminated the results of these projects via Constant Contact, and we have sent them to TRB for

inclusion into their e-newsletter. All these completed projects have an associated TTR, PB, and a recorded webinar. The PIs have uploaded the data for these projects into the Zenodo repository. The 11 completed projects for Year 2 are:

- Project A2 - Changing Access to Public Transportation & the Potential for Increased Travel
- Project B2 - *Evaluation of Work Zone Mobility by Utilizing Naturalistic Driving Study Data*
- Project C2 –*Urban Freight & Planning*
- Project D2 - *UF & UAB's Phase I Demonstration Study: Older Driver Experiences with Autonomous Vehicle Technology*
- Project E2 - *Establishing A Dual Generational Modality Dataset: Comparing the ride-sharing adoption trends and perspectives of consumers from two generational cohorts, Millennials and Gen X'ers*
- Project F2 –*Discovering Potential Market for the Integration of Public Transportation & Emerging Shared-Mobility Services*
- *Project G2 - Quantitatively Evaluate Work Zone Driver Behavior Using 2D Imaging, 3D LiDAR, and Artificial Intelligence in Support of Congestion Mitigation Model Calibration and Validation (recently completed)*
- Project H2- *Fly-By Image Processing for Real Time Congestion Mitigation*
- *Project K2 - Assessing and Addressing Deficiencies in the HCM Weaving Segment Analyses (this report has been sent to the TRB Newsletter and accepted for publication)*
- *Project M2 - Comparing and Combining Existing and Emerging Data Collection and Modeling Strategies in Support of Signal Control Optimization and Management*
- Project O2 - *Macroscopic Fundamental Diagram Approach to Traffic Flow with Autonomous /Connected Vehicles*.

Two projects have completed the peer review process and we are awaiting the finalized report and the responses to the reviewer comments. Those are:

- Project I2 – Mitigating Network Congestion by Integrating Transportation Network Companies and Urban;
- Project L2 - Understanding Relationships Between the Built Environment, Physical Activity, Public Health, Urban Mobility, and Traffic Congestion: Graduate Curriculum Development

One project is currently out on peer review:

- Project J2 - Real-Time Data-Based Decision Support System for Arterial Traffic Management Transit

Three projects are ongoing:

- Project N2- Data Fusion for Signalized Arterial Performance Measurement (to be completed December 2022)
- Project P2 – Development of Guidance for Scheduling of Freeway Work Zones to Minimize Congestion Impacts (to be completed March 2023)
- Project Q2 -Enabling the Shared Transportation Revolution (to be completed December 2022)

All ongoing projects in Year 2 are monitored by quarterly reports and by communicating with PIs by phone and email. Projects which have delivered a draft final report are considered completed, although each project is currently undergoing a peer review. STRIDE Center staff work with the PI on remaining deliverables (the TTR, PB scheduling a webinar, and ensuring their data is uploaded into the Zenodo repository). Center staff are also working on ensuring all final reports are 508- compliant for accessibility and that they are formatted correctly.

- **Update on Year 3 projects:** In Year 3, there are a total of 11 projects. Nine of these projects are completed:

  - *Project A3 - UF & UAB's Phase 2 Demonstration Study: Developing a Model to Support Transportation System Decisions considering the Experiences of Drivers of all Age Groups with Autonomous Vehicle Technology*
  - *Project B3 – Micro-Mobility as a Solution to Reduce Urban Traffic Congestion*
  - *Project C3 – Emerging Micromobility Services for the Transportation Disadvantaged*
  - *Project B3 - Locating and Costing Congestion for School Buses and Public Transportation*
  - *Project G3 - Utilization of Connectivity and Automation in Support of Transportation Agencies' Decision Making*
  - *Project H3 - Smartphone-Based Incentive Framework for Dynamic Network-Level Traffic*
  - *Congestion Management*
  - *Project I3 - Evaluation of Work Zone Mobility by Utilizing Naturalistic Driving Study Data, Phase II*
  - *Project J3 - Identifying and Mitigating Congestion Onset*
  - *Project K3 - Traffic Congestion Identification and Prediction based on Image Processing and Deep Learning Methods*

  Project D3 (*Traffic Congestion Identification and Prediction based on Image Processing and Deep Learning Methods)* is currently in the peer review process. The comments have been sent to the PI and a finalized report is expected by December 2022. We are still waiting for a draft final report for Project F3 (*Traffic Congestion Identification and Prediction based on Image Processing and Deep Learning Methods)*, which will be sent out for peer review. It is expected that this project will require a no-cost extension to March 2023. A list of Year 3 projects is available at https://stride.ce.ufl.edu/stride-research/active-research-projects/. Once completed, final reports (including the TRRs, the PBs, and the webinars) will be posted to the STRIDE Center's project webpage. The results will be disseminated via Constant Contact and final reports will be sent to TRB for inclusion into their e-newsletter. All completed projects will have an associated TTR, PB, and a recorded webinar. The PIs will upload their data into the Zenodo repository.

- **Update on Year 4 projects:** In Year 4 there are a total of six projects. As of the last reporting period, there are still two projects that have been completed as listed below.
  - *Project C4 - Establishing A Dual Generational Modality Dataset: Comparing the ride-sharing adoption trends and perspectives of consumers from two generational cohorts, Millennials and Gen X'ers*
  - *Project F4 - Automatic Safety Diagnosis in Connected Vehicle Environment*

  A draft final report for Project D4 *(Mobility-on-Demand Transit for Smart, Sustainable Cities)* was delivered on 10/9/2022. That report is currently out on peer review. It is expected that the project will need a no-cost extension to at least the end of February 2023 or March 2023 to allow time for the research team to finalize the report and provide responses to the reviewer comments. The rest of the projects are ongoing. A list of Year 4 projects is available at https://stride.ce.ufl.edu/stride-research/active-research-projects/. Once completed, final reports (including the TRRs, the PBs, and the webinars) will be posted to the STRIDE Center's project webpage. The results will be disseminated via Constant Contact and final reports will be sent to TRB for inclusion into their e-newsletter. All completed projects will have an associated TTR, PB, and a recorded webinar. The PIs will upload their data into the Zenodo repository.

- **Update on Year 5 projects: Year 5 has a total of nine projects. Out of those, six are currently ongoing, and three are in the peer review process. Below is the status for each:**

  - Project A5 – Barriers and Facilitators of People with Disabilities in Accepting and Adopting Autonomous Shared Mobility Services (STATUS: Currently working on the draft final report)
  - Project D5 - Overcoming Barriers to Freight & Logistics Firm Collaboration with Urban Planning (STATUS: We are waiting on one more peer review so that we can send the reviewer comments to the PI)
  - Project E5 – Transportation Workforce Development for State DOTs to Address Equity, Diversity, and Inclusion in the Southeast Region (STATUS: Draft final report has been sent to reviewers)
  - Project F5 - Transportation Workforce Development Related to Traffic Signal Systems – Phase II (STATUS: Ongoing)
  - Project G5 – Engineering Careers from a Unique Summer Bridge Program (STATUS: Ongoing)
  - Project H5 (supplement to J3, Phase 2) - Identifying and Mitigating Congestion Onset (Phase II) (STATUS: Ongoing)
  - Project I5 - Evaluation of Advanced Vehicle & Communication Technologies through Traffic Microsimulation; Project J5 – Assessing and Addressing Deficiencies in the HCM Weaving Segment Analyses/Phase II (STATUS: Ongoing)
  - Project J5 - Assessing and Addressing Deficiencies in the HCM Weaving Segment Analyses- Phase II (STATUS: Draft final report has been sent to reviewers)
  - Project K5 - A Better Understanding of Shopping Travel in the U.S. (STATUS: Ongoing)

All Year 5 projects are posted to the Active Research Project page at https://stride.ce.ufl.edu/stride-research/active-research-projects/. Once completed, the final reports (including the TRRs, the PBs, and the webinars) will be posted to the STRIDE Center's project webpage. The results will be disseminated via Constant Contact and final reports will be sent to TRB for inclusion into their e-newsletter. All completed projects will have an associated TTR, PB, and a recorded webinar. The PIs will upload their data into the Zenodo repository.

- **Update on Year 6 Projects:** All 15 projects are currently ongoing. These projects began in spring 2022. Below is a complete list of these projects.
  - *A6 - Public Microtransit Pilots: System Assessment and Equity Considerations Based on the NC Experience*
  - *B6 - Optimal Charging Station Planning to Adapt Mass Adoption of Electric Vehicles under Both Normal and Evacuation Scenarios*
  - *D6 - Centralized Clearinghouse for Transportation Workforce Development Resources for the Southeastern Region*
  - *E6 - State DOT Policies Affecting Adaptive Street Use*
  - *F6 - Simulating a Shift to E-Delivery: Impacts on VMT*
  - *G6 - Phase 2: Evaluating Signal Timing Planning Options in Terms of Coordination between Successive Signals at Continuous Flow Intersections*
  - *H6 - Utilization of Connectivity and Automation in Support of Transportation Agencies' Decision Making – Phase 2*
  - *I6 - Macroscopic Fundamental Diagram Estimation using Loop-Detector Data (subcontracted)*
  - *J6 - Implementation Project: Planning for Urban Freight*
  - *K6 - A Curriculum for Transportation Equity*
  - *L6 - Locating and Costing Congestion for School Buses and Public Transportation, Phase II*

- *M6 - Analysis of Impacts of Pavement Quality Deterioration on Recurring Traffic Congestion*
- *O6 - Real-time Safety Diagnosis System for Connected Vehicles Using Parallel Computing*
- *P6 - Equitable Artificial Intelligence in Transportation*
  R6 WKF - STRIDE K-12 Curriculum: Exploring Innovations in Transportation

These projects are scheduled to be completed by summer 2023, but due to the delays from the COVID-19 pandemic, they may need to be extended to Spring 2024.

- **STRIDE Ongoing and Completed Projects:** A list of all STRIDE projects (ongoing and completed) can be found on the STRIDE website at https://stride.ce.ufl.edu/research-2/active-research-projects/; they are also included at the end of this report. We have created project-specific web pages for each STRIDE-funded project to provide the required Project Information sheets, links to final reports, as well as links to recorded webinars, products, related news, and any other information that relates to the project.
- **Students Supported by STRIDE:** Fifty-six masters and Ph.D. students were supported by STRIDE during the reporting period.
- **STRIDE Spring 2022 Newsletter:** The STRIDE Center's Spring 2022 newsletter was released June 7, 2022. The newsletter began with a list of the new Year 6 projects that were recently selected, followed by highlighting four products which resulted from STRIDE funded projects. The newsletter featured the Careers in Transportation Course, a recently completed Year 4 project (Project C4 – A Framework for the Development of a Diverse Transportation Workforce in the Southeast Region) and an article on a Future Cities Club mentored by Ondine Wells, STRIDE's Workforce Development/K-12 Coordinator. The Spring newsletter also highlighted faculty researchers and students, student awards, and upcoming STRIDE webinars. The entire Spring 2022 newsletter can be viewed at https://conta.cc/3xnTyde.
- **STRIDE Training for Implementation of Advanced Technologies through I-STREET:** STRIDE is planning an I-STREET-related training program, funded by FDOT through a match project, which will include lessons learned on the implementation of advanced technologies. The program will provide course offerings on topics related to autonomous and connected vehicles, data analytics, and sensors for transportation applications.
- **Work in Progress for STRIDE Fall 2022 Newsletter:** The next STRIDE newsletter (spring 2021) is scheduled to be released mid-December 2022. STRIDE staff is in the process of gathering news items, research highlights, student spotlights, and other items of interest.
- **Research Project Briefs:** STRIDE continues to produce 2-page Project Briefs for each completed project, which summarize the project products and findings. STRIDE also continues to create final report "packages" which contain the final report, the project brief, the technology transfer report, and links to associated webinars. This final report package is sent via Constant Contact to transportation professionals, students, alumni, and other stakeholders. For a complete list of the Project Briefs, visit https://stride.ce.ufl.edu/technology-transfer/products/.

<u>List of Awards and Recognitions</u>

- Matteo Saracco, Georgia Institute of Technology, received the HDR Transportation Scholarship Program Award
- Mostafa Jafarzadehfadaki, University of Alabama at Birmingham, received the 2021-2022 Outstanding International Ph.D. Student Award for the UAB School of Engineering.

<u>K-12 Outreach / Workforce Development Activities</u>

- STRIDE (at UF) was awarded a grant from the CUTC New Initiative Projects to develop a new undergraduate course on Careers in Transportation. The course is being piloted Fall 2022. During the semester, 37 speakers are presenting information about their profession and their personal career path. Students will also complete an elevator pitch, a personal Odyssey Plan, an informational interview, and a Professional Profile project to develop their own skills. Weekly assignments include readings, videos,

podcasts, and activities related to transportation issues. UF students registered for the class will receive 1-credit. The course was also advertised to the CUTC list and was made open to students from other universities around the country. Non-UF students who complete a set of requirements will receive a Certificate of Completion.

- The University of Florida and The Citadel are developing three lessons on transportation for middle and high school students that feature unique topics not currently covered in other transportation curricula (complete streets, curb management, and transportation apps). The curriculum was piloted in summer 2022 and is currently being revised.
- The Citadel completed two weeklong sessions of a virtual Tour of Engineering summer camp for twenty-five 8-10th grade students.
- Dr. Kejun Wen, assistant professor at the Department of Civil and Environmental Engineering at Jackson State University serves as the Program Director for the Mississippi Summer Transportation Institute (MSTI) for high school students. The summer 2022 session engaged 24 students in activities and field visits to learn about transportation career opportunities and develop college preparatory academic skills.
- The University of Florida led workshops on autonomous transportation, transportation careers, complete streets, and engineering design for 24 middle and high school students participating in the summer CROP camp. CROP (College Reach Out Program) focuses on increasing the number of under-represented students who are successfully admitted to a postsecondary program.

How have the results been disseminated?

(Note: Dissemination activities in this section remain the same and have not changed as these activities are part of the STRIDE Center's strategy for disseminating its research results and products.)

- The STRIDE Center continues to send final reports to TRB for inclusion in their weekly E-Newsletter to disseminate research results and products to the transportation community.
- Product Briefs are created which summarize the research and any associated products. They are incorporated into a Constant Contact email for wider dissemination.
- The Product Briefs are created to promote the various products developed from STRIDE- funded projects and can be found at https://stride.ce.ufl.edu/technology-transfer/products/.
- Twenty-four briefs have been completed to-date. All briefs are available on the STRIDE website on the Products page (https://stride.ce.ufl.edu/technology-transfer/products/).
- The STRIDE Center uses Facebook, Twitter, LinkedIn, and Constant Contact to disseminate the results of research, to raise awareness about ongoing research projects, to promote opportunities for students (conferences, symposia, poster sessions), to advertise upcoming webinars and distinguished speakers, and to provide information on the various K-12 outreach activities taking place at the Center.
- Final reports are posted on the STRIDE website and can be found on each project-specific page. Visit the Research Project page at https://stride.ce.ufl.edu/stride-research/final-reports/. (Note: Both active and completed projects are posted on this page)
- Project PIs publish the results of their research in refereed journal publications, and they regularly present research in progress at technical conferences.
- STRIDE organizes webinars for each research project, which are recorded and are available through our YouTube channel.
- Project PIs regularly present their research to various stakeholders. The STRIDE Center tracks interactions between project PIs (and their teams) and stakeholders via progress reports, email communication, and through the Technology Transfer reports due at the completion of each project (in addition to the final/technical report). STRIDE is continuously encouraging researchers to work closely with stakeholders to obtain feedback on their research scope and methodology and to assist with the dissemination of their research findings.
- STRIDE continues to update the project-specific pages on its website. The project-specific pages provide a comprehensive list of all activities and products related to each STRIDE-funded project. These include the following: final reports, webinars, workshops, technology transfer reports, project briefs, presentations, and publications. For an example of such a page visit the Research Projects page at

https://stride.ce.ufl.edu/stride-research/active-research-projects/ . (Note: Both active and completed projects are posted on this page)

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

Our focus during the next reporting period is to complete all projects in Years 2, 3, and 4. Although the COVID-19 pandemic created some delays and setbacks, our PIs are working diligently on their projects.

- **Year 2 Projects:** Work with PIs to finalize Projects I2, J2, and L2.
- **Year 3 Projects:** We are expecting a final report for Project D3 by early December. We are expecting a draft final report for Project F3 early November which will need to undergo the peer review process. We anticipate a final report for this project by the end of February 2023. As soon as Project F3 is completed, we can close out this year.
- **Year 4 Projects:** Out of the six projects in this year, two will expire in March 2023 and two are completed. We will work with the PIs to ensure the remaining two projects (which may need a no-cost extension to carry out the peer review process) are finalized by February 2023.
- **Years 5 and 6 Projects:** We will continue to monitor the progress of projects for these two years. There are three projects from Year 5 (D5, E5, and J5) which are in the peer review process. Year 6 projects just began this year, and none are completed yet.
- We will publish the STRIDE Center's Fall 2022 newsletter by mid-December 2022.
- Continue to coordinate all consortium activities with the STRIDE Internal Steering Committee via monthly videoconferences.
- STRIDE will continue to monitor research projects through progress reports on a quarterly basis. Each report is reviewed to ensure adequate progress is made, to collect metrics, and for invoicing purposes.
- Continue to develop 2-page Project/Product Briefs as projects are completed.
- Continue to send finalized reports to TRB for inclusion into their newsletter and on various other social medial platforms (LinkedIn, Twitter, FB) associated with the STRIDE Center and the University of Florida Transportation Institute.
- Continue to host webinars related to on-going or completed STRIDE projects. A schedule of the upcoming webinars is provided at https://stride.ce.ufl.edu/technology-transfer/workshops-webinars-conferences/.

SELECTED PARTICIPANTS & COLLABORATING ORGANIZATIONS

Below is a list of selected organizations that the STRIDE Center and its consortium members have collaborated with in the past 6 months (the complete list far exceeds the page limit for this report). Most state DOTs provide cost-sharing, while other entities provide a variety of contributions (in-kind, facilities, collaborative research, personnel exchanges, etc.)

Project #	Name of Organization	Location	Type of Contribution(s)
C, A4, D3	ALDOT		matching funds for UAB; stakeholder; data and project info
I2	Alex Khan, Qualtrics	Illinois	collaborative research
N2	Bluemac Analytics	Oregon	Vendor Partner
D3	City of Birmingham Traffic Engineering	Birmingham, AL	Data and project information
A5	City of Gainesville	Gainesville, FL	AV shuttle
N2	City of Raleigh	North Carolina	Data Sharing, stakeholder
E3, L6	Durham, NC Public Schools	Durham, NC	anonymous school bus route data
N2, G3, I2	FDOT	Florida	Data Sharing, stakeholder

J3			
D4	Florida Atlantic University - Louis Merlin	Boca Raton, FL	collaborative research
J3			
A4, N2, E4	GDOT	Georgia	cost share
L6	GoDurham		stakeholder
Q2	Midtown Alliance		In-Kind contribution of curb video data
J3			
C2, A4, N2, E4	NCDOT		collaborative exchange; stakeholder; data sharing
N2	PennDOT		stakeholder
I2	Qualtrics - Jeffrey Becker	IL	collaborative research
J6	Raleigh Parking		stakeholder
D3	Regional Planning Commission of Greater Birmingham	Birmingham, AL	Data and project information
A2, L6	Research Triangle Regional Public Transportation Authority (GoTriangle)	Raleigh NC	In-Kind (data), stakeholder
D3	Sain Associates, Inc.	Birmingham, AL	Data and collaboration on analysis
D4	Siva Srinivasan - University of Florida	Gainesville, FL	collaborative research
Q2	TOMNET University Transportation Center	Atlanta, GA	in-kind contribution of survey data
N2	Town of Cary	North Carolina	Data Sharing, stakeholder
Q2	TU Delft	Delft, Netherlands	Proposed collaborative research related to project goals for IIE-Graduate International Research Experience application
Q2	UC Davis	Davis, CA	Collaborative research with Giovanni Circella to understand how COVID-19 has changed lifestyles
O6	Virginia Tech	Blacksburg, VA	Participation in 5th UTC Conf.
E4	VTTI	VA	data collection

OUTPUTS

The STRIDE Center uses the following metrics to assess the OUTPUTS related to its technology transfer program. Seventy-two products and thirty-two technical reports have been completed so far. The table below summarizes those outputs. Researchers have exceeded the targets for products in Year 1, 2, and 3 thus far.

METRIC	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	**TOTAL**
	Target **/ Completed**						
Product(s): Number of new or improved tools, technologies, products, methods,	9 / **19***	18 / **34*** (1 new this period)	11 / **15*** (6 new this period)	6 / **1*** (1 new this period)	9 / **3*** (3 new this period)	15 / **0***	**72* Products**

practices, and processes to reduce congestion							
Technical Report: Number of client-based technical reports published about approaches to congestion mitigation	10 / **10***	17 / **11***	11 / **9*** (2 new this period)	6 / **2***	9 / **0***	15 / **0***	**32* Technical Reports**

* Totals are calculated from this reporting period as well as all prior reporting periods.

Products

This table summarizes the 11 products completed during the reporting period (April 1, 2022-September 31, 2022). The total number of products completed to date is 72. Twenty-four Project Briefs have been completed (some briefs feature more than one product). Project Briefs can be found on the STRIDE Product page (https://stride.ce.ufl.edu/technology-transfer/products/).

#	Product
G2	**Preliminary version of an AI-based work zone traffic and driver behavior information extraction system** The product extracts real-world work zone driver behavior and traffic information including, traffic count, classification, speed, time headway, and merging locations using widely available traffic camera footage, machine learning, and computer vision. The extracted data can be used to enhance the work zone traffic simulation to improve work zone management and to reduce work zone-related congestion.
C3	**Spatiotemporal Methodology to Compare Travel Characteristics for Low-Income and High-Income Populations** The research team developed a methodology and wrote two manuscripts on the spatial and temporal variation in travel characteristics for low-income and carless populations in comparison to higher-income populations. Data from 2001, 2009, and 2017 were compiled to develop models on the weekly number of trips completed by personal vehicle or by active travel (walking, biking) that enable us to identify differences in travel by geography (urban, suburban, rural areas) and household type (low-income carless, low-income with vehicles, higher income). The results are general for the US, but the methodology can be used by regional/local agencies interested in understanding spatiotemporal variations in travel for their region/area.
C3	**Methodology to Examine Influencing Factors for Older Adults to Adopt Shared Mobility Services** Thrust 2 The research team developed a methodology to examine the influencing factors for older adults to adopt shared mobility services and identify how their reasoning and motivations might differ from younger adults using stated preference survey data. The manuscript describing this methodology and study results is accepted for publication in the ASCE Journal of Transportation Engineering, Part A: Systems.
C3	**Manuscript: Perspectives of Care Coordinators on Transportation Barriers to Health Care** Thrust 3 The research team wrote a manuscript describing our research investigating the perspectives of care coordinators working in North Carolina on transportation barriers to health care. We conducted 16 interviews for this research. This manuscript was submitted for peer-review to a special issue of Transportation Research Part A (Policy and Practice): Characterizing Health Pandemic Impacts on Transportation Systems and the Demand for Mobility.
J3	**Onset of Congestion Detector** In the case of the first, based on Bluetooth observations from I-5 in Sacramento, the 5th percentile travel rate (min/mi) is tracked for a subject freeway segment. When the 5th percentile travel rate exceeds a threshold value (0.9 min/mi), a flag is set indicating DIC has occurred. When the difference between the 5th and 95th percentile travel rate exceeds a second threshold (0.4 sec/mi), a second flag is set indicating IIC has occurred, with or without DIC. The method produces no false negatives. (It never determines that DIC has occurred when it has not.) For DICs, the daytime percent of correct positives is 83–86%. For IICs, the percent of correct positives is lower because it is challenging to differentiate between DICs and DICs combined with IICs. The percentage of IIC events that could be more clearly classified is 23%–34%.

J3	**Speed-based Traffic State Transition Detector** Based on speed data from Atlanta, GA, this product is an algorithm that clusters system detector speeds into categories based on operating condition and then looks at transitions from one cluster to another to spot both DICs and IICs. The traffic state is characterized by a set of input feature vectors that reflect the lane dynamics and spatio-temporal conditions, was labeled as belonging to one of the two classes, pre-congestion, and non-pre-congestion. This problem formulation was tested using a set of generative and discriminative Machine Learning (ML) classifiers. The performance of these classifiers was evaluated using balanced accuracy, recall, and precision scores. Initials results demonstrated superior accuracy performance from tree-based classifiers.
J3	**Travel Rate-based System State Transition Detector** This algorithm is based on data from Tampa, uses clustering of probe travel rates to do detection of DIC and IIC in a similar manner. The analysis revealed that the traffic states could be successfully classified into six "operating condition" clusters based on speed, standard deviation of speed between vehicles, standard deviation between points, as well as the deceleration values. The machine learning-based algorithm achieves good accuracy and precision in predicting breakdowns.
F4	**Computational near-crash warning system using only the basic safety messages (BSMs) generated by the connected vehicles (CVs)** - The system determines the thresholds of normal behavior of each DVU using the periodical historical BSMs, and checks the real time BSMs against the thresholds for anomalies. With the real time BSMs, the system also detects the conflicts between two DVUs. A near-crash warning will be warranted once a conflict was detected between two DVUs while any DVU of the conflicting pair had been determined abnormal. The system can mitigate congestion by reducing crashes through giving near-crash warnings to the drivers using only the BSMs, which is a data source ignored by existing collision warning tools. The system can be used by the department of transportation and automotive makers.
D5	**Qualitative analysis of online driver comments** This product provides insight into the challenges, practices, and concerns of urban deliver drivers and the factors they encounter that contribute to phenomena like illegal parking. It is published in an open-access article, and therefore available for land use planners, transportation planners, municipalities, and last-mile shipping carriers (among others) and may help these groups to design effective interventions and policies to mitigate issues caused by delivery vehicles navigating urban spaces. Published in July 2022 in Transport Policy. (https://www.sciencedirect.com/science/article/pii/S0967070X22001949)
D5	**Scan of urban freight policies and technologies** This product catalogues policies, technologies, and interventions that either have been piloted, implemented, or could soon be piloted in urban areas to ease flows of urban freight in the last mile and reduce issues caused by last mile logistics. Published in August 2022 in ITE Journal. (https://ite.ygsclicbook.com/pubs/itejournal/2022/august-2022/live/index.html#p=27)
J5	**New, Simplified Speed and Capacity Models** The product addresses known deficiencies in the current Highway Capacity Manual (HCM) weaving segment analysis. The new capacity model eliminates the limitation of the previous capacity model for low-volume conditions. The models generate relatively lower capacities than the current HCM and should prompt operating agencies to improve the geometry of those sections sooner and mitigate the effects of impending congestion and associated safety risks.

Completed Technical Reports

The following projects are completed (all active and completed projects can be found on the STRIDE website at https://stride.ce.ufl.edu/stride-research/active-research-projects/):

- Project A-Impact of Smartphone Applications on Trip Routing & Congestion Management
- Project B -Technology Influence on Travel Demand & Behaviors
- Project C-Performance Measurement & Management Using Connected & Automated Vehicle Data
- Project D-Evaluation of Advanced Vehicle and Communication Technologies through Traffic Microsimulation

- Project E-The Challenges of Predicting Travel Behavior on Estimating Trip Generation: Local Traffic Impact Assessment in Four Southeastern and Mid-Atlantic States
- Project F-Integrated Implementation of Innovative Intersection Designs
- Project G-Transit in the Era of Shared Mobility
- Project H – Strategies for Mitigating Congestion in Small Urban & Rural Areas
- Project I-Freeway Management for Optimal Reliability
- Project J- Improving Work Zone Mobility through Planning, Design, and Operations
- Project A2-Changing Access to Public Transportation & the Potential for Increased Travel
- Project B2-Evaluation of Work Zone Mobility by Utilizing Naturalistic Driving Study Data
- Project C2-Urban Freight & Planning
- Project D2-UF & UAB's Phase I Demonstration Study: Older Driver Experiences with Autonomous Vehicle Technology
- Project E2 – Establishing a Dual Generational Modality Dataset: Comparing the Riding-Sharing Adoption Trends & Perspectives of Consumers from Two Generational Cohorts, Millennials & Gen X'ers
- Project F2-Discovering Potential Market for the Integration of Public Transportation & Emerging Shared-Mobility Services
- Project G2 – Quantitatively Evaluate Work Zone Driver Behavior using 2D Imaging, 3D Lidar, & Artificial Intelligence in Support of Congestion Mitigation Model Calibration & Validation
- Project H2-Fly-By Image Processing for Real Time Congestion Mitigation
- Project K2-Assessing and Addressing Deficiencies in the HCM Weaving Segment Analyses
- Project M2-Comparing and Combining Existing and Emerging Data Collection and Modeling Strategies in Support of Signal Control Optimization and Management
- Project O2- Macroscopic Fundamental Diagram Approach to Traffic Flow with Autonomous/Connected Vehicles
- Project A3 - UF & UAB's Phase 2 Demonstration Study: Developing a Model to Support Transportation System Decisions considering the Experiences of Drivers of all Age Groups with Autonomous Vehicle Technology
- Project B3 - Micro-Mobility as a Solution to Reduce Urban Traffic Congestion
- Project C3 – Emerging Mobility Services for the Transportation Disadvantaged
- Project E3 – Locating and Costing Congestion for School Buses and Public Transportation
- Project G3 – Utilization of Connected and Automated Vehicles in Support of Transportation Agencies' Decision Making
- Project H3 - Smartphone-Based Incentive Framework for Dynamic Network-Level Traffic Congestion Management
- Project I3 – Evaluation of Work Zone Mobility by Utilizing Naturalistic Driving Study Data, Phase II
- Project J3 - Identifying and Mitigating Congestion Onset
- Project K3 – Traffic Congestion Identification and Prediction based on Image Processing and Deep Learning Methods
- Project C4 - Transportation Workforce Development for State DOTs to Address Congestion for the Southeast Region
- Project F4 – Automatic Safety Diagnosis in Connected Vehicle Environment

Publications, Conference Papers, Posters& Presentations

The following publications, conference papers, posters and presentations were completed during the reporting period.

Project	Description	Date	Type

Q2	Submitted paper to 2023 Transportation Research Board Annual Meeting on Curb Management Simulation. (pending)	June 2022	Presentation
I2	Khalil, J., Yan, D., Yuan, L., Adhikari, S., Jafarzadehfadaki, M., Sisiopiku, V. and Jiang, Z. "Realistic Urban Traffic Simulation with Ride-Hailing Services: A Revisit to Network Kernel Density Estimation". Paper submitted to SIGSPATIAL 2022.	6/16/2022	Paper
I2	Morshed S.A., Hadi, M., and Sisiopiku, V.P. "A Novel Multi-Agent Based Simulation Study on the Extension of Metrorail in Miami Beach Region". 7th Annual Conference for the Southeastern Region, Boca Raton, FL, March 2022. PowerPoint Slides available in the Appendix.	2/24/2022	Presentation
A5	Classen, S., Li, Y.*, Giang, W., Winter, S.M., Wei, R., Patel, B., Jeghers, M. Gibson, B., Rogers, J., & Ramirez, A. (2022). RCT Protocol for driving performance in people with Parkinson's using autonomous in-vehicle technologies. Contemporary Clinical Trials Communications, 28, 100954, 1-7. IF=2.226. https://doi.org/10.1016/j.conctc.2022.100954	7/5/2022	Publication
A5	Classen, S. Drivers with Parkinson's Disease and Autonomous Vehicle (AV) Technologies. Parkinson's Support Group, Jacksonville. Online presentation, 30 June 2022.	6/30/2022	Presentation
A5	Hwangbo, S. W., Mason, J., & Classen, S. Older drivers' perceptions before and after riding in an autonomous shuttle. An abstract submitted to the American Occupational Therapy Association Annual Conference, April, 2023, Kansas City, Missouri, USA on 2 June 2022.	6/2/2022	Presentation
J3 (H5)	Ahmad Abdallah, a student of this project published his master's thesis which is related to this research. Reference: Abdallah, Ahmad Mustafa Naji. "Simulating the Impact of Freeway Congestion Events on Vehicle Travel Rate Distributions." (2022).	6/6/2022	Publication
J6	Iacobucci, E., Mcdonald, N., Edwards, C. H. W., Steiner, R., & Griffith, J. (2022). Stemming the Tide: Approaching Urban Freight in the Era of e-Commerce. Institute of Transportation Engineers. ITE Journal, 92(8), 27–32.	August 2022	Publication
O6	Parallel Computing on In-vehicle Multicore Computers for Safety Diagnosis in the Connected Vehicle Environment	10/12/2022	Publication
J3	Ishtiak Ahmed, Ahmad Abdallah, George List, and Billy Williams, Detecting and Characterizing Demand and Incident-Induced Congestion, 7th Annual UTC Conference for the Southeastern Region, March 24–25, 2022.	March 2022	Presentation

OUTCOMES

The STRIDE Center uses the metrics shown in the table below to assess the OUTCOMES related to its technology transfer program. Ninety-six trainings serving 4,019 professionals have been held for STRIDE projects to-date. Researchers have exceeded the targets for both the number of trainings and the number of professionals trained for Year 1, Year 2, and Year 3 projects thus far.

METRIC	Year 1	Year 2	Year 3	Year 4	Year 5	Other	**TOTAL**
	Target / **Completed**						
Body of Knowledge: Trainings for professionals	9 / **31***	18 / **31***	11 /**20*** (7 new this period)	6 /**3***	9 / **4*** (3 new this period)	**7**	**96* Trainings** (10 new this period)

Professionals Trained	90 / **972***	180 / **1551***	110 / **981*** (327 new)	60/ **70***	90 / **144*** (114 new)	**301**	**4,019* Professionals trained** (441 new this period)

* Totals include this and all prior reporting periods.

Trainings & Professionals Trained

Ten trainings engaged 441 professionals during the reporting period, as shown in the table below. There were an additional 174 views of YouTube recordings of STRIDE product videos and webinars.

Proj #	Training	Date	# Trained	YouTube Views
A3	STRIDE Webinar: "What Drivers Really Think about Autonomous Vehicles?: Quantifying Drivers' Perceptions before and after Exposure to Autonomous Vehicle Technologies" presented by Sherrilene Classen, University of Florida (UF), Justin Mason, University of Florida (UF), and Virginia Sisiopiku, University of Alabama at Birmingham (UAB) on May 18, 2022. (98 Attendees) Recording: https://youtu.be/SBXti9kycM8	5/18/2022	98	66
A3	A presentation entitled "Users' Perceptions and Attitudes toward Autonomous Vehicle Technologies after Simulation Exposure – A Study across the Lifespan" was delivered at the 8th Road Safety and Simulation 2022 Conference at Athens, Greece, June 8-10, 2022. Dr. Classen, Dr. Mason, Hwangbo from University of Florida, and Dr. Sisiopiku, McKinney, Dr. Yang from University of Alabama Birmingham contributed to this presentation preparation. Dr. Sisiopiku presented on behalf of the team. (32 attendees)	6/8/2022	32	
B3	STRIDE Webinar: "Micro-Mobility as a Solution to Reduce Urban Traffic Congestion" presented by Xilei Zhao, University of Florida (UF), Virginia Sisiopiku, University of Alabama at Birmingham (UAB), and Ruth Steiner, University of Florida (UF) on April 20, 2022. (58 Attendees) Recording: https://youtu.be/j3nnO5szJgI	4/20/2022	58	45
F3	STRIDE Webinar: "Comparing Micromobility Options: Transportation Infrastructure, Safety, and Travel Route Characteristics of Bike Share, e-Pedal-Assist Bike Share, and e-Scooter System Operation" presented by Jeff Davis, Ph.D. and Kweku Brown, Ph.D., The Citadel on September 21, 2022.	9/21/2022	37	14
J3	STRIDE Webinar: "Using Big Data to Spot Incident-Induced Congestion and Anticipate Demand-Induced Congestion" presented by George List, North Carolina State University (NCSU), Michael Hunter, Georgia Institute of Technology (Georgia Tech), Billy Williams, North Carolina State University (NCSU), and Mohammed Hadi, Florida International University (FIU) presented on April 13, 2022. (62 Attendees) Recording: https://youtu.be/DKeN3YzPgQE	4/13/2022	62	49
J3	Ahmed, I., A. Abdallah, G. List, and B. Williams, "Detecting and Characterizing Demand and Incident-Induced Congestion," *101st Annual Meeting of the Transportation Research Board*, January 9-13, 2022, Washington, DC.	January 2022	20	
J3	Ishtiak Ahmed, Ahmad Abdallah, George List, and Billy Williams, Detecting and Characterizing Demand and Incident-Induced Congestion, *NCDOT Research Summit*, October 6, 2021.	October 2021	20	
D5	ITE Webinar: "The Relationship between Freight Movements and Land Use in Urban Areas" presented by Goodchild, A. and N. McDonald.	4/5/2022	60	

	Institute of Transportation Engineers (ITE) Webinar. April 5, 2022. (60 Attendees) https://www.ite.org/events-meetings/ite-calendar/the-relationship-between-freight-movements-and-land-use-in-urban-areas1/			
D5	Iacobucci, E. Reports from the Battle for the Curb: Using Social Media to Understand Challenges Faced by Urban Delivery Drivers. International Urban Freight Conference, Long Beach, CA, USA. May 2022. (20 participants)	May 2022	20	
E5	STRIDE Webinar: "Equity, Diversity, and Inclusion (EDI) Leadership Webinar: Techniques to Diversify & Support Transportation Workforce" presented by Mehri M. Mohebbi, Ph.D. (Transportation Equity (TE) Program Director, University of Florida), Virginia P. Sisiopiku, Ph.D., FITE (TREND Lab Director, University of Alabama at Birmingham), and Dimitra Michalaka, Ph.D., P.E. (Associate Professor, The Citadel) on May 9, 2022.	5/9/2022	34	
	TOTAL for Reporting Period		**441**	**174**

IMPACTS

The STRIDE Center uses the list of metrics shown in the table below to assess the IMPACTS related to its technology transfer program. Over 185 meetings with stakeholders have been conducted since the beginning of the grant. Some researchers meet with stakeholders on a weekly or biweekly basis. Fourteen products have been adopted or implemented to-date. Researchers have exceeded the target number of stakeholders for Years 1, 2 and 3 thus far.

METRIC	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	**TOTAL**
	Total / **Completed**						
Stakeholders: Number of stakeholders (agencies, businesses, etc.) you meet with to encourage adoption or implementation of congestion mitigation approaches	9 / **11***	18 / **80*** (1 new)	11 / **50*** (1 new)	6 / **30*** (2 new)	9 / **9*** (9 new)	15 / **5** (5 new)	**185* Stakeholder Meetings**
Adoption/Implementation: Number of incidences that congestion mitigation outputs of research have been implemented or adopted (ex. decision making, practices, methods, analytical tool, data/database, software, policy change, behavior analysis, commercialization)	2 / **2***	2 / **10***	2 / **2*** (1 new this period)	2 / **0***	2 / **0***	2 / **0***	**14* Products Adopted/ Implemented**

* Totals include this and all prior reporting periods.

Stakeholder Meetings

Researchers held 10 meetings with stakeholders during the reporting period. Some researchers meet with their stakeholders on a weekly or regular basis and many meetings include multiple stakeholders.

Proj #	**Stakeholder(s)**	**Date**	**Description**
Q2	UC Davis COVID-19 Mobility Study	weekly meetings	Attending weekly meetings about collaboration of future survey data collection efforts.

J3	Bethany Haslam and Gareth, Wejo	4/15/2022	Discussion about working with probe data, in conjunction with signal action and detector input data; opportunities for collaboration
A4	Brett Sellers (State TSMO Administrator, ALDOT)	3/4/2022	Meeting to discuss progress and needs regarding ASAP deployment criteria. ALDOT expressed interest and provided additional data from ALDOT databases.
D4	Andrea Broaddus, Sr. Research Scientist, Ford Motor Company Josh Johnson, Public Policy Manager, Spin	every two weeks	Biweekly meeting with key stakeholders from Ford/Spin to seek feedback on our work.
A5	Derrick Breun, VP of Operations at Transdev, Jesus Gomez, City of Gainesville, I-Street	every two weeks	Biweekly communication to plan and organize data collection and updates related to the automated shuttle.
A5	Derrick Breun, VP of Operations at Transdev, Jason Perez, Michelle, Jack, Transdev	weekly meetings	Weekly communication on schedules for data collection and troubleshooting.
A5	Ronald Rivera from James A. Haley Veterans Hospital in Tampa, Resident	4/7/2022	Presented study findings at the Rehabilitation Psychology Seminar: Autonomous Driving Research
A5	Andrew Carpenter from National Center for Applied Transit Technology (N-CATT), Director at N-CATT	4/19/2022	Virtually presented for the N-CATT
A5	David Jones from SportsAbility, Founder/Past-president	4/22/2022	Presented at the annual conference on topic "Where is my Flying Car? Current Technology to Support Independent Mobility."
A5	Kevin Ahmadi from Oak Hammock at UF, President and CEO, Oak Hammock residents	4/26/2022	Presentation of UF of research projects on autonomous vehicle technologies.
D5	Dana Magliola, Program Manager, Freight + Logistics, NCDOT Rail Division	3/9/2022	Introduced and shared progress on the research activities being performed as part of this project. Made plans for collaboration on 03/23 Webinar via CSCRS.
E5	Invitations to 62 Stakeholders to participate in Focus Group Webinar (southeast DOTs, LTAPs, MPOs, professional organizations, and the private sector).	3/27/2022, 4/4/2022, 4/20/2022	Invitations to participate in a webinar “Techniques to Diversify & Support Transportation Workforce” that included breakout groups to obtain feedback.
E5	34 Stakeholders (southeast DOTs, LTAPs, MPOs, professional organizations, and the private sector)	5/9/2022	Equity, Diversity, and Inclusion (EDI) Leadership Webinar: Techniques to Diversify & Support Transportation Workforce webinar included breakout groups to get feedback from stakeholders.
A6	Rodger Lentz, Chief Planning and Development Officer, City of Wilson, NC	9/22/2022	Discussion of microtransit challenges and what research questions are relevant to be studied.
A6	Curtis Bradley, Research Implementation Manager, NC-DOT; Ryan Brumfield, Director - Integrated Mobility Division, NCDOT; David Rhew, Executive Director NC Public Transit Association; Darlene Asher, Director, Macon County Transit; Kim Angel, Executive Director, Greenway Public Transportation - Western Piedmont Regional Transit Authority	9/27/2022	The research team met with a group of stakeholders to discuss challenges faced by community transit systems during the first step of the Medicaid Transformation.

J6	Matthew Currier, Parking Manager, City of Raleigh	9/21/2022	Meeting to learn about the issues faced by the city and alignment with the topics of research. Interest expressed in continuing meetings, partnership.
L6	Brian Fahey, GoDurham & Mathew Frazier, GoTriangle	8/11/2022	Introduce the project and ask for AVL and APC data.
P6	Tom Sanchez, Professor, Virginia Tech	8/7/2022	Meeting to get feedback on the research project and to explore potential collaborative opportunities.

Product Adoption

There was 1 product adoption during the reporting period. Fourteen products have been adopted or implemented to-date.

C3	**Set of Python Script Editors to Modify GTFS Data** - Our study provides a methodology for public transit agencies that matches populations with the highest needs with accessibility to various destinations - work, groceries, education, social activities - and allows the development of scenarios based upon changes in routes (dropping routes, reducing/increasing frequency) and other related activities. This research adds to the literature on transit accessibility for vulnerable populations. The results of the research have been shared with the Gainesville Regional Transit system and incorporated into a research report on a microtransit pilot project in Gainesville.

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 –***The COVID 19 pandemic has caused the cancellation or postponement of several events and activities. However, the STRIDE consortium is ramping up its K-12 program and activities and is dependent on CDC guidance. All project meetings and university courses have continued uninterrupted. Although reduced traffic and social distancing rules did initially result in delays in data collection, the recent relaxation of pandemic rules has allowed our researchers to carry out their normal research activities.***
- 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

- ***NONE***

STRIDE Year 1, Year 2, Year 3, Year 4, Year 5, and Year 6 List of Projects

The complete list of projects can be found at: https://stride.ce.ufl.edu/stride-research/active-research-projects/)

Cost Share Projects

There are no new cost share projects at the University of Florida to report since the last reporting period. There are no new cost share projects to report from the STRIDE consortium members.

.