UFTI Vision Statement
To conduct and foster impactful, cross-cutting, multimodal transportation research; educate the next generation of transportation leaders; and facilitate technology transfer.

UFTI Mission Statement
To lead the profession in shaping a better transportation future by functioning as a preeminent center of multidisciplinary transportation research, students’ top choice for transportation education, and a provider of state-of-the-art analysis and decision-support tools.
Dear Colleagues,

Florida is one of the four states in the U.S. allowing the testing of automated vehicles on its roads, and the Florida Department of Transportation (FDOT) is leading a variety of efforts for their development and deployment. Thus, naturally the UFTI is greatly involved in a variety of related research which has the potential to revolutionize the transportation system and cities in the Sunshine State. Our research, education and technology transfer over the past year are very much influenced by the increased emphasis on these technologies at the state, national and international levels.

The cover of our report includes a photo of the NaviGator, the vehicle developed and operated by Dr. Carl Crane and his group (you can see the NaviGator in action here: https://www.youtube.com/watch?v=PSc_c8XjPtxO). The National Science Foundation (NSF) recently awarded UFTI a project involving civil engineers, mechanical engineers, and computer scientists at UF in collaboration with industry, to develop algorithms that will jointly optimize signal timings and autonomous vehicle paths, or trajectories (Award Id : 1446813, CPS: Traffic Signal Control with Connected and Autonomous Vehicles in the Traffic Stream).

Research Highlights starting on Page 4 provide a snapshot of UFTI research in this and other areas. An NSF-funded project led by Dr. Yafeng Yin is looking into analyzing parking applications to provide a better understanding of these apps on parking competition and travel patterns for developing policies to reduce traffic and congestion emissions. Dr. Juan Gilbert and his research team, funded by Intel Corporation and IBM, are working on distracted driving issues and how automated vehicle technology would affect these. For the third year in a row, the UFTI has participated in the Florida Automated Vehicle Summit (organized by FDOT), and continues to contribute to its success with exhibits and posters. In November, the WTS Florida Student Chapter along with the UFTI and the STRIDE Center (U.S.DOT grant funded, 2012 Southeast Regional University Transportation Center) hosted a Symposium on Automated and Connected Vehicles.

I invite you to read thorough this publication to find out more about our research, our graduate student accomplishments and more. As always, I welcome your research ideas and invite you to collaborate with us on transportation-related research.

Sincerely,

Lily Elefteriadou, Ph.D.
Professor & UFTI Director
RESEARCH Highlights

UFTI researchers are working on a wide variety of cutting-edge research topics, funded by private and public entities. Below are examples of on-going research during 2014-2015.

Modeling and Analysis of Advanced Parking Management for Traffic Congestion Mitigation
National Science Foundation
PI: Dr. Yafeng Yin, Ph.D., Department of Civil & Coastal Engineering/ESSIE

Parking is a growing problem in dense urban areas. To many, finding a parking space in these areas is an unpleasant experience of uncertainty and frustration. Cruising for parking makes traffic on already-congested urban streets even worse and leads to significant waste in time and fuel. In transportation, smartphone-based parking management applications have emerged. These applications help drivers find parking spaces by allowing them to use smartphones to view real-time availability and prices of parking spaces and guide them to open parking spaces, reserved or otherwise. This project develops theoretical foundations and methodologies for analyzing these emerging parking management services. Results from this research provide a better understanding of the impacts of advanced parking management services on parking competition and travel patterns. The research develops policies to reduce traffic congestion and emissions in dense urban areas. This project generates a set of analytical tools that explain the underlying working mechanisms of advanced parking management services and gauge their potential for reducing traffic congestion.

Improved Analysis of Two-Lane Highway Capacity and Operational Performance
NCHRP 17-65
PI: Dr. Scott Washburn, Ph.D., PE, Department of Civil & Coastal Engineering/ESSIE

Two-lane highways account for a very significant portion of the national highway system and serve an essential function for the movement of people and goods. As urban areas continue to see growth further away from the central cities, two-lane highways in previously less developed areas are experiencing increases in traffic demand. Additionally, as urban area congestion continues to build, shipping companies are more frequently considering less congested two-lane highways in their routing decisions. The presence of commercial trucks on two-lane highways poses additional challenges for maintaining acceptable levels of operational performance due to more variance in the geometric design of these facilities and less favorable passing opportunities. Having good and accurate analysis methods for two-lane highways may allow roadway design and traffic engineers to identify ways to make significant improvements to the operational performance of a two-lane highway without resorting to a full multilane configuration. The objectives of this research are to (1) identify appropriate performance measures for operational and capacity analyses of two-lane highways and develop models to produce these performance measures in an Highway Capacity Manual (HCM) context, and (2) develop or modify simulation-based analysis method for two-lane highways and offer guidance for when to apply simulation versus HCM.
The resulting methods will lead to a two-lane highway facilities procedure suitable for incorporation into a future edition of the HCM.

**Development and Testing of Optimized Autonomous and Connected Vehicle Trajectories at Signalized Intersections**

*Florida Department of Transportation (FDOT)*

**PI:** Lily Elefteriadou, Ph.D., Department of Civil & Coastal Engineering/ESSIE

**Co-PIs:** Carl Crane, Ph.D., Department of Mechanical & Aerospace Engineering & Sanjay Ranka, Ph.D., Department of Computer & Information Science & Engineering

In the not too distant future, both connected and automated vehicles will be operating side by side in large numbers on highways, along with conventional vehicles (i.e., with no operating connectivity or automation). This creates many opportunities in improving surface transportation efficiency and safety. According to the National Transportation Operations Coalition, delays at traffic signals are estimated to be 5% to 10% of all traffic delay on major roadways and contribute an estimated 25% to the increase in total highway traffic delays during the past 20 years. One source of delay at signals is inefficient green time utilization in response to fluctuating demand. Another source is driver reaction-related delays, including start-up delay. The main objective of this project is to refine an existing optimization algorithm and
develop and test the necessary software and hardware for enhancing traffic signal control operations simultaneously with vehicle trajectories, when the traffic stream consists of connected vehicles, autonomous vehicles, as well as conventional vehicles.

Reducing Driver Distraction for Young Connected Drivers
Intel Corporation & IBM
Dr. Juan Gilbert & Dr. Wanda Eugene, Human-Experience Research Lab, Department of Computer & Information Science & Engineering

Young drivers are dying because of distracted driving, which has contributed to an estimated 421,000 accidents in the year 2012. This is almost 660,000 drivers that are driving distracted at any particular time. In the “100 Car Naturalistic Study” based off the “Reducing Driver Distraction for Young Connected Drivers” paper, the researchers found that secondary tasks were performed during 40% of all trips. Secondary and tertiary tasks are activities that are not immediately important to the act of driving - including eating, using a cell phone, talking with a passenger, and interacting with in-vehicle entertainment systems (IVES). Distraction contributed to 78% of accidents or near-accidents in the 100 car naturalistic study. The notion of autonomous and connected vehicles is becoming more and more prevalent today on our roads at auto-manufacturing companies and also in research labs. The focus of this study is on designing, building, and evaluating computing technologies as they relate to the human condition and reflecting on how these technologies affect society. To better prepare drivers and designers for the future of transportation and to reduce driver distraction, in a series of studies, the researchers set out to understand the human element in both simulated and naturalistic environments.

Loading on Coastal Bridges in Windstorms Using Rapidly Deployable Sensor Network
National Science Foundation CAREER Program
Jennifer Rice, Ph.D., Department of Civil & Coastal Engineering/ESSIE

This project aims to establish a rapidly deployable, bridge-located observation network to capture measurements of wind, surge, wave, and scour and analysis of bridge responses during a severe storm such as a hurricane. The project will improve coastal bridge health management decisions as well as design and reliability models through the analysis of hurricane load and response data. A full-scale prototype of this system deployed on a bridge with an interactive system will provide students at all academic levels the opportunity to interact with an in-service bridge and visualize the impacts of bridge management decisions. The introduction of wireless smart sensor networks
has promise of transforming bridge management; however, their potential has been restricted by static application software that is unable to respond to changing monitoring conditions. With this project, a cyberinfrastructure-enabled dynamically-reconfigurable smart-sensor framework will be created based on mobile agents. These are the software programs that traverse the wireless sensor network and act intelligently to facilitate network and sensor functionality in response to changes in the bridge loading and response. To realize the full benefits of the bridge monitoring framework, there should be a link between the data it produces and effective bridge management decisions. This link will be pursued by coupling extreme event data with advanced bridge response and windstorm phenomena simulation tools to enable the development of accurate coastal bridge reliability models.

**Vulnerability Assessment and Resilient Design of Interdependent Infrastructures**
*National Science Foundation/RIPS Type 2 PI: Dr. Yafeng Yin, Ph.D., Department of Civil & Coastal Engineering/ESSIE*

Modern infrastructure systems such as power grids, communication networks, and transportation networks are interdependent in such a way that a failure of an element in one system may cause multiple failures of elements in other systems. This process can propagate back and forth between interdependent systems in a cascading fashion, resulting in a catastrophic widespread failure. Reaction to gridlock can further complicate the cascading behaviors. The goals of this project are to gain a better understanding of cascading failure phenomena, develop tractable mathematical models for designing resilient interdependent systems, and investigate innovative strategies to enhance the resilience of interdependent systems by preventing the occurrence of cascading failures and quickly restoring system operations. This research will lay a foundation in understanding the fundamental properties that contribute to the robustness of interdependent systems under disruptions, and thus, advancing the state-of-the-art in modern complex network theory and optimization algorithms. The findings of the research will provide timely support for public and private agencies to better understand the impacts of cascading failures and the implications of protecting critical elements, and develop policies to enhance the resilience of the interdependent infrastructure systems. In particular, the findings can potentially diversify the choices of these policies for managing transportation networks and power grids. The research results will also enrich the literature in the areas of network science, graph theory, optimization, communications, transportation systems, power engineering, and social science. The project will involve students at all levels, with emphasis on attracting students from underrepresented groups. The real-world applications will offer an ideal platform to engage undergraduate and K-12 students and to reach out to practitioners and policy makers.

**Mechanisms and Motor Rehabilitation of Reactive Driving Performance Following Stroke**
*American Heart Association, Scientist Development Grant PIs: Neda Lodha, Ph.D., Applied Physiology & Kinesiology & Evangelos Christou, Ph.D., Applied Physiology & Kinesiology*

In the U.S., there are up to 5 million stroke survivors who drive. Driving is a complex task that involves visual, motor, and cognitive abilities that are often severely affected by stroke. Research suggests that motor control abilities are significantly affected following stroke. Despite such stroke-related motor deficits, driving performance after stroke is poorly understood and rehabilitated. Therefore, the goals of this project are (1) to determine the contribution of impaired motor abilities to driving performance in stroke survivors and (2) identify whether motor training improves driving post stroke.
Institute Fellowships

The UFTI, through the UF Herbert Wertheim College of Engineering offers graduate fellowships to selected incoming Ph.D. students affiliated with institutes in the college. The fellows receive a one-time award of $6,000, on top of their graduate research assistantship. In this section we highlight the work of two of these students.

Benjamin Goolsby  
Biomedical Engineering  
Ben is from Jacksonville, Fla. He began his undergraduate career at the University of Central Florida (UCF) in 2009. He received his bachelor's degree in electrical engineering with a minor in bioengineering from the UCF Department of Electrical and Computer Engineering in 2014. In the fall of 2015, he started working towards his Ph.D. in biomedical engineering at the University of Florida. His research interests are focused in neural engineering and prosthetic integration for potentially using prosthetic technology to integrate into vehicles in the future.

Deja Jackson  
Civil Engineering/Transportation Engineering  
Deja is a native of Saint Helena Island, SC. Staying close to home, she attended South Carolina State University, where she earned her bachelor's degree in Civil Engineering Technology. Deja's research reflects the desire to improve existing transportation systems. Her goal is to provide solutions to a variety of transportation problems related to safety. Deja is specifically looking at today's perception of vehicle safety and its impact on preparing for tomorrow's autonomous vehicles. Her current research aims to identify the various perspectives of consumers, automakers, and engineers in terms of determining the “safety” of a vehicle and how this impacts the perception of their choice in vehicle.
OUR GRADUATES: Where are they now?

Marian Ankomah, M.S.  
Doctoral Student  
University of Florida  
Graduation Date: 8/11/2015  
Thesis Title: Modeling Vehicle Purchase Decisions: The Choice of Vehicle Type and Age

Gaurav Chauhan, M.S.  
Engineering Intern  
Icon Consultant Group, Inc., Tampa, Fla.  
Graduation Date: 5/5/2015

Shenyang Chen, M.S.  
Doctoral Student  
University of California at Davis, Sacramento, Calif.  
Graduation Date: 8/11/2015

Phillip Haas, Ph.D.  
Researcher  
University of Florida  
Graduation Date: 5/5/2015  
Dissertation Title: An Examination of the Spatial and Temporal Transferability of Crash Prediction Models in Florida

Fang He, Ph.D.  
Assistant Professor  
Tsinghua University, China  
Graduation Date: 8/12/2014  
Dissertation Title: Optimal Deployment and Operations of Public Charging Infrastructure for Plug-In Electric Vehicles

Revanth Katta, M.S.  
Transportation Engineer  
BCC Engineering, Inc., Ft. Lauderdale, Fla.  
Graduation Date: 5/5/2015

Zhuofei Li, Ph.D.  
Engineer  
BNSF Railway, Dallas, Ft. Worth, TX  
Graduation Date: 8/11/2015  
Dissertation Title: Intersection Control Optimization and Simulation for Automated Vehicles at Isolated Intersections

Like Liu, M.S.  
Transportation Analyst  
Graduation Date: 5/5/2015

Miguel A. Lugo Ortiz, Ph.D.  
Engineer  
RS & H, Jacksonville, Fla.  
Graduation Date: 8/11/2015  
Dissertation Title: Walking and Healthy? On the Relationship among Utilitarian Walking, Health, and Residential Choice

Roosbehr Nowrouzian, Ph.D.  
Consultant  
Advanced Analytics, Machine Learning, Liberty Mutual Insurance, Boston, Mass.  
Graduation Date: 8/12/2014  
Dissertation Title: Spatial Models for Analyzing the Effects of Land Use Patterns on Automobile Ownership and Usage

Seckin Ozkul, Ph.D.  
Research Faculty Associate  
Center for Urban Transportation Research (CUTR), University of South Florida, Tampa, Fla.  
Graduation Date: 8/12/2014  
Dissertation Title: Advanced Vehicle Dynamics Modeling Approach in Traffic Microsimulation with Emphasis on Commercial Truck Performance and On-Board-Diagnostics Data

Bryan St. George, M.S.  
Transportation Engineer  
HDR, Tampa, Fla.  
Graduation Date: 8/12/2014  
Thesis Title: Capacity Change Analysis and Estimation on Florida Freeways

Mahmood Zangui, Ph.D.  
Senior Systems Networks  
Optym, Gainesville, Fla.  
Graduation Date: 8/12/2014  
Dissertation Title: Differentiated Congestion Pricing of Transportation Networks
Transportation Research Internship Program (TRIP)

This year, the STRIDE Center selected eight students to participate in the Transportation Research Internship Program (TRIP), including two from the Brazilian Science Mobility Program (BSMP). The TRIP Summer Internship program is a great way for undergraduate students to learn about transportation engineering and to participate in cutting-edge research projects along with faculty and graduate students. For more information, visit: http://www.stride.ce.ufl.edu/internship-opportunities

Transportation Operations & Planning Certificate

Transportation professionals can now expand their knowledge and qualifications in transportation planning and engineering with the newly formed Transportation Operations & Planning Certificate. The nine-credit certificate includes courses in transportation systems operations, highway capacity analysis and transportation policy and planning such as: TTE 6267 (Traffic Flow Theory, 3 credits), TTE 5256 (Traffic Engineering, 3 credits), TTE 6207 (Advanced Highway Capacity Analysis). Prerequisites include a bachelor’s degree in civil engineering or a related field from an accredited U.S. institution, or equivalent, or at least 5 years of practical experience in transportation. The undergraduate GPA must be 3.0 or higher.
ITEUF

The UF ITE student chapter organized and hosted six seminars, three technical tours, three outreach events, and five socials. Seminar topics ranged from pedestrian responsive traffic signals to road diets. Students visited the newly constructed Corrine Brown Transit Facility, Gainesville Regional Airport and Port Tampa Bay. The chapter also reached out to K-12 students through the Benton Engineering Council’s E-Fair, Tau Beta Pi’s GatorTRAX, and a signals lab tour. Members also attended ITE conferences and participated in the 2014 ITE Collegiate Traffic Bowl. The UF traffic bowl team placed 2nd in the competition, which took place in Seattle, WA in August 2014.

WTS Florida Gator Student Chapter

On May 24, 2015 the student chapter hosted a workshop with Marsha Anderson-Bomar, a principal at Stantec, titled “Harmonize Life: Words, Work and the World around Us”. Along with UF’s ITE chapter, the WTS Florida Gator chapter co-organized an educational tour at the Tampa Bay Port in April, 2015. They also supported the ITE chapter by attending their organized educational presentations like the ‘NW 8th Avenue-Multiple Options for Achieving a Multi-modal Corridor’ and ‘ITS and Smart Cities’ seminars. Lastly, WTS members volunteered at the PK Yonge Research School Carnival with a booth with various hands-on activities that helped students explore engineering.
TECHNOLOGY Transfer

McTrans
Over the past year McTrans faculty and staff have been involved in the development and implementation of procedures for evaluating alternative intersections and interchanges, for the 6th Edition of the Highway Capacity Manual (HCM). Also, they have been working on the development of the Highway Capacity Software Upgrade (HCS7), which is being redesigned to enhance functionality and improve usability. In continuing education, McTrans presented several capacity analysis training courses, both as live workshops around the country and as online webinars to expand participant access while eliminating travel expenses. And as always, McTrans continues to provide responsive and comprehensive administrative assistance and technical support to an extensive software user base. For more information visit https://mctrans.ce.ufl.edu/mct.

Transportation Technology Transfer Center (T2)
This year the Transportation Technology Transfer Center (T2 Center) trained over 2,400 students in 155 Course Sessions. Course topics ranged from the always popular Maintenance of Traffic Courses (Basic, Intermediate, and Advanced), to a webinar presentation of Traffic Engineering Fundamentals, to an exciting first-time offering of the new Airfield Pavement Inspection course. In addition, the T2 Center conducted Road Safety Assessment Workshops for Florida’s Community Traffic Safety Teams and helped rural/small agencies learn about best practices for Intersection Safety. The T2 Center houses several statewide safety resource Centers, including the Florida Pedestrian and Bicycling Safety Resource Center (PedBike SRC http://www.pedbikesrc.ce.ufl.edu/pedbike/default.asp) and the Florida Occupant Protection Resource Center (OPRC http://www.floridaoprc.ce.ufl.edu/oprc/default.asp). Both of these projects have been renewed for the 2015-2016 grant year.

Another large project the T2 team completed this past year was the second phase of the Transportation Safety Center. This project, funded by the FDOT Safety Office, was established to provide technical assistance to local agencies throughout Florida for the purpose of identifying road safety problems and developing projects eligible for federal funding, primarily assisting communities that do not have technical staff capacity to perform such analyses.

For more information about the T2 Center and the activities and projects housed at the Center, please visit http://www.t2ctt.ce.ufl.edu/t2ctt/default.asp
UFTI Reception at TRB & STRIDE Student Poster Competition
The 94th Annual Meeting of TRB had a new venue in 2015 and so did UFTI’s annual reception. The reception was held at Baby Wale, a local restaurant located a block away from the Marriott Marquis. The STRIDE Center, which is the UFTI’s U.S. Department of Transportation grant-funded research center, held a student poster showcase and competition in conjunction with the reception. Winners of the competition were: Mohammed Shahadat Iqbal (FIU), 1st place; Clark Letter (UF), 2nd place; Xuanwu Chen (FIU), 3rd place.

UTC Conference for the Southeastern Region
More than 130 people attended the 2015 UTC Conference for the Southeastern Region held at the Hyatt Regency Wynfrey hotel in Birmingham, Ala., on March 26-27, 2015. Conceptualized and initiated by the UFTI’s STRIDE Center in 2013, the conference is now in its third year. The University of Alabama at Birmingham (UAB) hosted the conference this year under the direction of its organizers Dr. Virginia Sisiopiku of UAB and Dr. John Usher of Mississippi State University (MSU). STRIDE was one of the co-sponsors of this event.

Florida Ped/Bike Safety Summit
Dr. Ruth Steiner of the UF Department of Urban & Regional Planning and Mr. Chris LeDew, the former director of the T2 Center at UFTI, were speakers at the Florida Bike-Ped Safety Summit held on October 24, 2015 in Gainesville, Fla.

WTS Symposium on Future of Transportation
The WTS Florida Gator Student Chapter hosted their annual Transportation Symposium on November 13, 2014 at UF. This year’s topic was on “The Future of Transportation”. Guest panelists included Mr. Alex Bond of Eno Center for Transportation; Anoch Whitfield of Tindale-Oliver; and Debbie Leistner of the City of Gainesville.

STRIDE Center Sponsors Workshop at i3 Transportation Showcase in Orlando
The STRIDE Center hosted a session at the i3 Florida Transportation Showcase. The i3 Florida Transportation Showcase was organized by the Florida Section of Institute of Transportation Engineers (FSITE), the Intelligent Transportation Society of Florida (ITS Florida) and the International Municipal Signal Association (IMSA) conducted in Orlando, Fla. Presentations included:
Dr. Lily Elefteriadou, UFTI “Freeway Management Research Findings”
Dr. Mohammed Hadi, Florida International University “Multi-Resolution Analysis of Advanced Traffic Management Strategies”
Dr. Nagui Rouphail, North Carolina State University “Interactive Active Traffic Management Platform Using HCM Concepts”

Performance Measures in Transportation Webinar
June 11, 2015
This free STRIDE - sponsored webinar via Adobe Connect®, was designed to provide participants with various resources and tools so that practitioners and the community can establish goals and objectives in the transportation planning design process, including monitoring and creating reporting and evaluation methods. Presenters included Jody McCullough of the Federal Highway Administration (FHWA); Leigh Blackmon Lane of North Carolina State University (NCSU) and Doug McLeod of the Florida Department of Transportation (FDOT).

To view the recorded session, go to: http://www.transportation.institute.ufl.edu/?p=3739

STRIDE Educational Products Webinar
Date: June 18, 2015
Researchers associated with the STRIDE Center (housed in the UFTI) produced various course modules as a result of work funded by the Center. To view the recorded session, go to: http://www.transportation.institute.ufl.edu/?p=4026.

To view course materials developed by STRIDE researchers, visit: http://stride.ce.ufl.edu/course-materials-developed-by-stride.
FACULTY & Student Awards

Thomas Chase
Doctoral Student, Institute of Transportation Engineers Florida Section, Traffic Scholarship, 2014-2015

Dr. Lily Elefteriadou
American Society of Civil Engineers James Laurie Prize, 2015
Ethel S. Birchland Lifetime Achievement Award, 2015

Clark Letter
Doctoral Student, 2nd Place, STRIDE Student Poster Competition, TRB 2015
Poster title: “Efficient Control of Automated Vehicles at Freeway Merge Segments”

Dr. Jennifer Rice
National Science Foundation Career Award, CCE/ESSIE, 2014
Excellence Award for Assistant Professors, Office of the UF Provost, 2015

Yinan Zheng
Doctoral Student, WTS Central Florida Chapter Frankee Hellinger Graduate Scholarship, 2015

Dr. Scott Washburn
College of Engineering Doctoral Dissertation Adviser/Mentoring Award, 2015

Dr. Yafeng Yin
Faculty Mentor Research Award, Engineering School of Sustainable Infrastructure and Environment, University of Florida, 2015

Dr. Lily Elefteriadou, Director, UFTI, and Clark Letter, Ph.D. student, UFTI

Yinan Zheng, Ph.D. student, UFTI

Dr. Jennifer Rice
## UFTI by the Numbers

<table>
<thead>
<tr>
<th>Category</th>
<th>Number/Amount</th>
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<tr>
<td>Annual Research Expenditures</td>
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<td>Research Projects Awarded</td>
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<td>Auxiliary Revenue (McTrans and T2, conference/workshop registration and software licenses)</td>
<td>$1.9 million</td>
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<td>Course Participants</td>
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<td>Internal Advisory Board Members</td>
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EXTERNAL Advisory Board

Dr. Vassili Alexiadis, Ph.D.
Executive Vice President
Cambridge Systematics, Inc.

Ms. Marsha Anderson Bomar, AICP, ENV SP
Senior Principal, Transportation
Executive Director, Netweaving, Stantec

Mr. Tom Byron, PE
Chief Engineer
Florida Department of Transportation

Mr. Milton Carrasco, P.Eng., M. Eng.
President and CEO
Transoft Solutions, Inc.

Mr. Tom Kern
Executive Vice President
ITS America

Mr. Jon S. Meadows, PE
Principal, Vice President
Transportation
DRMP, Inc.

Dr. Michael Meyer, Ph.D.
Senior Advisor
Parsons Brinkerhoff, Inc.

Dr. Christopher Silver, Ph.D.
Dean and Professor
College of Design, Construction, & Planning
University of Florida

Dr. Kumares C. Sinha, Ph.D.
Edgar B. and Hedwig M. Olson Distinguished Professor
Purdue University
UFTI CENTERS

STRIDE
The Southeastern Transportation Research, Innovation, Development and Education (STRIDE) Center is a USDOT/RITA grant-funded, regional University Transportation Center (UTC) headquartered at the University of Florida that conducts transportation-related research in the areas of safety, livable communities and economic competitiveness. http://stride.ce.ufl.edu

TRC
The mission of the TRC is to seek innovative solutions to meeting urban or regional mobility needs. Its research involves the planning, design, operations, monitoring or optimization of transportation and other infrastructure systems towards achieving safety, sustainability, and economic efficiency. http://trc.ce.ufl.edu

McTrans
The McTrans Center at the University of Florida develops, distributes and supports software programs for traffic engineering and transportation planning applications, including the Highway Capacity Software™ (HCS 2010™), TSIS-CORSIM™ and TRANSYT-7F™, with training courses and the highest level of technical support provided for these packages. https://mctrans.ce.ufl.edu/mct

Technology Transfer Center (T2)
T2 provides training, technical assistance, technology transfer services, and safety information to transportation, public works and safety professionals as well as the general public. http://www.t2ctt.ce.ufl.edu/t2ctt/default.asp
**AFFILIATED Centers**

**Center for Health & the Built Environment**
The Center for Health & the Built Environment is a research center focused on teaching, research, and service to address the relationship of the built environment to health outcomes with special attention to vulnerable populations. (Director: Dr. Ruth Steiner, Urban & Regional Planning)

**Center for Intelligent Machines and Robotics (CIMAR)**
CIMAR is an interdisciplinary research center conducting research on autonomous ground vehicle navigation, screw theory as applied to position and force control of robotic manipulators, three dimensional geometry and kinematic analysis of robotic systems, real-time computer graphics simulation, hardware/software system development and integration. (Director: Dr. Carl Crane, Materials Science Engineering)

**Digital Worlds Institute**
The Digital Worlds Institute exists to nurture leading edge research and education between the arts, communications, engineering and the sciences, focusing on advanced media systems and digital culture. (Representative: Dr. Angelos Barmpoutis, Department of Computer & Information Sciences & Engineering)

**Geo-Facilities Planning & Information Research Center (GeoPlan Center)**
The UF GeoPlan Center works to support land use, transportation, and environmental planning in the State of Florida by providing geospatial and planning expertise, data, training, and education to the stakeholders involved in the planning process. The center is housed in the Department of Urban & Regional Planning. (Assistant Director: Dr. Ilir Bejleri)

**Human-Experience Research Lab (HXRL)**
The Human-Experience Research Lab (HXRL) is focused on designing, building, and evaluating computational technologies as they relate to the human condition and reflect on how these technologies affect society. (Director: Dr. Juan Gilbert, Department of Computer & Information Sciences & Engineering)

**Neuromuscular Physiology Lab**
The lab’s mission is to better understand movement deficits and to develop rehabilitation protocols to enhance functional independence. (Director: Dr. Evangelos Christou, Department of Applied Physiology & Kinesiology).

**Smart Infrastructure Management Laboratory**
Research conducted in this lab is focused on advancing technological and analytical strategies to enable effective monitoring and management of civil infrastructure. (Director: Dr. Jennifer Rice, Department of Civil & Coastal Engineering)

**University of Florida’s Institute for Mobility, Activity, and Participation (I-MAP)**
I-MAP focuses on mobility and transportation through the lifespan. Mobility and transportation enable activity, facilitate participation in society, promote access to goods and services, and enhances quality of life. (Director: Dr. Sandra Winter, Department of Occupational Therapy)

**UFTI Memberships**
- Council of University Transportation Centers (CUTC) [http://www.mycutc.com](http://www.mycutc.com)
- ITS America [http://www.itsa.org](http://www.itsa.org)
- ITS Florida [http://itsflorida.org](http://itsflorida.org)
SELECTED PROJECTS from UFTI Affiliates

GRIS: Georgetown Rail Inspection System
Georgetown Rail Equipment Company
Dr. James Baciak
Nuclear Engineering, UF

Intersection Safety Courses for Florida’s Rural Counties/Small Communities
U.S. Department of Transportation
Nina M. Barker
UFTI Transportation Technology Transfer (T2) Center

Before and After Implementation Studies of Advanced Signal Control Technologies in Florida
Florida Department of Transportation
Dr. Lily Elefteriadou
Professor & UFTI Director

Florida’s Pedestrian/Bicycling Safety Resource Center 2015
Florida Department of Transportation
Dr. Lily Elefteriadou
Professor & UFTI Director

Southeastern Transportation Research, Innovation, Development and Education Center (STRIDE)
U.S. Department of Transportation
Dr. Lily Elefteriadou
Professor & UFTI Director

Evaluation of Arterial Corridor Improvements and Traffic Management Plans in Florida
Florida Department of Transportation
Dr. Lily Elefteriadou
Professor & UFTI Director

Development and Testing of Optimized Autonomous and Connected Vehicle Trajectories at Signalized Intersections
Florida Department of Transportation
Dr. Lily Elefteriadou
Professor & UFTI Director

Florida’s Pedestrian/Bicycling Safety Resource Center 2015
Florida Department of Transportation
Mr. Chris LeDew
T2 Director (2014 to 2015)

Florida Minority Task Force on Occupant Protection 2015
Florida Department of Transportation
Mr. Chris LeDew
T2 Director (2014 to 2015)

Technology Transfer Support For 2015
Florida Department of Transportation
Mr. Chris LeDew
T2 Director

Implementing a Transportation Safety Center (TSC) Through Florida Local Technical Assistance Program (LTAP)
Florida Department of Transportation
Mr. Chris LeDew
T2 Director (2014 to 2015)

Local Technical Assistance Program (LTAP) for Florida Transportation Agencies 2015/2016
Florida Department of Transportation
Mr. Chris LeDew
T2 Director (2014 to 2015)

Elder Road User Information System 2014-2015
Florida Department of Transportation
Dr. William Mann Professor & Chair, Occupational Therapy

Loading on Coastal Bridges in Windstorms using Rapidly Deployable Senior Network
National Science Foundation
Dr. Jennifer A. Rice, Assistant Professor
Civil & Coastal Engineering
Sunshine Skyway Bridge Monitoring Phase I: System Assessment and Integration Recommendations
Florida Department of Transportation
Dr. Jennifer A. Rice, Assistant Professor
Civil & Coastal Engineering

CTQP Asphalt Course Revisions Paving Level 1-2014
Florida Department of Transportation
Dr. Wayne Rilko
T2 Center

Update of CTQP Asphalt Plant Level 1 & 2
Florida Department of Transportation
Dr. Wayne Rilko
T2 Center

Superpave IDT Tests on Asphalt Specimens
Asphalt Institute
Dr. Reynaldo Roque, Professor
Civil & Coastal Engineering

Impact of Recycled Asphalt Shingles (RAS) on Asphalt Binder Performance
Florida Department of Transportation
Dr. Reynaldo Roque, Professor
Civil & Coastal Engineering

Evaluation of Asphalt Pavement Interface Conditions for Enhanced Bond Performance
Florida Department of Transportation
Dr. Reynaldo Roque, Professor
Civil & Coastal Engineering

Evaluation of Reflective Cracking Mitigation Treatments Using the Composite Specimen Interface Cracking Test
Florida Department of Transportation
Dr. Reynaldo Roque, Professor
Civil & Coastal Engineering

Improved Analysis of Two-Lane Highway Capacity and Operational Performance
National Academy of Sciences
Dr. Scott Washburn, Associate Professor
Civil & Coastal Engineering

Highway Capacity Manual Enhancement Material
LEIDOS
Dr. Scott Washburn, Associate Professor
Civil & Coastal Engineering

Rips Type 2: Vulnerability Assessment and Resilient Design of Interdependent Infrastructures
NATL Science FOU
Dr. Yafeng Yin, Professor
Civil & Coastal Engineering

Optimising Operations and Management of Multi-Modal Urban Transport System for Environmental Improvement
Dalian University of Technology
Dr. Yafeng Yin, Professor
Civil & Coastal Engineering

Improvement and Application of the Market Acceptance of Advanced Automotive Technologies (MA3T) Model
UT-BATTELLE
Dr. Yafeng Yin, Professor
Civil & Coastal Engineering

A Unified and Sustainable Solution to Improve Crash Geo-Location Timeliness and Accuracy and HSMV Crash Data Quality
Florida Department of Transportation
Dr. Ilir Bejleri, Associate Professor
Department of Urban & Regional Planning

Expanding Accessibility, Utilization and Data Integration of Signal Four Analytics
Florida Department of Transportation
Dr. Ilir Bejleri, Associate Professor
Department of Urban & Regional Planning

Update of the Metroplan Orlando Crash Geospatial Database
Metroplan Orlando
Dr. Ilir Bejleri, Associate Professor
Department of Urban & Regional Planning

Maintenance Agreement for the Geospatial Crash Database for the Space Coast Transportation Planning Organization
Space Coast Transport Plan Organization
Dr. Ilir Bejleri, Associate Professor
Department of Urban & Regional Planning

Efficacy of a Driving Program on Safe Community Mobility for Combat Veterans
U.S. Department of Defense
Dr. Sandra Winter
Department of Occupational Therapy
Selected Publications


Selected Presentations


Bejleri, I. Visualizing traffic data using interactive web-based maps. Presented at the 40th International Forum on Traffic Records and Highway Information Systems; October 2014; St. Louis, MS.

Bejleri, I., Brown, D. Toward elimination of traditional post-report geocoding: A unified statewide geolocation web service for on-site crash mapping. Presented at the 40th International Forum on Traffic Records and Highway Information Systems; October 2014; St. Louis, MS.

Bejleri, I., Carrick, G., Scott-Walls, B. Electronic Citation Expansion in Florida. Florida Traffic Records Coordinating Committee; September 2014.

Bejleri, I., Fowler, M. Crash mapping made easy: improving geocoding using a GIS web-based custom mapping tool. Presented at the 40th International Forum on Traffic Records and Highway Information Systems; October 2014; St. Louis, MS.

Bejleri, I., Steiner, R., Neff, D.F., Harman, J., Lutz, B., Yoon, S., and Bumbach, M. Informing planning to address health care disparities - Spatial patterns of health professionals’ availability in medically underserved areas in the US. Presented at the Annual Conference of the Association of Collegiate Schools of Planning (ACSP); October 2014; Philadelphia, PA.


Carrick, G., Srinivasan, S., and Bejleri, I. Descriptive Analysis and Characterization of Secondary Traffic Crashes in Florida. Presented at the Annual
Meeting of the Transportation Research Board (TRB); January 2015; Washington, DC.
Carrick, G., Srinivasan, S., Bejleri, I. Descriptive Analysis and Characterization of Secondary Traffic Crashes in Florida. Presented at the Annual Meeting of the Transportation Research Board (TRB); January 2015; Washington, DC.
Neff, D.F., Harman, J., Bejleri, I., Steiner, R., Bumbach, M.*, Yoon S.H.*, & Lutz, B. Nurse Practitioner Geographic Distribution and Scope of Practice in Medically Underserved Areas in the US. Presented to Academy Health Annual Research Meeting; July 2015; San Diego, CA.
Ouyang, Y., Bejleri, I. A Spatial Data Mining Approach to Assist Safety Conscious Planning – A Case Study of Miami-Dade County, Florida. Presented at the Annual Conference of the Association of Collegiate Schools of Planning (ACSP); October 2014; Philadelphia, PA.
Schroeder, B., Jagannathan, R., Cunningham, C., Elefteriadou, L., Sampson, B. HCM-Based Performance Framework and Characteristics of Double Crossover Diamond Interchanges (DCD) and Displaced Left-Turn Intersections (DLT). Presented at the ITE 2014 Conference and Annual Meeting; August 2014; Seattle, WA.
Srinivasan, S. Route Choice Modeling Using GPS data. Presented at the Beijing Institute of Technology; 2014; Beijing, China.
Srinivasan, S. Evacuation of tourists under hurricane threats, presented at the International workshop on Emergent Safety and Security Issues on Urban Roadwork Management. Presented at Beijing Jiaotong University; 2014; Beijing, China
Srinivasan, S. Introduction to Activity Based Modeling, Short Course. Presented at Beijing Jiaotong University; 2014; Beijing, China.
Steiner, R. L. The Economics of School Transportation and Safe Routes to School. Presented at the Southeast Regional Health Impact Assessment (HIA) Summit; July 2014; Davidson, NC.
Steiner, R. L. Using Data in Health Impact Assessments (HIA). Presentation for Health Impact Assessment Training, Sponsored by the Healthiest Weight Florida and the Florida Public Health Institute (FPHI); May 2014; Orlando, FL.