

The National Center for Transportation Systems Productivity and Management

2012 Annual Report





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Sponsored by the Research and Innovative Technology Administration of the U.S. Department of Transportation (USDOT), the National Center for Transportation Systems Productivity and Management (NCTSPM) is one of twenty-two university transportation centers (UTCs) that provide oversight for federal funds used for transportation research. Partner institutions in the NCTSPM include Georgia Institute of Technology, Georgia Transportation Institute, Florida International University, University of Central Florida, and University of Alabama at Birmingham. Additional guidance is provided by the center's external advisory board, which is made up of distinguished members of the transportation community representing a wide array of public and private organizations.



We are excited by the diversity of projects represented in the following pages. From megaregion freight issues, to asset management, to driver distraction, the consortium partners of the National Center for Transportation Systems Productivity and Management (NCTSPM) have seized upon key issues facing our field today.

These issues loom large. Safety, the state of good repair, and economic competitiveness influence the productivity and management of today's transportation system. The NCTSPM is actively exploring the relationships between these areas, developing new approaches and solutions to current and future transportation challenges. The projects undertaken by NCTSPM reflect our commitment to confronting the complexity of these challenges.

The NCTSPM represents a successful collaboration between Georgia Institute of Technology, Georgia Transportation Institute, Florida International University, University of Central Florida, University of Alabama at Birmingham, each university's state Department of Transportation, and the U.S. Department of Transportation. The NCTSPM has also benefited greatly from the guidance and insights of an active advisory board, representing both the private and public sectors.

Going forward, our mission is no simple matter. Underpinning the health of our nation's people and economy is our transportation system. We are in the twilight of the current system, which was largely envisioned and constructed in the middle of the last century. It's time to move forward.

We are at the dawn of a new transportation paradigm. While the future contains many uncertainties—shrinking budgets, aging populations, environmental impacts, and limited system capacity—these challenges represent exciting opportunities for new technologies in our vehicles and roadways, diversified travel modes, and innovative financing strategies. Members of the NCTSPM look forward to tackling these issues.

Michael P. Hunter
Director

Introduction



Transportation is the backbone of all societies. It defines the rhythms of urban areas, the patterns of global migration, and the habits people form in their professional and personal lives. Complex transportation systems offer accessibility and mobility for hundreds of millions of people, and they are often the focus of strategies to improve the environment and promote greater livability. The condition and performance of the infrastructure that constitutes these systems also affect the lives of millions each day, and because transportation is a cornerstone of economies, strong and sustainable systems are necessary to achieve prosperity.

The future of transportation is one of the most critical issues facing the United States. The substantial growth in the demand for U.S. transportation systems over the next several decades will require public attention, political action, and innovative financing. Part of the debate in setting new directions for transportation policy will be in understanding and communicating the importance of transportation to society, whether measured in economic terms, lives saved, system performance measures, or perceptions of quality of life. Thus, it will be the interactions between transportation systems and other societal factors that will be critical in laying the groundwork for providing and managing infrastructure and services to handle future needs. It was on such a premise that the NCTSPM was awarded a Tier-1 university transportation center (UTC) grant.

The center's strategic objectives include:

- ◆ Conduct multidisciplinary research on topics relevant to the relationship among transportation infrastructure, economic competitiveness, and safety.

- ◆ Disseminate research results and other products of the center to the transportation community.
- ◆ Promote transportation education and professional development on topics relating to center research issues.
- ◆ Establish a central point of contact and promotion of best practices (e.g., through a website or LISTSERV) for materials relating to transportation systems performance and management.
- ◆ Promote diversity in the workforce through active recruitment of women and minority students for degree programs.
- ◆ Act as a national resource for discussions on the evolving national transportation program.
- ◆ Explore international cooperative activities with research entities in selected countries where similar interests exist.

The research, education, and technology transfer activities of the center provide a sound "laboratory" for examining transportation issues of importance to the rest of the nation. Center researchers examine both the challenges and opportunities associated with the changing role of transportation systems. Research, education, and professional development activities aim to increase the number, diversity, and capabilities of transportation professionals in the nation. Capitalizing on the abilities and resources of the consortium partners, the NCTSPM is building on a proven record of excellence.

Management Structure

Central management of NCTSPM is provided through Georgia Tech, where Michael P. Hunter, an associate professor in Georgia Tech's School of Civil and Environmental Engineering, serves as director of the center. Hunter also serves as director of the Georgia Transportation Institute, a research and education organization of several Georgia universities that is sponsored by the Georgia Department of Transportation.

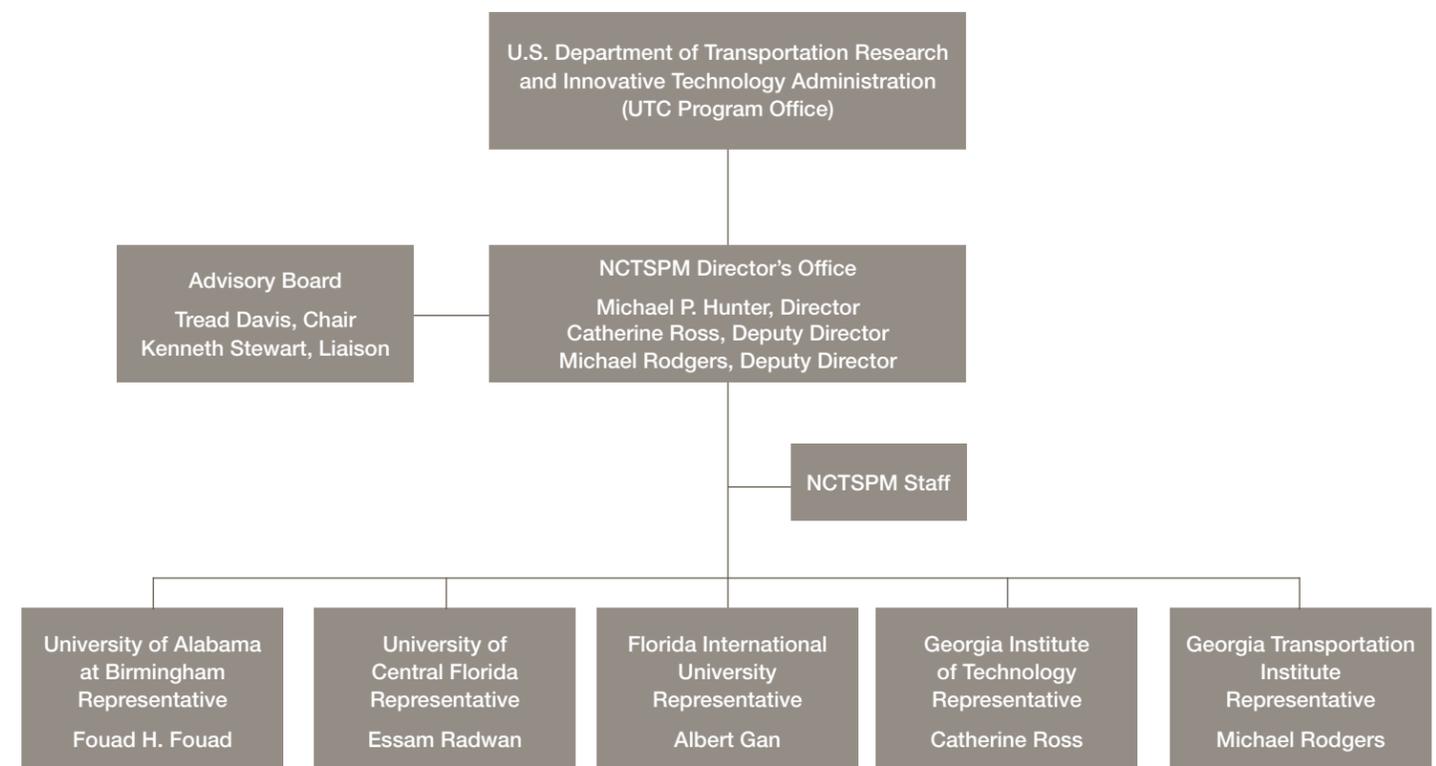
The deputy directors of the NCTSPM are Catherine Ross and Michael Rodgers. Ross is the Harry West and Advance Professor in Georgia Tech's School of City and Regional Planning and serves as the director of the Center for Quality Growth and Regional Development. Rodgers is a Distinguished Technical Fellow in Georgia Tech Research Institute's Aerospace, Transportation, and Advanced Systems Laboratory and is an adjunct professor in the schools of Civil and Environmental Engineering and Public Policy. Ross and Rodgers assist in overseeing programs in research, technology transfer, education, workforce development, outreach, and policy.

Managing the NCTSPM programs and projects in each of the partner institutions is the responsibility of the partner

representatives at each of these institutions. In addition to the Georgia Tech personnel, they include: Fouad H. Fouad, professor and chair of the Department of Civil, Construction, and Environmental Engineering at the University of Alabama at Birmingham; Albert Gan, professor of Civil and Environmental Engineering at Florida International University; and Essam Radwan, executive director of the Center for Advanced Transportation Systems Simulation (CATSS) and professor of Civil and Environmental Engineering at the University of Central Florida. Coordination of programs across the partner institutions is managed by the NCTSPM steering committee, which is comprised of the center director and the partner representatives.

Management

- ◆ Michael P. Hunter: NCTSPM Director
- ◆ Michael D. Meyer: NCTSPM Director Emeritus
- ◆ Catherine Ross: NCTSPM Deputy Director
- ◆ Michael O. Rodgers: NCTSPM Deputy Director
- ◆ Randall Guensler: Information Systems Management
- ◆ Tread Davis: Advisory Board Chair
- ◆ Kenneth Stewart: UTC Board Liaison
- ◆ Audrey Leous: Coordinator and Research Scientist



Partner Institutions

Florida International University

Florida International University (FIU) is a public research university in Miami, Florida. With a student body of nearly 50,000, FIU serves a large number of economically disadvantaged students. Nearly 50 percent of all undergraduate students at FIU receive financial aid, and nearly 60 percent of those recipients come from families with annual household incomes under \$30,000. FIU is a member of Hispanic Serving Institutions, defined by the Hispanic Association of Colleges and Universities as “colleges, universities, or systems/districts where total Hispanic enrollment constitutes a minimum of 25 percent of the total enrollment.” FIU is the largest producer of Hispanic engineers in the continental United States. It is also home to The Lehman Center for Transportation Research (LCTR) established in 1993 to meet the transportation research, education, and training needs of the South Florida region.

Georgia Institute of Technology

The Georgia Institute of Technology is one of the world’s premier research universities. Ranked seventh among *U.S. News & World Report’s* top public universities, the Institute enrolls 21,000 students within its six colleges. Georgia Tech is the nation’s leading producer of engineers as well as a leading producer of female and minority engineering PhD graduates. Georgia Tech ranks among the nation’s top ten universities (without a medical school) in research expenditures. Georgia Tech is home to the Center for Quality Growth and Regional Development, an applied research center created to help society achieve a sustainable, equitable, superior quality of life through effective planning, policy, and design. It is also the lead university for the Georgia Transportation Institute.

Georgia Transportation Institute

The Georgia Transportation Institute (GTI), a partnership between the Georgia Department of Transportation and participating Georgia universities, seeks to address today’s real-world transportation challenges, focusing on issues critical to the state of Georgia. In addition, GTI is active in education, placing significant importance on the support of graduate and undergraduate students through GTI research projects and fellowships. GTI universities actively participating in the NCTSPM currently include Georgia Tech, Georgia Southern University, Georgia State University, Southern Polytechnic State University, and Spelman College—the latter being a historically African American institution.

The University of Alabama at Birmingham

With nearly 18,000 students, The University of Alabama at Birmingham (UAB) offers an academic experience fueled by innovative curricula, strong mentoring, and groundbreaking research and scholarship in a highly interdisciplinary environment. UAB was recently among only eleven universities nationwide (and the only Alabama university) to receive the prestigious Beckman Scholars Program Award, which provides scholarships for promising undergraduate researchers at universities that have demonstrated exceptional mentoring and training. UAB is a member of the University Transportation Center for Alabama, which conducts transportation education, research, and technology transfer activities throughout the state and region. UAB is also home to the UAB Sustainable Smart Cities Research Center, which seeks to foster cross-disciplinary research and training, and to develop innovative solutions for sustainable smart cities and communities.

University of Central Florida

The University of Central Florida (UCF) is a bustling research institution in the heart of the state. Situated in the prime location of Orlando, the university offers opportunities in many fields that benefit students while they are in school, helping them land a career upon graduation. UCF prides itself on being an ever-changing and evolving research center. More than 56,000 students attend classes on UCF’s main campus and its ten regional campuses, which are located throughout Central Florida. The university is a catalyst for growth for the area, bringing its benefits to the entire community. UCF houses the Center for Advanced Transportation Systems Simulation (CATSS). CATSS has a theme consisting of four core research focuses: Advance Intelligent Transportation Technologies and Communications, Traffic Safety, Simulation and Advanced Training for Transportation Applications, and Congestion Pricing.

Other Partnering Organizations:

- Georgia Department of Transportation
- Florida Department of Transportation
- Alabama Department of Transportation

Other Collaborators:

- Morehead State University
- Saint Louis University

Budget

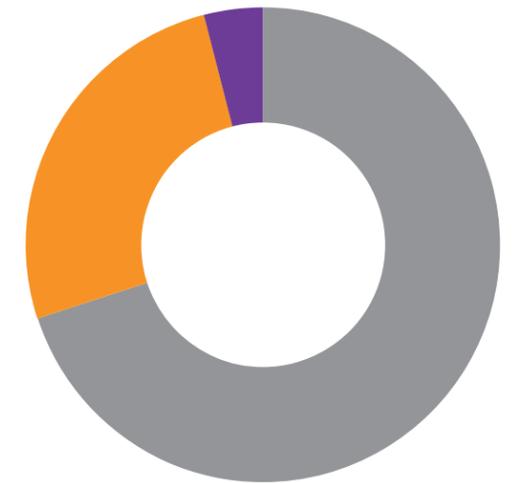
The budget of the NCTSPM is more than \$7 million, with \$3.5 million from the USDOT and more than \$3.5 million in matching funds from participating state DOTs, universities, local government agencies, and foundations. The following charts indicate the relative allocations to research, programmatic activities (e.g., technology transfer, education, workforce development), and administration. It is a primary goal of the

NCTSPM, as a national university transportation center, to support high-quality, relevant research and critical national needs as well as serve as the training ground for the next generation of transportation professionals. As such, many of the research allocations indicated below represent financial support for graduate and undergraduate students at each of the participating institutions.

Allocation across Functions

- Research: 70%
- Programs: 24%
- Administration: 6%

Note: Center programs include technology transfer, outreach, education, and workforce development.



Allocation across Universities

- Georgia Tech/GTI: 43%
- University of Alabama at Birmingham: 20%
- Florida International University: 19%
- University of Central Florida: 18%





ASSET MANAGEMENT

Development of a Prototype Evidence-Based Database and Planning Tool: Applying Performance Management Principles in Asset Management Program Development

Principal Investigator: Adjo Amekudzi, Georgia Tech

As long as funds are limited, upper-level managers in state transportation agencies will ask what the benefits of asset management are. Political decision makers are likely to ask the same question, because agencies have to trade off scarce resources between addressing a backlog of infrastructure deficiencies and developing an asset management program.

Most officials who have asked this question have not received satisfactory answers. The question has led to several research studies to quantify or otherwise assess the benefits of transportation asset management (Haas and Hensing, 2005; Kraus, 2004; Mizusawa and McNeil, 2009; Akofio-Sowah, 2011); however, few if any of these studies have produced actionable results with reason. In a recently completed project, sponsored by the Georgia Department of Transportation (DOT), called “Comprehensive Transportation Asset Management: Risk-Based Inventory Expansion and Data Needs,” one of the main objectives was to assess the benefits and costs of transportation asset management (TAM) in order to prioritize ancillary transportation assets for inclusion in an asset management program (Georgia Tech, 2011). Several critical findings were made in this study.

In particular, because TAM is an evolving practice, the benefits of a TAM system are not static; they are dynamic. Hence, the answer to questions about the benefits of a particular asset management program can be misleading if not viewed within a broader framework of program maturity evolution over time.

The purpose of this research is to develop an evidence-based planning tool and database that will help agencies plan the development of their asset management programs using the best accumulated evidence. The tool will allow agencies to contribute lessons learned as a means of identifying: best practices for achieving performance outcomes with program maturity; organizational processes, analytical tools and supporting data, and information technology tools that have proven effective; and, just as important, elements of asset management programs that have not worked very well.

Specifically, the research will apply an evidence-based design (EBD) framework. EBD originated in the healthcare industry as a combination of evidence-based medicine and evidence-based practice. It is a process for creating healthcare buildings, informed by the best available evidence, with the goal of improving outcomes and continuing to monitor the success of design for subsequent decision making. EBD is a process for making optimal design decisions that incorporate credible case studies in the design of a similar system.

EBD designs or retrofits facilities with features proven to improve patient safety, accelerate healing, improve staff

productivity, reduce energy consumption, etc. In the same way, several elements of TAMs have been known intuitively to bring benefits to agencies and system users. Adopting an evidence-based framework for the evolution of TAM programs will involve evaluating the impacts that various programs, processes, and tools adopted have had on actual program performance, with the intention of isolating elements that show evidence of contributing to improved performance.

Specifically, the study has five main objectives:

1. Conduct literature review on EBD and performance management.
2. Work with the American Association of State Highway and Transportation Officials (AASHTO) and Transportation Research Board (TRB)—and potentially representatives of other professional organizations—to determine and refine key performance indicators for tracking asset management program performance.
3. Design and conduct multiple case studies to collect best practices and lessons learned in asset management program development. These case studies will form the basis of an evidence-based asset management program development database. The case studies will include the Georgia DOT, Florida DOT, and Alabama DOT.
4. Develop a study to evaluate program maturity levels against key performance indicators using state DOT asset management programs. The objective of this study will be to assess where programs are in terms of maturity and performance to identify which asset management program elements seem to be linked more readily with high performance programs.
5. Develop a prototype evidence-based database and planning tool for performance-based planning of asset management program development to assist with the development of high maturity/high performance programs. We envision this database and planning tool as a knowledge-based system that includes case studies of best practices and lessons learned, data on the key performance indicators for several asset management programs, core values of high maturity/high performance programs, and common mistakes that can affect performance output.

These tasks are expected to lead to recommendations on how the prototype database and planning tool can be converted into a live and evolving database and tool that agencies can systematically contribute to (on a peer-review

basis) in order to create an evolving decision support system that assists agencies with creating higher-performance asset management programs.

DIGITAL BILLBOARDS

Digital Advertising Billboards and Driver Distractions (UAB, FIU)

Principal Investigator: Virginia Sisiopiku, UAB

There is growing concern that roadside advertising presents a real risk to driving safety, with conservative estimates putting external distractions responsible for up to 10 percent of all traffic incidents. Studies indicate that anything that distracts the driver from the forward roadway for more than two seconds significantly increases the chances of crashes and near crashes. Reports confirm that 23 percent of crashes and near crashes that occur in metropolitan areas are attributable to eyes off the forward roadway for longer than two seconds. Nearly 80 percent of crashes and 65 percent of near crashes were caused by distractions that made the driver look away for up to three seconds.

Digital billboards feature bright light, vibrant color, and image changes or motion, and they are designed to pull viewers' attention to the advertisement displays. As such, these displays may divert drivers' attention from the safe operation of the car and cause crashes. Studies sponsored by billboard advertising companies maintain that digital billboards do not cause a change in driver behavior in terms of visual behavior, speed maintenance, or lane keeping.

In the past, attempts have been made to show that drivers' diminished attention could result in more crashes in the vicinity of such billboards, but because of problems with these studies, this has never been shown in a sufficiently reliable manner. Due to growing debate on this issue, an objective evaluation is needed to determine if the presence of digital billboards really distracts drivers or not and, if distraction occurs, to what extent.

This project looks at the issue of digital advertising billboards and driver distraction to determine the correlation between the presence of digital billboards and traffic safety through literature review, crash data analysis, driver survey, and empirical study using a driving simulator. Here is a deeper look at the steps:

1. State-of-practice-synthesis: Summarize findings from existing studies on digital billboards and driver distraction and review methodologies used.

Featured Projects (continued)

2. Epidemiological study: Analyze crash records from Alabama and Florida and use appropriate statistical methods to examine the correlation between crash location and proximity to billboards.
3. Survey of road users: Develop a questionnaire survey and use it to collect data on road users' perceptions of, and attitudes toward, electronic and static billboards.
4. Driving simulator study: Design and conduct an experiment using a driving simulator with representative driver samples in various roadway settings with and without the presence of digital billboards.

Building on the expertise of the project team, this study is undertaking a comprehensive approach for establishing potential correlations between digital billboard presence and crash risk. This would be one of the very few independent studies of this kind in the U.S. not funded by electronic billboard providers.

Increasing motorist safety is a topic of national significance, and this project will investigate, in depth, motorists' distraction by digital billboard signs and will formulate conclusions and recommendations to guide decision making related to the use of such signs in the future.

TRAFFIC MANAGEMENT

Efficient Utilization of an Existing Intelligent Transportation System (ITS) and the Viability of a Proactive Traffic Management System for the Orlando-Orange County Expressway Authority System

Principal Investigator: Mohammed Abdel-Aty, UCF

Traffic detection technology is key to any ITS, and there is a wider range of vehicle-detection devices in use than ever before on freeways and expressways. The Central Florida Expressway System utilizes the Automatic Vehicle Identification (AVI) system for electronic toll collection (ETC) and to provide real-time information to motorists. Data are gathered using AVI tag readers installed for toll collection, and ETC systems can easily support other value-added services on the same technology platform (including fleet management systems or emergency response services).

The availability of traffic data has inspired a new series of studies in traffic safety in which traffic conditions before historical crashes may be collected and analyzed to identify patterns that commonly occur before crashes. The main objective of this research is to investigate the viability of using AVI traffic data in the identification of freeway real-time "hot-spots" in a proactive traffic management framework.

Guidelines will be provided to adapt the existing structure of the AVI system to provide more useful data.

The research will try to answer two main questions:

1. How can the Orlando-Orange County Expressway Authority improve and expand the ITS applications using the existing infrastructure?
2. What can the expressway authority do to improve its ITS implementation in the future? This might include ITS infrastructure investment and potential new applications.

Answering these questions requires seven basic steps:

1. Data collection: Develop a database to include crashes and their corresponding AVI data. Weather information might be obtained from adjacent airports and verified using crash reports.
2. Preliminary analysis: Conduct a preliminary safety analysis to identify locations with increased crash risk and to analyze the contributing factors.
3. Statistical models development: Calibrate various statistical models to classify precursor traffic conditions from normal traffic conditions. These models may include classical statistics, Bayesian and advanced data mining techniques.
4. Identification of specific crash type: Develop models to identify specific traffic patterns preceding the most frequent crash type, rear-end crashes. Queue warnings could be a direct result of this task.
5. Dynamic messages (driving simulation and/or user preference survey): Integrate dynamic messages based on risk level within the existing Advanced Traveler Information System (ATIS). This system can also be incorporated into any congestion pricing and/or routing guidance system. Appropriate messages will be selected using driving simulation and/or a user preference survey.
6. System evaluation (micro-simulation): The proposed overall framework will be tested and evaluated through micro-simulation.
7. Recommendations: A framework using the calibrated models will be provided. Additionally, guidelines to adapt the existing AVI system, location and spacing of the tag readers, and a complete data archiving system will be presented.

This project offers a framework to better incorporate safety and more efficient operation into the existing ATIS on Orlando's expressway network.



Additional Projects

Optimizing Emergency Medical Services (EMS) Through the Use of Intelligent Transportation Systems (ITS) Technologies (UAB, FIU)

Principal Investigator: Andrew Sullivan, UAB

EMS operations can greatly benefit from the integration of ITS technologies into the transportation system's infrastructure and into the emergency vehicles themselves. The expected benefits from this synergy are tremendous for the healthcare sector, the transportation sector, and the public. This research project investigates needs and opportunities associated with the use of ITS as a tool for improving healthcare delivery practices during routine as well as emergency operations.

Information Services in Social Networked Transportation

Principal Investigator: Hans Klein, Georgia Tech

Over the past twenty years, the transportation sector has experienced an information technology (IT) revolution, as the national program in ITS planned and launched a wide

variety of IT-based systems. Today, the transportation sector is poised for a second IT-driven revolution, social networked transportation (SNT), which realizes the functionality of social networks in the transportation sector. SNT leverages preexisting IT investments to realize new services and functions that significantly enhance mobility. This project combines research in social networking and research in transportation to achieve useful insights into SNT. It seeks to understand the functions and the benefits of SNT, the processes that make SNT possible, and the institutional innovations needed to facilitate those processes.

Performance Measurements of Transportation Systems Based on Fine-Grained Data Collected by Automatic Vehicle Identification (AVI) and Automatic Vehicle Location (AVL) Systems (UCF, FIU)

Principal Investigator: Mohammed Hadi, UCF

Performance measurement is an important component of planning and operating transportation systems. Increasingly, transportation agencies have been interested in using data

collected from point traffic detectors installed as parts of ITS for the estimation of transportation system performance measures and the use of these measures in the active management of transportation systems. Some agencies have utilized or are considering using AVI technologies for estimating travel time in real-time applications. This project will investigate the opportunities for more detailed performance measurements of transportation systems based on AVI, AVL, and APC data and the utilization of derived measures for active performance management of the transportation systems.

Mobile Technology Usage among the Transit-Riding Populace

Principal Investigator: Kari Edison Watkins, Georgia Tech

If transit agencies hope to retain choice riders and increase ridership, they need to allow riders to maintain some control over their trips by providing them with real-time information. Unknown wait times mean riders will stand at a corner scanning the horizon for an approaching bus, wondering when or if it will come. By knowing when the bus will actually arrive, the entire picture changes. This project will analyze how transit information should be presented to the public in an equitable manner. This addresses the prevailing use of smartphones for real-time transit data, the market penetration of smartphones among transit riders, and other ways to make the data accessible to the public.

Bringing Freight Components into Statewide and Regional Travel Demand Forecasting

Principal Investigator: David Jung-Hwi Lee, Georgia Tech

A GPS-based database of truck travel may lower the hurdle of the lack of detail and disaggregation of existing data, so that regional planning organizations can easily develop FDMs in conjunction with travel demand forecasting models. Incorporated with other existing data, a set of GPS data will provide detailed O-D information, critical routes for goods movement, operating speeds of a large sample of trucks along major highways, travel times, flows for intercity truck traffic, significant truck corridors, etc. This study will explore various possible ways that GPS-based truck movement data can contribute to freight demand forecasting at the state and regional levels.

Development of Risk Management Strategies for State DOTs to Effectively Deal with Volatile Prices of Transportation Construction Materials

Principal Investigator: Baabak Ashuri, Georgia Tech

Transportation agencies across the nation are facing rising costs for construction of new highways, as well as maintenance and modernization of existing infrastructure systems. Therefore, the purchasing power of transportation agencies has been declining due to construction cost inflation. The objective of this project is to enhance transportation agencies' understanding of the opportunities, challenges, and best practices for utilizing risk management strategies for material price volatility in transportation projects. The final deliverable of this project is a comprehensive risk management guide that systematically addresses risk management for material price volatility in different types of highway projects at various phases of project development.

Freight Movement and Economic Competitiveness from the Megaregion Perspective

Principal Investigator: Catherine Ross, Georgia Tech

Over the next thirty years, the majority of population and economic growth in the United States will concentrate in the emerging networks of metropolitan centers and their areas of influence known as megaregions. Increasing international free trade in the global economy will place additional pressure on existing freight infrastructure within and between megaregions. This project will examine policy implications of the megaregional approach for freight planning in a global economy. The project will construct U.S. megaregion-level freight data, identify major region pairs of freight movement within and between megaregions, assess the characteristics of the identified major region pairs, and analyze the impacts of the identified freight movement on the regional economic growth in core and rural areas of megaregions.

Economic Development and Workforce Impacts of State DOT Expenditures

Principal Investigator: Thomas Boston, Georgia Tech

This research will measure the economic development impact of the Georgia DOT's highway expenditures on economic activity, income, employment, and workforce development, and generalize these results to other state DOTs. The analysis will examine impacts in every prime contract and subcontract award made by the Georgia DOT over the past three years. A statewide input-output model



Additional Projects (continued)

will be used to estimate the multiplier effect of the award on economic activity, income, and employment throughout the state. Special attention will be given to economically disadvantaged communities and environmental justice areas.

Reducing Service Interruptions in Linear Infrastructure Systems (Transportation and Water/Sewer) by Synchronizing Schedules for Selected Maintenance Activities (UCF, Georgia Tech)

Principal Investigator: Berrin Tansel, UCF

Lifeline systems are facilities that provide the main utility or transportation services to a community (e.g., electric and portable water transmission and distribution, wastewater collection and treatment). The extent of interdependency of the lifeline system plays a significant role in the vulnerability of a community. Increasing population density and increased vulnerability of the coastal areas to hurricanes has created major challenges for communities, especially with increasing awareness after recent disasters. This research will demonstrate the infrastructure limitations (design and operation) of lifeline facilities for coastal communities, identify critical bottlenecks in service quality, and show how failure will propagate through the system. It also looks at how to develop coordinated maintenance schedules to minimize (or reduce) service interruptions and increase maintenance cost effectiveness.

Traffic Management Centers (TMCs): Challenges, Best Practices, and Future Plans

Principal Investigator: Xia Jin, FIU

TMCs are the “brains” for most freeway and arterial management systems. TMCs monitor and manage the traffic flow and the transportation network, as well as provide traveler information through the deployment of various ITS technologies and proactive management strategies. This research will provide an updated and comprehensive scan of current practices in TMC operations. The results of this study will help agencies assess their practices, learn from others’ experiences, improve the performance and services of the centers, and contribute to the efficient management of the transportation network and effective implementation of technologies in responding to traffic conditions and emergencies.

Impact and Feasibility Study of Solutions for Doubling Heavy Vehicles (UAB, FIU)

Principal Investigator: Nassam Uddin, UAB

Many of the details used in older steel bridge girders are prone to fatigue failures directly related to truck weight. Repetitive loading may cause fatigue cracking in these steel members and limit the service life of a bridge. Truck weight frequency distributions by vehicle type (i.e., truck weight histograms) are needed to estimate the effects on remaining life and the costs caused by changes in legal and permit truck weights. Because carrying higher payloads can reduce the operating costs of truck operators, the possibility of a growing share of freight will be considered in estimating the future truck weight distribution and truck traffic. The goal of this project is to determine if allowing an increase in truck weight provides better or worse bridge durability and longevity when compared to increasing the number of trucks to meet freight demands.

Factors Influencing Visual Search in Complex Driving Environments

(Georgia Tech, UCF, Morehead State)

Principal Investigator: Michael Hunter, Georgia Tech

Human factors engineering, which attempts to account for the capabilities and limitations of drivers, promises to provide ways to improve safety by designing more forgiving systems and environments. By understanding a driver’s perception of the environment, engineers can make informed design changes to operational environments (such as temporary work zone areas and approaches) and reduce the potential for driver confusion, thus improving safety for both workers and drivers. The central focus of this research is to identify changes in the visual search patterns of drivers as environments become more complex. The overarching focus of the project is safety enhancement.

Full-Scale Wall of Wind Testing of Variable Message Sign (VMS) Structures to Develop Drag Coefficients for American Association of State Highway and Transportation Officials (AASHTO) Supports Specifications (FIU, UAB)

Principal Investigator: Adrindam Chowdhury, UAB

The use of ITS technologies on highways is an attractive option for traffic facility operators. VMS structures are the cornerstone of ITS infrastructure, as they relay messages to motorists warning of hazards ahead such as fog, traffic congestion, accidents, construction, and lane closings. VMS

messages are of paramount importance in ensuring safety and avoiding fatal crashes. The objective of this project is to develop accurate drag coefficients for incorporation into AASHTO Supports Specifications to foster safer and more economic design of VMS structures.

Next-Generation Wireless Bridge Weigh-in-Motion (WIM) System Incorporated with Nondestructive Evaluation (NDE) Capability for Transportation Infrastructure Safety (Georgia Tech, UAB)

Principal Investigator: Yang Wang, Georgia Tech

Overloaded commercial vehicles can endanger the safety of transportation infrastructure and cause expensive premature structural damage. Bridge WIM is a method through which an existing bridge is used as a weighing scale to identify the axles and gross weight of passing trucks. The system can provide information on overloading and potentially protect the bridge from sudden collapse. This project will develop rapidly deployable, portable wireless bridge WIM systems with enforcement and monitoring capability. The research will deliver a low-cost, easy-to-install-and-maintain, reliable monitoring system for long-term next-generation WIM and NDE deployment on bridges.

Integrating Safety in Developing a Variable Speed Limit (VSL) System (UCF, Georgia Tech)

Principal Investigator: Mohammed Abdel-Aty, UCF

VSL systems have been widely used in the U.S. and European countries. They represent a vital component of an Active Traffic Management System, which has been suggested by the Federal Highway Administration as the next step in tackling the U.S. freeway congestion problem. This research will be one of the first attempts to develop a VSL algorithm based on real-time safety risk estimation.

Micro-Dynamics of Business Location and Growth and its Effects on the Transportation Network and Congestion in Georgia and the Southeast Region

Principal Investigator: Vivek Ghosal, Georgia Tech

The project will examine selected industries that are: a) economically important in Georgia/the broader Southeast region, and b) some of the important drivers of demand for transportation. Examining the link between the micro-dynamics of industrial location and growth and the demand for transportation is important for several reasons. A more efficient and less congested transportation system, for example, will mean lower costs for the industries. To truly

understand the complexities of transportation and its impact, our contention is that one needs to focus on some of the core industries that generate demand for the various modes of transportation. The research is novel in its use of pooling new as well as existing data sources to explore the little understood linkages between the micro-foundation of industry dynamics and economic activity, and the macro-congestion aspects of freight transport.

Automated Data Collection for Origin/Destination Studies of Freight Movement

Principal Investigator: Amr A. Oloufa, UCF

The collection of reliable origin/destination data for freight has profound consequences for a large range of applications in both planning and operations. In an exploratory project, the principal investigator and his research team developed a novel approach for tracking trucks using their license plate numbers, allowing for speed and travel time measurements for each truck. This information can then be used in an origin/destination model. That project demonstrated the feasibility of the approach; however, more work needs to be done before a system can be adopted for wide application. In the proposed project, limitations in the previous effort will be addressed, and the field test will be expanded to three gantries covering a total of nine lanes.

Enhanced Role of Activity Center Transportation Organizations in Regional Mobility

Principal Investigator: Angshuman Guin, Georgia Tech

Major activity centers, with concentrations of employment, and residential and shopping activities, are an important part of the metropolitan form of today’s urban areas. In many cases, these activity centers have formed transportation management associations (TMAs) to support the transportation needs of the employees working within the TMA boundary. In addition, many of these same areas have formed community improvement districts (CIDs), which allow for the commercial landowners in the districts to self-impose taxes to provide funds for transportation and other improvements. One of the areas that these organizations have not been actively involved in has been the real-time operations of the transportation system. This research will support the implementation of road operations strategies under the auspices of the Buckhead, Georgia CID, assess the feasibility and effectiveness of activity center management associations in such strategies, and generalize the results of the research to other activity center contexts.



Georgia Tech's Advanced Civil Infrastructure Management course is also known as "Boot Camp," and for good reason. It allows students to gain in-depth knowledge, develop mini-projects, and network with other students with similar research interests. The Boot Camp gives students an immersion experience in an infrastructure management course focused on physical assets.

Transportation Systems graduate students Margaret-Avis Akofio-Sowah, Richard Boadi, Janille Colin-Smith, Chenglong Jiang, and Ross Wang, along with Building Construction graduate student Kia Mostaan participated in the two-week-long intensive course from June 3 to June 15, 2012. The four-credit course brings together students and instructors from Georgia Tech, University of Delaware, The University of Iowa, Purdue University, The University of Texas at Austin, Virginia Tech, and University of Waterloo. Topics include

infrastructure performance, data management, deterioration modeling, sensors, risk and reliability analysis, optimization, and research methods.

Angela Alexander, director of organizational performance management at the Georgia Department of Transportation (GDOT), offered a guest lecture on the implementation of asset management as a business process within the agency. The course project required student teams to develop an asset management implementation plan for GDOT.

The 2012 Boot Camp instructors included Adjo Amekudzi (Georgia Tech), Gerardo Flintsch (Virginia Tech), Samuel Labi (Purdue University), Hosin Lee (The University of Iowa), Sue McNeil (University of Delaware), Lisa Rosenstein (Georgia Tech), Susan Tighe (University of Waterloo), James Tsai (Georgia Tech), and Zhanmin Zhang (The University of Texas at Austin). The course was co-sponsored by the NCTSPM.

FEBRUARY 2

Network Structure and Travel Behavior

David Levinson

Transportation networks have an underlying structure defined by the layout, arrangement, and connectivity of the individual network elements, namely road segments and their intersections. The differences in network structure exist among and between networks. This presentation argued that travelers perceive and respond to these differences in underlying network structure and complexity, resulting in differences in observed travel patterns. This hypothesized relationship between network structure and travel is analyzed using individual and aggregate level travel and network data from metropolitan regions across the U.S. Various measures of network structure, compiled from existing sources, are used to quantify the structure of street networks. The relation between these quantitative measures and travel is then identified using econometric models.

MARCH 7

What We Can't Observe: Accounting for Latency in Joint Models of Activity-Travel and Location Choice Behavior

Ram M. Pendyala

Forecasting a region's travel has long relied on models of human travel behavior capable of representing the inter-relationships among a multitude of activity-travel and location choices that people make over time and space. However, an issue that is often overlooked in choice modeling efforts is that key phenomena underlying model specification and estimation are often unobserved. As a result, analysts end up making very significant assumptions regarding underlying

choice processes that may not necessarily be reflective of the behavioral heterogeneity present in the sample. Unfortunately, in many modeling contexts, these underlying phenomena are unobserved. This presentation articulated the problem and offered two contexts where the notion of latency was explicitly incorporated into the econometric behavioral model formulation.

APRIL 5

Urban Transportation: Developments and Progress toward Livable Cities

Vukan R. Vuchic

This seminar offered an overview of several stages of transportation-city relationships, followed by a review of transportation modes and their characteristics. Serious problems of traffic congestion and methods for achieving a balanced transportation system, particularly between private cars and public transportation, were defined. Examples from many world cities offered valuable lessons in successes and mistakes, emphasizing the great need for better understanding of the complex problems of urban transportation.

OCTOBER 18

Federal Transportation Funding: A Conversation with Joshua Schank

This lecture and discussion with Eno Foundation President and CEO Joshua Schank focused on the passage of MAP-21 and the future of federal transportation legislation. Schank was transportation policy advisor to Sen. Hillary Clinton during the development of the last surface transportation authorization bill (SAFETEA-LU).



2012 Scholarships and Awards

Abdul Muqueet Abro

Advisor: Virginia Sisiopiku
2012 Graduate Assistant Fellowship Recipient

Abdul Muqueet Abro is a PhD candidate in Transportation Engineering at the University of Alabama at Birmingham (UAB). He has an MSCE degree from UAB and has worked as a transportation engineering consultant in the Birmingham, Mobile, and Atlanta regions. As part of a multidisciplinary study funded by the National Institutes of Health, his dissertation work aims at building a multilevel measurement model of the key social factors influencing the population-level patterning of weight status in urban communities. He has published six technical papers and served as president of the UAB ITE Student Chapter.

Margaret-Avis Akofio-Sowah

Advisor: Adjo Amekudzi
Sam Nunn Fellowship
\$69,500 Eisenhower Fellowship
\$2,000 WTS Foundation Helene M. Overly Memorial Scholarship

Margaret-Avis Akofio-Sowah is a third-year PhD student in the School of Civil and Environmental Engineering at Georgia Tech. She earned her BS in Engineering Science with a concentration in Civil Engineering from Smith College and then received a master's degree in Civil Engineering from Georgia Tech. Her research focuses on transportation infrastructure (asset) management with an emphasis on effective ways of implementing asset management programs. As a Sam Nunn Fellow, she hopes to study policy implications of infrastructure management as it relates to transportation.

Eileen Cabrera

Advisor: Mohammed Hadi
\$2,000 Anne Brewer Scholarship
Eileen Cabrera is the first-place recipient of the Anne Brewer Scholarship from ITS Florida. The scholarship, which included \$2,000 and a certificate, was presented at the awards banquet at the TRANSPO 2012 Conference in Bonita Springs, Florida. She received her undergraduate degree from Florida International University (FIU) in December 2011. She is currently pursuing a master's degree from FIU, and is expected to graduate in August 2013. Her work experience includes interning at the Florida Department of Transportation District 4 as part of FIU's UTC internship program, and working as a graduate research assistant with the FIU ITS Laboratory.

Margaret Carragher

Advisor: Kari Watkins
\$3,500 Eisenhower Transportation Fellowship
\$1,500 Eisenhower Fellowship

Margaret Carragher is a first-year dual degree student in Civil Engineering and City Planning at Georgia Tech. Her focus in both is improving transit and transit ridership in urban areas. Her research is focused on determining the impact that schematic maps have on traveler mode choices in Atlanta, Georgia.

Felipe Castillon

Advisor: Jorge Laval/Randy Guensler
\$3,500 Eisenhower Fellowship
\$1,500 Eisenhower Transportation Fellowship

Felipe Castillon is a second-year PhD student at Georgia Tech with a focus on traffic flow theory. He studied at College of the Holy Cross, where he received a BA in Economics, and at Columbia University, where he received a BS in Civil Engineering.

Jamie M. Fischer

Advisor: Adjo Amekudzi
\$35,500 Eisenhower Fellowship
\$5,000 WTS Foundation Terry Gruver Leadership Legacy Scholarship

Jamie M. Fischer is a fourth-year Georgia Tech PhD candidate who is passionate about engineering, education, and communications. Her research focuses on incorporating human and quality-of-life concerns into infrastructure management in general and transportation decision making in particular. In her graduate coursework, she focuses on geospatial and statistical analysis methods, survey methodologies, transportation linkages to public health, and infrastructure management. She is active in the Institute of Transportation Engineers and Women's Transportation Seminar (WTS) at Georgia Tech; she served as WTS president during the 2010-2011 term.

Franklin Gbologah

Advisor: Michael Rodgers
\$5,000 Eisenhower Fellowship

Franklin Gbologah is a third-year PhD candidate in Transportation Systems at Georgia Tech. His research focuses on freight transportation systems including intermodal terminal operations, connecting transportation networks, and development of sustainable freight transportation systems and policies. Before coming to the

United States in 2008 to pursue a master's degree in Civil Engineering at Georgia Tech, he obtained a bachelor's degree in Civil Engineering from the Kwame Nkrumah University of Science and Technology, Ghana.

Aaron Gooze

Advisor: Kari Watkins
\$1,500 Eisenhower Fellowship

Aaron Gooze is a second-year dual master's student in Civil Engineering and City and Regional Planning at Georgia Tech, with a concentration in Transportation Engineering. After earning his bachelor's degree from Northwestern University in Industrial Engineering in 2004, he spent seven years involved in the freight logistics industry before returning to graduate school to pursue his passion in public transit. His current research is focused on transit system planning and rider information technology innovation. He currently serves as treasurer of the Student Planning Association and is active in the Institute of Transportation Engineers, WTS, and Young Professionals in Transportation in the Atlanta area.

Aaron Greenwood

Advisor: Michael P. Hunter
\$5,500 Georgia Tech President's Fellowship
\$90,000 National Science Foundation Graduate Research Fellowship (three-year award, plus tuition)

Aaron Greenwood is a third-year Georgia Tech doctoral student in the school of Civil and Environmental Engineering. His research interests include transportation safety, human factors, and road user behavior. He is active in the Student Government Association and currently serves as graduate vice president of Student Welfare.

Josie Kressner

Advisor: Laurie Garrow
Eno Leadership Development Conference
Josie Kressner is a fourth-year graduate student in the School of Civil and Environmental Engineering at Georgia Tech. Previously, she attended Washington University in St. Louis, where she received a BS in Civil Engineering and BA in Architecture. In August 2011, she completed an MS in Civil Engineering at Georgia Tech, and she now continues to work toward a PhD. Her research interests are in the areas of transportation engineering, statistics, modeling, and urban planning. Broadly, her goal is to improve cities through their transportation systems and to plan better for the future of cities through their economic, environmental, and social health.

Taylor Lochrane

Advisor: Haitham Al-Deek
NCTSPM Student of the Year
Taylor Lochrane is a PhD candidate at University of Central Florida (UCF) and currently works for the Federal Highway Administration. Selected as the 2012 NCTSPM Student of the Year, he will receive the award at the Transportation Research Board meeting in January 2013. He was selected for his excellent academic achievement and high level of extracurricular engagement in student government at UCF. He also received a Certificate of Appreciation from USDOT Secretary Ray LaHood and other awards from the American Society of Civil Engineers and the International Road Federation.

Jinyan Lu

Advisor: Albert Gan
\$3,000 William "Bill" McGrath Scholarship
\$2,000 WTS Foundation Helene M. Overly Memorial Scholarship

Jinyan Lu is the recipient of the 2012 William "Bill" McGrath Scholarship of \$3,000, which is awarded annually to an outstanding graduate student from Florida. She also received a Helene M. Overly Memorial Scholarship of \$2,000 from Women in Transportation. During her first year in the FIU doctoral program, she led the FIU ITE Student Chapter to its fifth Best Student Chapter Award internationally.

Greg Macfarlane

Advisor: Laurie Garrow
Eno Leadership Development Conference
Greg Macfarlane is a second-year doctoral student in Civil and Environment Engineering at Georgia Tech. He comes from Provo, Utah and did his undergraduate studies at Brigham Young University. Prior to joining Georgia Tech, he worked for the Utah Transit Authority. He has studied or worked in the United Kingdom, East and West Malaysia, Sri Lanka, Singapore, Italy, and China. In 2010, he was one of five transportation doctoral students in the U.S. to receive a \$69,500 Eisenhower Fellowship. He is also a recipient of a scholarship from the American Public Transit Association. He is investigating how new data sources (such as credit reporting data) can be used to develop travel demand models.

Stacey Mumbower

Advisor: Laurie Garrow

\$5,000 Eisenhower Fellowship

Stacey Mumbower joined Georgia Tech as a doctoral student in 2008 and is a 2009 recipient of a National Science Foundation Graduate Research Fellowship and Georgia Tech President's Fellowship. In 2008, she received one of ten \$10,000 national scholarships from the Airport Cooperative Research Program (ACRP) Graduate Research Award Program on Public-Sector Aviation Issues. She is currently using disaggregate online pricing and demand data to analyze airline passengers' itinerary choices.

Chris Silveira

Advisor: Catherine Ross

Eno Leadership Development Conference

Georgia Tech master's student Chris Silveira was one of twenty students selected nationally to attend the Eno Transportation Leadership Development Conference in Washington, DC, in June. As an Eno Fellow, he participated in a weeklong program focusing on transportation policy, interacting with key transportation leaders who work at the national level. Attendees at the conference must have shown their commitment to public service and outreach to communities or underrepresented groups. In his letter of application, he emphasized his own public service—including volunteering with the Refugee Resettlement at Catholic Charities of Atlanta—as well as his desire to remain a career-long public servant.

Jacob Tzegaegbe

Advisor: Adjo Amekudzi

2013 Marshall Scholarship Recipient

2012 National Science Foundation Graduate Research Fellowship

Jacob Tzegaegbe earned an undergraduate degree in Civil Engineering from Georgia Tech in December 2011 and is currently pursuing his master's degree. After completing his master's studies, he will be attending University College London where he will pursue a PhD in Planning Studies on a Marshall Scholarship. His research area is regulating the informal transit sector in post-BRT African cities.

Amanda I. Wall

Advisor: Adjo Amekudzi

\$4,000 APTF Louis T. Klauder Scholarship

\$5,000 WTS Foundation Sharon D. Banks Memorial Scholarship

\$62,300 Eisenhower Fellowship

Amanda Inez Wall graduated with a bachelor's degree in Civil Engineering from Georgia Tech and is working toward her master's degree. She currently serves as vice president for Students for Progressive Transit at Georgia Tech and is active in the Institute for Transportation Engineers and Women's Transportation Seminar (WTS). She hopes to make an impact on communities across the nation with the results of her research on Georgia's most recent approach to transportation finance.

James Wong

Advisor: Kari Watkins

\$3,500 Eisenhower Transportation Fellowship

\$1,500 Eisenhower Fellowship

James Wong returned to graduate school after working as a transportation consultant for three years. He is now pursuing dual master's degrees in Civil and Environmental Engineering and City and Regional Planning while serving as the secretary of the Institute of Transportation Engineers at Georgia Tech.



APTF Louis T. Klauder Scholarship

This \$4,000 award is given to an applicant who best represents the high level of academic achievement and dedication to the public transportation industry sought by the American Public Transportation Foundation (APTF). APTF, founded in 1988, is the charitable affiliate of the American Public Transportation Association.

Eisenhower Fellowship

Eisenhower Graduate (GRAD) Fellowships enable students to pursue master's degrees or doctorates in transportation-related fields at the universities of their choice. Eisenhower Grants for Research Fellowships (GRF) acquaint undergraduate and graduate students with transportation research, development, and technology transfer activities at U.S. Department of Transportation facilities.

Eisenhower Transportation Fellowship

The Dwight David Eisenhower Transportation Fellowship Program (DDETFP) awards fellowships to students pursuing degrees in transportation-related disciplines. This program advances the transportation workforce by attracting the brightest minds to the field through education, research, and workforce development. The DDETFP encompasses all modes of transportation.

Eno Leadership Development Conference

The Eno Leadership Development Conference is Eno's flagship program for emerging transportation professionals. Since 1992, more than 200 Eno Fellows have gathered in Washington, D.C., for a rigorous introduction to transportation policy. The Eno Center for Transportation is a neutral, nonpartisan think tank that promotes policy innovation and provides professional development opportunities across the career span of transportation professionals.

Georgia Tech President's Fellowship

President's Fellowships were established in 1973 to enhance the scope and quality of Georgia Tech's PhD programs. Through the continued support of the Georgia Tech Foundation, President's Fellowships are offered annually to a select number of highly qualified U.S. nationals or permanent residents who intend to pursue doctoral degrees. Fellowship recipients bring exemplary levels of scholarship and innovation to the academic departments who host their study and research. In turn, the fellowship program assists these students in preparing themselves, with a minimum of delay, for outstanding careers in the disciplines of their choice.

Marshall Scholarships

Marshall Scholarships are bestowed annually to intellectually distinguished students from the United States who are pursuing post-secondary education in England. Named in honor of the late U.S. Secretary of State George C. Marshall, the scholarships commemorate the humane ideals of the Marshall Plan. They also express the continuing gratitude of the British people to their American counterparts. The scholarship program was established by an Act of Parliament in 1953.

National Science Foundation's Graduate Research Fellowship Program

National Science Foundation's Graduate Research Fellowship Program rewards outstanding graduate students in National Science Foundation-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based master's and doctoral degrees at accredited U.S. institutions.

Sam Nunn Fellowship

Funded by the MacArthur Foundation's Science, Technology, and Security Initiative, the Sam Nunn Security Program seeks to advance the role of scientific and technical advice on issues of international security through education, research, outreach activities, and participation in the policy advisement process. The Sam Nunn Security Program is committed to educating scientists and engineers about national security issues and providing the analytical tools they need to interact with the policy community. The program selects young and mid-career scientists, and technology experts for intensive yearlong training in research approaches and policy formulation methods for addressing national and international security issues.

UAB Graduate Assistant Fellowships

UAB Graduate Assistant Fellowships are competitive fellowships offered by the UAB Graduate School to help support doctoral research and training of qualified graduate students.

WTS Foundation Scholarships

The WTS Foundation awards scholarships to women pursuing careers in transportation through undergraduate and graduate programs. The scholarships are competitive and based on the applicant's specific transportation goals, academic record, and transportation-related activities or job skills. Minority candidates are encouraged to apply. Local chapters may have additional requirements (such as personal interviews or higher GPAs).

Student Summer Internship Programs

During the summer of 2012, there were twenty-five graduate students from four institutions participating in summer internships with transportation, transit, and planning agencies across the Southeast. These internships provided an exceptional opportunity for NCTSPM students to gain real-world experience. They provided the students with insights into the skills and abilities necessary to be successful in today's workforce. As well, the internships allowed the students to take gained insights and experience back to the classroom, improving the educational experience for all NCTSPM students and faculty.

Georgia Institute of Technology

Andrew Babb

Civil Engineering, Metropolitan Atlanta Rapid Transit Authority

Margaret Carragher

Civil Engineering, Metropolitan Atlanta Rapid Transit Authority

Matthew Crane

Civil Engineering, Georgia Department of Transportation

Alexandra Frackleton

Civil Engineering, City of Atlanta

Darren Harris

Civil Engineering, Metropolitan Atlanta Rapid Transit Authority

Arnold Huguet

Civil Engineering, Metropolitan Atlanta Rapid Transit Authority

Amy Ingles

Civil Engineering, Atlanta Regional Commission (MPO)

Brian Maddox

Civil Engineering, Federal Transit Authority

Jamie Montague

Civil Engineering, Georgia Regional Transportation Authority

Alex Poznanski

Civil Engineering, Metropolitan Atlanta Rapid Transit Authority

Denise Smith

Civil Engineering, Atlanta Regional Commission (MPO)

Amanda Wall

Civil Engineering, Metropolitan Atlanta Rapid Transit Authority

Richard Wilson

Civil Engineering, Georgia State Road and Toll Authority

University of Georgia

Anna Shoji

Geography, Metropolitan Atlanta Rapid Transit Authority

Florida International University

Eileen Cabrera

Transportation Engineering,
Florida Department of Transportation (District 4)

Elizabeth Muir

Transportation Engineering,
Florida Department of Transportation (District 6)

Anita Pourji

Transportation Engineering,
Miami-Dade County Department of Public Works

University of Alabama at Birmingham

Daniel Brown

Civil Engineering, Alabama Department of Transportation
(3rd Division Office)

James T. Graves

Civil Engineering, Alabama Department of Transportation
(3rd Division Office)

Allen Khatib

Civil Engineering, The Birmingham-Jefferson County
Transportation Authority

Paisley Marotta

Civil Engineering, Alabama Department of Transportation
(3rd Division Office)

Preston Marshall

Civil Engineering, The Regional Planning
Commission of Greater Birmingham

Jamieson Matthews

Civil Engineering, The Regional Planning Commission of
Greater Birmingham

Cheng Zhon

Civil Engineering, The Regional Planning Commission of
Greater Birmingham

Board

The following are members of the NCTSPM Advisory Board:

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James Balloun – Financial Investor and Former CEO (Past Chair)

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Mark Bartlett – FHWA Division Administrator, Alabama

Jeffrey W. Brown – Alabama DOT Bureau Chief, Research and Development

Shirley Franklin – Former Mayor of Atlanta

Keith Golden – GDOT Commissioner

Bill Johnson – Director, Port of Miami

Michelle Livingston – Vice President for Supply Chain Distribution, The Home Depot

Todd Long – GDOT Deputy Commissioner

Jannine Miller – Executive Director, GRTA

Wick Moorman – CEO, Norfolk Southern Railway

Vidya Mysore – Manager, Systems Modeling Section at the Florida DOT

George Overstreet – Executive Board Member of the Alabama Trucking Association, Vice President of Operations

G. P. “Bud” Peterson – President, Georgia Tech, Ex Officio

Daniel L. Rodgers – President, Dunn Investment Company

Randy Stashick – Global Vice President of Engineering, UPS

Yvette Taylor – Regional Administrator, FTA

John Williams – Developer

Sam Williams – President, Metro Atlanta Chamber of Commerce

