University Transportation Centers

35th Annual Outstanding Student of the Year

Awards

Presented by:

U.S. DOT's University Transportation Centers (UTC) Program and
the Council of University Transportation Centers (CUTC)

January 10, 2026

U.S. Department of Transportation
Office of the Assistant Secretary for Research and Technology

W E L C O M E

Welcome to the 35th Annual University Transportation Centers (UTC) Program's Outstanding Student of the Year Awards ceremony, sponsored by the U.S. Department of Transportation (U.S. DOT) in conjunction with the Council of University Transportation Centers (CUTC) awards banquet.

Each year, at the start of the Transportation Research Board's annual winter meeting, the Department honors the most outstanding student from each participating University Transportation Center (UTC) for their achievements and promise for future contributions to the transportation field. Students of the Year are selected based on their accomplishments in such areas as technical merit and research, academic performance, professionalism, and leadership. This year's honorees represent a new generation of visionary leaders focused on revolutionizing the future of the nation's transportation system.

For more information visit the UTC webpage at: https://www.transportation.gov/content/university-transportation-centers.

University Transportation Centers Program

Since its beginning, the mission of the University Transportation Centers (UTC) Program has focused on the development of advanced U.S. technology and expertise in transportation through education, research, and technology transfer at universities nationwide.

Over the past few years, the U.S. DOT has launched several new initiatives designed to drive transportation toward a safer, more resilient, connected, accessible, and sustainable future. Under the management of the U.S. DOT's Office of the Assistant Secretary for Research and Technology (OST-R), the UTC Program continues to bolster those efforts through advancing research on topics such as cybersecurity, infrastructure materials, connected and automated vehicles, pedestrian and cyclist safety, rail performance measures, and innovative technologies.

The UTC Program was created by Section 314 of the Surface Transportation and Uniform Relocation Assistance Act of 1987, 49 U.S.C. **§**5317, with the primary purpose of conducting research.

The Intermodal Surface Transportation Equity Act (ISTEA) of 1991 reauthorized the UTC Program through fiscal year (FY) 1997 and expanded its mission to include education and technology transfer. In addition to the ten Regional Centers, ISTEA created three "National" Centers and six University Research Institutes at universities named in ISTEA. This expansion led the U.S. DOT to adopt a strategic planning approach to program management based on a mission and set of goals that applied to all thirteen centers and six institutes. The U.S. DOT extended the grants to the Regional Centers for three years and announced its intention to reopen the program to competition, which occurred in 1994.

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) reauthorized the UTC Program for an additional six years and increased the total number of centers from the original 10 to 33.

In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) increased the number of centers to 60. In addition to the 10 Regional Centers, 10 Tier 1 funded centers were also competitively selected, and with the exception of the Title III centers, all of the UTCs were required to provide a one-for-one funding match.

The Surface Transportation Extension Act of 2011 (the Extension Act) gave discretion to redistribute the funds allocated to specific research projects and programs designated in SAFETEA-LU. In accordance with the Extension Act, the U.S. DOT competitively awarded grants to 22 UTCs in the amount of approximately $3.5 million each to 10 Tier 1 UTCs, two Tier 1 Transit-Focused UTCs, and 10 Regional UTCs, and FY 2012 funds were added following extension legislation.

In 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) continued the UTC program, authorizing the competitive selection of 35 UTCs to receive a total of $72.5 million in funding for each of Fiscal Years 2013 to 2014, with continued funding from extension acts through Fiscal Year 2015. Following a competition in 2013, grants of approximately $3 million each were awarded to five National UTCs, $2.75 million each to 10 Regional UTCs, and $1.5 million each to 20 Tier 1 UTCs.

The Fixing America's Surface Transportation (FAST) Act, signed in December 2015, was the first federal law in over a decade to provide long-term funding for surface transportation infrastructure planning and investment. The FAST Act authorized $305 billion in spending from FYs 2016 through 2020 for the maintenance of existing and establishment of new initiatives in research, education and workforce development, and the facilitation of technology transfer. To fulfill the FAST Act federal mandate, U.S. DOT hosted a grant competition that resulted in the announcement of 32 new UTCs in December 2016, and UTCs in Federal Regions 1, 2, and 3 were added in 2018.

The Consolidated Appropriations Act, 2019 authorized $15M to establish two additional National Centers focusing on congestion and infrastructure research. The Further Consolidated Appropriations Act, 2020, authorized $5M in funding to establish four new short-term Tier 1 UTCs. U.S. DOT awarded grants to conduct research focused under four topic areas, 1) Highly Automated Transportation Systems Research, 2) Communications Technology and E-Commerce Effects on Travel Demand, 3) Implications of Accessible Automated Vehicles and Mobility Services for People with Disabilities, and 4) Strategic Implications of Changing Public Transportation Travel Trends.

In November 2021 the Infrastructure Investment and Jobs Act passed in Congress. The bill authorized the Secretary of Transportation to make grants available to eligible institutions of higher education in the amount of $90 million per year for five years, from FYs 2022 through 2026. In February 2023, the Secretary selected five National UTCs, ten Regional UTCs, and 20 Tier 1 UTCs to continue the mission of the UTC Program and advance multi-modal transportation expertise and transformational research.

University Transportation Centers Outstanding Students of the Year

Students are organized by primary mode of interest/study.

Air

Mr. Will Davis

Colorado State University

Center for Transformative Infrastructure Preservation and Sustainability (CTIPS) led by North Dakota State University.

Multimodal

Mr. Richard Ajagu

Purdue University

Center for Connected and Automated Transportation (CCAT) led by University of Michigan.

Mr. Will Barrett

The Ohio State University

Center for Automated Vehicle Research with Multimodal Assured Navigation (CARMEN+) led by The Ohio State University.

Mr. Terrance Bolton

Prairie View A&M University

National Center for Infrastructure Transformation (NCIT) led by Prairie View A&M University.

Multimodal

Mr. Lucas Bush

University of Oklahoma

Southern Plains Transportation Center (SPTC) led by University of Oklahoma.

Mr. Liam Carey

Virginia Polytechnic Institute and State University

Center for Assured and Resilient Navigation in Advanced Transportation Systems (CARNATIONS) led by Illinois Institute of Technology.

Mr. Beau Groom

University of Tennessee, Knoxville

Center for Freight Transportation for Efficient and Resilient Supply Chain (FERSC) led by University of Tennessee, Knoxville.

Ms. Ana Lucaci

The Universty of New Mexico

Center for Pedestrian and Bicyclist Safety (CPBS) led by The University of New Mexico.

Mr. José Márquez Almaraz

Missouri University of Science and Technology

Center for Durable and Resilient Transportation Infrastructure (DuRe-Transp) led by University of Texas at Arlington.

Multimodal

Ms. Aisling O'Reilly

University of Southern California

Pacific Southwest Region University Transportation Center (PSR UTC) led by University of Southern California.

Mr. Dale Robbennolt

The University of Texas at Austin

Center for Understanding Future Travel Behavior and Demand (TBD) led by The University of Texas at Austin.

Public Transit

Mr. Arturo Ramirez

University of Maryland

Center for Multi-Modal Mobility in Urban, Rural and Tribal Areas (CMMM) led by University of Maryland.

Rail

Ms. Adair Garrett

Georgia Institute of Technology

National Center for Sustainable Transportation (NCST) led by University of California, Davis.

Mr. Kyle Parr

Texas A&M University

CREATE led by Texas State University.

Mr. David Vera

University of Texas Rio Grande Valley

University Transportation Center for Railway Safety (UTCRS) led by University of Texas Rio Grande Valley.

	Mr. Petros Woldemariam University of Maryland Research and Education for Promoting Safety (REPS) led by Howard University.
Road	Mr Omar Achkar University of Houston Transportation Cybersecurity Center for Advanced Research and Education (CYBER-CARE) led by University of Houston. Mr. Luke Attard The University of Kansas Mid-America Transportation Center (MTC) led by University of Nebraska-Lincoln. Ms. Angelina Caggiano University of Massachusetts Amherst New England University Transportation Center (NEUTC) led by University of Massachusetts Amherst. Ms. Shannon Elliott Florida A&M University Rural Safe, Efficient, and Advanced Transportation (R-SEAT) led by Florida A&M University. Mr. Kevin Freymiller Carnegie Mellon University Safety21 led by Carnegie Mellon University.

Road

Mrs. Hadil Helaly

University of Illinois Urbana-Champaign

Transportation Infrastructure Precast Innovation Center (TRANS-IPIC) led by University of Illinois Urbana-Champaign.

Ms. Nashid Kamal Khadem

Morgan State University

Safety and Mobility Advancements Regional Transportation and Economics Research Center (SMARTER) led by Morgan State University.

Ms. Amelia Lawson

Louisiana State Univsersity

Maritime Transportation Research and Education Center (MarTREC) led by University of Arkansas.

Ms. Jeannine Mbabazi

Tennessee State University

Center for Healthy and Durable Transportation (CHDT) led by University of Missouri-Kansas City.

Mr. Amir Milad Moshref Javadi

North Carolina A&T State University

University Transportation Center for Regional and Rural Connected Communities (CR2C2) led by North Carolina A&T State University.

Ms Rubina Singh

University of Washington

Pacific Northwest Transportation Consortium (PacTrans) led by University of Washington.

Mr. Mason Tribble

University of Georgia

Innovative Bridge Technologies/Accelerated Bridge Construction University Transportation Center (IBT/ABC-UTC) led by Florida International University.

Dr. Kyle Yates

Clemson University

National Center for Transportation Cybersecurity and Resiliency (TRACR) led by Clemson University.

Mr. Will Davis

Colorado State University

Center for Transformative Infrastructure Preservation and Sustainability (CTIPS) led by North Dakota State University

Bio
Will Davis is a first-year M.S. student in Mechanical Engineering at Colorado State University. He received his undergraduate degree in Mechanical Engineering at Colorado State University in Mechanical Engineering in the Spring of 2025 after only three years of college attendance. His tentative thesis title is “Exploring the Capabilities of UAS in Transportation and Defense Applications.”

Degree and Graduation Date
B.S. in Mechanical Engineering, Colorado State University, Spring 2025

Preferred Career after Graduation
Consulting

Research Interests
Intelligent Transportation Systems

Primary Mode
Air

Top Accomplishments
Will has taken his UAS inspection thesis topic and has broadened it into an interdisciplinary study into drone applications and research. He has taken responsibility for the design, procurement, and construction of “home-made” drones, a shock tube to simulate explosions, and a vortex cannon for a wide variety of applications.

Dissertation Title and Summary
Exploring the Capabilities of UAS in Transportation and Defense Applications

His work involves quantifying the usage of UAS imaging and photogrammetry methods to evaluate the level of accuracy and rate of inspection for several widely used transportation systems.

Mr. Richard Ajagu

Purdue University

Center for Connected and Automated Transportation (CCAT) led by University of Michigan

Bio

Richard Ajagu is a 3rd year graduate student at Purdue University's Lyles School of Civil and Construction Engineering. He has undergraduate background in physics and economics. His research is motivated by not only the ongoing rapidly changing landscape of engineering systems but also the emerging opportunities for enhanced interdisciplinary synergies towards systems operations, monitoring, and decision making. As such, his research areas have included Internet of Things (IoT), systems theory and engineering, vehicle automation, and vehicular systems connectivity. He has worked on two Indiana DOT projects and five Center for Connected and Automated Transportation (CCAT) projects.

Degree and Graduation Date

B.S. in Economics with Minor in Physics, Purdue University, May 2014

Preferred Career after Graduation

Academia

Research Interests

Transportation Planning

Primary Mode

Multimodal

Top Accomplishments

Richard's main driving forces: practical innovation, academic leadership, and dedicated mentorship. He received the Fall 2024 Mary Ann Zimmerman Purdue Civil Engineering Innovation Award. Also: Tau Beta Pi Engineering Honors Society, Graduate Leadership Officer. 2023-24 Next-Generation Transport Systems Conference (NGTS), Conference Co-Chair. Undergraduate Mentor and Instructor: Autonomous Motorsports Purdue, ARES Lab VIP Projects.

Dissertation Title and Summary

IoT and Intelligent Transportation Systems (with cost constraints): ACCESS System

My research in this area is towards applying IoT principles and Systems Engineering design methodology to enable small and mid-market municipalities to utilize some of the "smart city" technology that only larger markets can afford. This research specifically is in the area of Traffic Management and Safety, to develop a system to facilitate Affordable, Connected and Cyber-secure Engineering for Smart Signals (ACCESS). We have so far achieved around a 100x reduction in cost to supply smaller markets with realtime SPaT data.

Mr. Will Barrett

The Ohio State University

Center for Automated Vehicle Research with Multimodal Assured Navigation (CARMEN+) led by The Ohio State University

Bio

Will Barrett is an M.S. student in the Department of Electrical and Computer Engineering (ECE) at The Ohio State University (OSU) and a member of the ASPIN Laboratory. He received a B.S. Magna Cum Laude in ECE from OSU. Will's research focuses on designing autonomous navigation algorithms that ensure resilient and accurate navigation in environments where GPS/GNSS signals are challenged or cyber-compromised. He demonstrated the efficacy of his algorithms on multiple modes of transportation: high-altitude aerial platforms, ground vehicles, and maritime vessels. He co-authored six conference papers and one journal paper. His award-winning work was featured in national media outlets.

Degree and Graduation Date

M.S. in Electrical and Computer Engineering, December 2025
B.S. in Electrical and Computer Engineering, May 2024

Preferred Career after Graduation

Consulting

Research Interests

Intelligent Transportation Systems

Primary Mode

Multimodal

Top Accomplishments

Will led a student team to design high-altitude aerial navigation systems without GPS, exploiting cellular 5G or low Earth orbit (LEO) satellite signals. He also demonstrated maritime vessel navigation in the Arctic with Starlink/OneWeb LEO signals, receiving the IEEE Frederick Ellersick Award for Best Paper in IEEE Military Communications Conference.

Dissertation Title and Summary

High altitude and high latitude: Exploiting Starlink and OneWeb LEO satellite signals for opportunistic navigation in extreme environments

Cyberattacks on GPS/GNSS signals have skyrocketed worldwide over the past few years, impacting the safe and efficient navigation in multiple modes of transportation. The loss of positioning, navigation, and timing (PNT) in safety-critical systems (e.g., aviation) can be catastrophic. This thesis develops alternative navigation systems exploiting low Earth orbit (LEO) satellites to enable navigation without GPS/GNSS. The research focuses on two modes of transportation: aerial and maritime. Experimental demonstrations are carried out in two very challenging environments: high-altitude platform station (HAPS) navigation at altitudes exceeding 80,000 ft above ground in New Mexico and maritime vessel navigation in the Arctic.

Mr. Terrance Bolton

Prairie View A&M University

National Center for Infrastructure Transformation (NCIT) led by Prairie View A&M University

Bio

Terrance John Bolton, A decorated 14-year U. S. Navy War veteran, is pursuing his Ph.D. in Educational Leadership at Prairie View A&M University, focusing on leadership development, mentorship and empowerment for all communities. His academic and professional excellence have earned him high recognition, including being named PVAMU Graduate Student of the Year in 2024. A two-time Texas Southern University graduate, Student Government Association President, and All-American athlete, he exemplifies leadership, service, and scholarship. An initiate of Alpha Phi Alpha Fraternity, Inc., and Associate Editor of The Sphinx Magazine, Mr. Bolton is also a certified chef, musician, educational consultant, and motivational speaker.

Degree and Graduation Date

M.A. in Professional Communications and Digital Media, School of Communications – Texas Southern University, May, 2018
B.A. in Communications Radio, Television and Film, School of Communications – Texas Southern University, May, 2016

Preferred Career after Graduation

Academia

Research Interests

Transportation Policy

Primary Mode

Multimodal

Top Accomplishments

Terrance's accomplishments include: 1. Outstanding Doctoral Student of the year, 2. Most Influential Panther – PVAMU Choice Awards, 3. Developed internship policies/ programs for the University of Arkansas and University of Texas at Dallas, 4. Creator, Dean's Royal Court 2025, 5. Michael Nettles Scholar – African Diaspora Consortium, 6. All-American football and competitive cheerleading, TSU

Dissertation Title and Summary

Framing and Maintaining Research Agendas in the Building and Training of University Faculty

The purpose of this qualitative study is to explore how research agendas are framed, developed, and maintained in the training and preparation of university faculty. Although scholarly productivity is a central expectation in higher education, many early-career scholars and emerging faculty navigate this process with limited structural guidance, inconsistent mentorship, and varying levels of institutional support. As a result, establishing a coherent and sustainable research agenda remains a significant challenge for developing faculty across academic disciplines.

Mr. Lucas Bush

University of Oklahoma

Southern Plains Transportation Center (SPTC) led by University of Oklahoma

Bio

Lucas Bush is a graduate research assistant in the School of Civil Engineering and Environmental Science at the University of Oklahoma (OU). His research focuses on developing a novel framework to quantify and predict fluvial flood inundation for improved flood risk assessments. Lucas is pursuing a Master of Science in Data Science and Analytics at OU following his Bachelor of Science in Meteorology with a minor in Computer Science. With proficiency in Python, R, and Java, he aims to interpret meteorological data by harnessing state-of-the-art AI/ML techniques.

Degree and Graduation Date

B.S. in Meteorology at the University of Oklahoma, May 2025

Preferred Career after Graduation

Continue for a Ph.D.

Research Interests

Transportation Planning

Primary Mode

Multimodal

Top Accomplishments

Lucas's accomplishments include: Member of the University of Oklahoma's 61st President's Leadership Class; Graduated Magna cum Laude and was on the President's and Dean's Honor Rolls.

Dissertation Title and Summary

Predicting Fluvial Inundation Impacts for Resilience Planning Using a Data-Driven Approach

Lucas's research focuses on developing a generalizable framework for fluvial inundation risk quantification that links precipitation characteristics to flood extents. The framework is being developed and tested through a case study in northeastern Oklahoma, centered on the Grand Lake watershed and the Neosho River. Catchment physiography and weather-radar-derived rainfall variability were used as inputs for an XGBoost machine learning model trained on sixteen geomorphological, climatological, and precipitation variables to predict peak discharges at any location, without relying on existing gauges. These predicted discharges drive a one-dimensional steady-state HEC-RAS hydraulic model to generate an ensemble of flood events across a range of return periods, effectively connecting precipitation to flood levels. A second surrogate ML model is trained to replicate hydraulic model outputs, enabling faster and accurate water-level predictions. This framework supports informed planning for transportation infrastructure exposed to riverine flooding and is the first to connect basin-scale precipitation to flood levels without requiring gauge anchoring, allowing broad applicability across the United States.

Mr. Liam Carey

Virginia Polytechnic Institute and State University

Center for Assured and Resilient Navigation in Advanced Transportation Systems (CARNATIONS) led by Illinois Institute of Technology

Bio
Liam Carey completed a bachelor's degree in aerospace engineering at Virginia Tech in 2024 and is now a Ph.D. student at Virginia Tech in aerospace engineering under Dr. Mathieu Joerger. Liam Carey's current research involves software defined GNSS receiver fault detection and integrity monitoring.

Degree and Graduation Date
B.S. in Aerospace Engineering, Virginia Tech, May 2024

Preferred Career after Graduation
Private sector

Research Interests
Intelligent Transportation Systems

Primary Mode
Multimodal

Top Accomplishments
Liam is the first student under USDOT UTC CARNATIONS' REACH initiative (Research Engagement and Collaboration Hub) to collaborate with mentors from industry on Resilient Positioning, Navigation, and Timing (R-PNT). He received the "Best Presentation" award at the 2025 Institute of Navigation GNSS+ conference for his paper: Carey, L., and M. Joerger. “GNSS Spoofing Detection Using Cumulative Vector Sums.” Proceedings of the 38th International Technical Meeting of The Satellite Division of the Institute of Navigation (ION GNSS+ 2025), Baltimore, MD (2025).

Dissertation Title and Summary
GNSS Spoofing Detection Using Cumulative Vector Sums

Liam Carey's research aims at developing and evaluating new methods to detect interference to Global Navigation Satellite Systems (GNSS), which include spoofing. Spoofing is the broadcast of falsified GNSS data to mislead GNSS users. In transportation applications, spoofing has been used to highjack vehicles or disable communication, controllers, and sensors relying on GNSS for localization and timing. Liam Carey focuses on GNSS signals processed using Kalman filters. The two primary aspects of his research include: first, the demonstration that spoofed measurements under a targeted spoofer have a known structure that can be used to improve detection; second, the evaluation of three innovations-based monitors, including a new cumulative vector sums monitor which is derived from cumulative sum methods that are known to efficiently detect subtle changes in the mean of a random process. Liam Carey showed improved ramp-type fault detection and time-to-alarm performance, for a fixed risk of false alarm, of the new projected innovations-based CVS monitor over conventional detectors.

Mr. Beau Groom

University of Tennessee, Knoxville

Center for Freight Transportation for Efficient and Resilient Supply Chain (FERSC) led by University of Tennessee, Knoxville

Bio

Beau Groom is a third year Ph.D. student in the department of Industrial Systems Engineering at the University of Tennessee Knoxville. He received a Bachelor's degree in Systems and Computer Engineering from Azusa Pacific University in 2021. His research focuses on stochastic programming with correlated and rare events with applications to flash flooding. He has developed an algorithm development to optimally assign university courses to classrooms considering excess capacity, professor walking distance, and departmental priority for classrooms. Additionally, he worked for Marriott International, where he developed a 212-point building resiliency assessment to guide natural disasterpreparedness for 8,500 Marriott properties in 138 countries globally.

Degree and Graduation Date

Ph.D. Industrial Engineering, University of Tennessee Knoxville, December 2025
B.S. Systems and Computer Engineering, Azusa Pacific University, May 2021

Preferred Career after Graduation

Private sector

Research Interests

Freight

Primary Mode

Multimodal

Top Accomplishments

In 2024, Beau directed the FERSC Middle School Summer Program, engaging students in hands-on activities exploring freight transportation systems and network optimization. The program sparked early interest in supply chain efficiency and logistics careers, aligning with FERSC's mission to build future talent for resilient and efficient freight transportation networks.

Dissertation Title and Summary

Stochastic programming with correlated and rare events with applications to flash flooding.

Traditional stochastic programming (SP) assumes either a known probability distribution or uncertainty set. Both risk-neutral (expected value) and risk-averse (chance-constrained or robust optimization) postures largely ignore low-probability, high-impact events. This work relaxes both assumptions while incorporating decision maker risk postures into a novel two-stage SP model for high-impact, low-probability events. This model is applied to the projected increase in flash flooding events. The magnitude and location of this flooding is highly uncertain, meaning each road segment has a low flooding probability. However, these events have both short-term (traffic delays) and long-term (road degradation) effects that must be considered in investment planning.

Ms. Ana Lucaci

The University of New Mexico

Center for Pedestrian and Bicyclist Safety (CPBS) led by The University of New Mexico

Bio

Ana M. Lucaci is a 2nd-year Ph.D. student in Civil Engineering at the University of New Mexico and a Graduate Research Assistant with the Center for Pedestrian and Bicyclist Safety (CPBS). Her research explores how land use and roadway design influence multimodal safety and exposure risk. Ana's work bridges engineering, planning, and public health to improve conditions for pedestrians and bicyclists through data analysis and outreach. She actively promotes community engagement and professional development, serving as Vice President of UNM's ITE Student Chapter and representing CPBS at conferences and statewide events.

Degree and Graduation Date

M.S. Civil Engineering, University of New Mexico, May 2026 Master of Public Health, Walden University, April 2015
M.A. in European Studies, Alexandru Ioan Cuza University, Iasi, Romania, April 2008
B. S. in Chemistry, Alexandru Ioan Cuza University, Iasi, Romania, June 2004

Preferred Career after Graduation

Academia

Research Interests

Infrastructure Systems

Primary Mode

Multimodal

Top Accomplishments

Ana co-authored the Pedestrian Outreach Program Report, which she presented at the Colorado and New Mexico traffic safety summits. She co-organized the 2025 ITE Mountain District Student Leadership Summit and several educational and outreach student events. She represented CPBS at the Pueblo of Jemez quick build project, planting trees and painting new crosswalks.

Dissertation Title and Summary

Transportation Safety Through Multimodality: How Land Use and Roadway Design Interact to Influence Exposure and Risk

This research explores how land use and roadway design influence multimodal safety and exposure risk. The work bridges engineering, planning, and public health to improve conditions for pedestrians and bicyclists through data analysis and outreach.

Mr. José Márquez Almaraz

Missouri University of Science and Technology

Center for Durable and Resilient Transportation Infrastructure (DuRe-Transp) led by University of Texas at Arlington

Bio

Jose Marquez Almaraz earned his Bachelor of Science in Civil Engineering from the University of Texas at Arlington in 2023 and is currently pursuing a Ph.D. in Civil Engineering there with a focus on concrete materials and durable infrastructure. His research investigates the mechanical and durability performance of cementitious composites utilizing supplementary cementitious materials. Jose has experience in laboratory testing and material characterization. He is active in ASCE and SHPE and is dedicated to improving the performance and longevity of modern construction materials.

Degree and Graduation Date

B.S. in Civil Engineering, University of Texas at Arlington, December 2023

Preferred Career after Graduation

Academia

Research Interests

Materials

Primary Mode

Multimodal

Top Accomplishments

Jose is an Engineer-in-Training (EIT), Texas and recipient of multiple national and regional awards, including the DOT Eisenhower Fellowship and TEF TSPE Graduate Scholarship. He presented research at five conferences, including TRB 2025 in Washington, D. C., and participated in international programs in France and Germany on concrete rheology and urban materials.

Dissertation Title and Summary

Portland limestone cement blends incorporating off-spec supplementary cementitious materials

This research examines the mechanical and durability properties of blended cement systems incorporating calcined clays and coal combustion by-products. Through experimental and analytical methods, including flexural testing, calorimetry, TGA, and XRD, the study aims to identify optimal SCM combinations for improved performance and long-term structural integrity.

Ms. Aisling O'Reilly

University of Southern California

Pacific Southwest Region University Transportation Center (PSR UTC) led by University of Southern California

Bio

Aisling O'Reilly is a Ph.D. candidate in Urban Planning and Development at the University of Southern California. Her research uses mixed methods to examine how transportation systems function for those who use them, integrating data-driven analysis with lived experience. Her work bridges the technical and human dimensions of mobility to inform more responsive and effective transportation planning across different geographic settings. Aisling earned her B.S. in Urban Studies from the University of Minnesota and previously worked in transportation planning and traffic engineering in Austin, Texas.

Degree and Graduation Date

B.S. Urban Studies, University of Minnesota, May 2019

Preferred Career after Graduation

Consulting

Research Interests

Transportation Planning

Primary Mode

Multimodal

Top Accomplishments

Aisling has been recognized as a three-time Dwight David Eisenhower Transportation Fellowship recipient and received the Women's Transportation Seminar (WTS) Los Angeles Myra L. Frank Graduate Memorial Fellowship. Most recently, she served as first author on "Safe System U. S. Leadership: The Pivot, the Progress, and the Work Ahead," published in the March 2025 ITE Journal, and was honored by the Railway Association of Southern California as an award recipient in September 2025.

Dissertation Title and Summary

Closing the Gap: A Comparative Study of Transportation Accessibility for Adults with Disabilities in Urban and Rural California

This project examines transportation accessibility for adults with mobility or functional limitations and older adults in California, focusing on Los Angeles and Tulare Counties to represent urban and rural contexts. Using a mixed-methods approach, the research integrates network modeling and travel-time analysis for car, transit, and paratransit with interviews that capture the lived experience of daily travel within each region. The study measures and compares accessibility gaps between populations with and without mobility constraints and analyzes how infrastructure, service design, and policy influence daily travel, independence, and well-being.

Mr. Dale Robbennolt

The University of Texas at Austin

Center for Understanding Future Travel Behavior and Demand (TBD) led by The University of Texas at Austin

Bio

Dale Robbennolt is a Ph.D. student in the Transportation Program in the Department of Civil, Architectural and Environmental Engineering at the University of Texas at Austin. He received his dual degree B.S. in Civil Engineering/B. A.. in Sociology at the University of Illinois at Urbana-Champaign and M.S. in Civil Engineering at the University of Texas at Austin. His research interests lie at the intersection of transportation planning and behavioral analysis with travel behavior modeling, transportation econometrics, adoption and use of emerging transportation technologies, and the role of attitudes and perceptions in shaping mobility decisions.

Degree and Graduation Date

M.S. in Civil Engineering, The University of Texas at Austin, December 2023
B.S. in Civil Engineering and B. A.. in Sociology, University of Illinois Urbana-Champaign, May 2022

Preferred Career after Graduation

Academia

Research Interests

Transportation Planning

Primary Mode

Multimodal

Top Accomplishments

Dale was the first author on an article titled “Data Collection, Weighting, and Modeling Techniques to Estimate Consistent Population Parameters” published in Transportation Research Part B: Methodological and on an article titled “A Model of Electric Vehicle Adoption and Motivating Reasons for Adoption” published in Transportation Research Part D: Transport and Environment.

Dissertation Title and Summary

Addressing Generalizability and Population Inference in Transportation Behavior Research

Dale’s work focuses on addressing the generalizability of behavioral insights in transportation studies by addressing biases introduced through non-representative sampling that commonly impact the validity and reliability of model estimation results. This research focuses on how various modeling techniques (including weighting and joint modeling approaches) may be applied to yield consistent model estimation and prediction results under exogenous and endogenous sampling schemes. In an applied context, this work demonstrates how data from non-random or self-selected samples can be used to make valid inferences about the population at large.

Mr. Arturo Ramirez

University of Maryland

Center for Multi-Modal Mobility in Urban, Rural and Tribal Areas (CMMM) led by University of Maryland

Bio

Arturo Ramirez completed a licentiate's degree in Civil Engineering in 2020 at the University of Costa Rica and is currently a doctoral candidate at the UMD. His current research will deliver a neural-pheromone-based algorithm to design feeder bus routes in a multimodal transit system, using a GIS-driven model for walking times and demand coverage overlapping. Arturo interned with the Department of War at the Army Research Lab in 2023, creating imagery processing pipelines for autonomous sensor-deployment decisions by UAVs. In 2023, he presented a districting algorithm for flexible-route buses during a poster session for the Intelligent Transportation Society of America.

Degree and Graduation Date (or Anticipated Date)

M.S. in Civil Engineering, University of Maryland, 2024
B.S. in Civil Engineering, University of Costa Rica, 2020

Preferred Career after Graduation

Continue for a PhD

Research Interests

Transportation Planning

Primary Mode

Public Transit

Top Accomplishments

Arturo is Clark Doctoral Fellow (2022-), has placed third place in Center for Multi-Modal Mobility Student, Research Competition (2025), first place at Young Professionals', Research Contest, Costa Rican Association of Civil Engineers (2022), and presented at ASCE International Conference of Transportation and Development (2022).

Dissertation Title and Summary

Phased replacement of bus lines by rail in a transit network with passenger flow modeling

A bilevel evolutionary algorithm was developed to optimize the sequence of implementation of interrelated, competing enhancement projects in a high-redundancy transit network, like the conversion of inter-station segments of trunk bus lines into to urban rail. The headways of all lines at every development stage are deterministically optimized. The objective function is the total discounted societal net benefit over the network's conversion timeframe, accounting for demand elasticity to generalized trip cost. Users' optimal itineraries are recomputed at each stage to capture their dependence on network state in the face of line redundancy, which was an unexplored gap in previous works.

Ms. Adair Garrett

Georgia Institute of Technology

National Center for Sustainable Transportation (NCST) led by University of California, Davis

Bio

Adair Garrett is a Ph.D. Candidate studying national and urban rail system resilience and adaptive capacity under the mentorship of Dr. Adjo Amekudzi-Kennedy. Adair has an interest in teaching, instructing courses on civil engineering systems and infrastructure asset management in Georgia Tech's School of Civil and Environmental Engineering. Adair is passionate about transportation planning and infrastructure asset management and hopes to work on rail and transit projects throughout her career. In her free time, Adair enjoys learning languages, tutoring, and exploring transit systems around the world.

Degree and Graduation Date

Master of City and Regional Planning, Georgia Institute of Technology, May 2026
M.S. in Civil Engineering, Georgia Institute of Technology, May 2023
B.S. in Civil Engineering, Georgia Institute of Technology, May 2021

Preferred Career after Graduation

Academia

Research Interests

Infrastructure Systems

Primary Mode

Rail

Top Accomplishments

Adair's research has been supported through the NCST and the Dwight D. Eisenhower Transportation Fellowship Program and published in journals like the Transportation Research Record and Civil Engineering and Environmental Systems. She is also a member of the Transportation Research Board Standing Committee on Regional Intercity Passenger Rail Transportation.

Dissertation Title and Summary

Advances in Assessing and Building Adaptive Capacity of National and Urban Rail Systems

Rail system reliability is threatened by intensifying extreme weather events and workforce shortages. This dissertation examines how to address these challenges by building adaptive capacity to disruptions and other systemic changes. This research develops and applies a multi-capability resilience assessment framework integrating physical infrastructure, organizational, and user capacities to better capture system strengths and needs over time. Through case studies of national and local rail systems, this research identifies key barriers and enablers to developing adaptive capacity while contributing open-access educational resources to support the development of workforce and organizational capacities to handle predictable and unpredictable changes, and to create a suite of resources for decision makers to enhance rail system resilience and reliability.

Mr. Kyle Parr

Texas A&M University

CREATE led by Texas State University

Bio

Kyle Parr is a doctoral student in civil engineering at Texas A&M University. Kyle previously received his bachelor's degree in civil engineering at Kansas State University in 2021 before continuing with his master's degree in 2023 at Texas State University in civil engineering with geotechnical engineering emphasis. Kyle's current research focuses on the durability and long-term performance of chemically stabilized soils subjected to environmental degradation through moisture and temperature change. His work provides insight into the stiffness and strength behavior of treated soils, contributing to the design of resilient pavement infrastructure.

Degree and Graduation Date

M. Eng. with Civil Engineering Emphasis, Texas State University, August 2023

B.S. in Civil Engineering, Kansas State University, May 2021

Preferred Career after Graduation

Public sector

Research Interests

Materials

Primary Mode

Rail

Top Accomplishments

Kyle has presented his research at the Transportation Research Board (2025 and 2026), with one publication recommended for Transportation Research Record. In his master's, Kyle highlights one published paper as first author and one conference proceeding at the American Society of Civil Engineers Geo-Congress Conference in 2024.

Dissertation Title and Summary

A Novel Method for Evaluating the Durability of Chemically Stabilized Geomaterials Subjected to Four Season Environmental Stressors

This research evaluates the durability and long-term performance of chemically stabilized geomaterials exposed to stressors representative of four-season climates. Chemically stabilized soils are essential to transportation infrastructure, supporting systems from airfield pavements to coastal roadways. However, current durability standards only consider wetting-drying and freezing-thawing, lacking protocols that combine all four stressors. This work develops a novel laboratory method integrating wetting, drying, freezing, and thawing cycles to simulate realistic field degradation. The approach assesses strength and stiffness loss in chemically stabilized geomaterials under cyclic conditions using calcium-based stabilizers such as Portland cement and hydrated lime.

Mr. David Vera

University of Texas Rio Grande Valley

University Transportation Center for Railway Safety (UTCRS) led by University of Texas Rio Grande Valley

Bio

David Vera is a graduate research assistant at the University Transportation Center for Railway Safety (UTCRS) located at the University of Texas Rio Grande Valley (UTRGV). He started working at the UTCRS as an undergraduate student in Fall 2022. He received his bachelor's degree in mechanical engineering from UTRGV in Spring 2024. His research focuses on the characterization of the load-displacement behavior of rail and rail anchors to improve the safety of railway transportation. In addition to his studies and research, David has been a part of leadership and engineering clubs and mentors during engineering summer camps for the youth.

Degree and Graduation Date

B.S. in Mechanical Engineering, University of Texas Rio Grande Valley, May 2024 (Magna Cum Laude)

Preferred Career after Graduation

Public sector

Research Interests

Infrastructure Systems

Primary Mode

Rail

Top Accomplishments

David authored two reports for the USDOT as first author. He will present a paper on the latest report at the 2026 INNOVARAIL Conference. David is also the lead student researcher for BNSF (Class I Railroad) at UTRGV. David graduated with Magna Cum Laude honors.

Dissertation Title and Summary

Characterization of Rail Anchors – An Analysis of the Longitudinal Resistance and Temperature-Induced Cyclic Loading Behaviors

This study focuses on rail anchor performance characterization under cyclic loading with varying temperatures to understand how rail anchors behave under rail service conditions. Rail anchors play a crucial role in controlling the rail neutral temperature and preventing track buckling and costly derailments. The characterization of rail behavior and models produced from this research will contribute to railway safety improvements and optimization of track maintenance practices.

Mr. Petros Woldemariam

University of Maryland

Research and Education for Promoting Safety (REPS) led by Howard University

Bio

Petros Woldemariam is a Ph.D. candidate in Civil and Environmental Engineering at the University of Maryland, College Park. His research focuses on Topology and Tensor Applications in Railway Track Engineering, integrating topological data analysis (TDA) and tensor decomposition to improve modeling of track geometry and ballast deterioration. He has authored papers on TDA and multiway analytics, with a manuscript on Topological Quality Index currently under review. Petros is a licensed Professional Engineer (PE) with experience supporting infrastructure projects across Maryland, Virginia, and Washington, D. C. His work advances data-driven methods to enhance safety and reliability of U. S. railway networks.

Degree and Graduation Date

M.S. in Geo and Water Engineering, Chalmers University of Technology, Sweden, June 2010
B.S. in Civil Engineering, Addis Ababa University, Ethiopia, July 2005

Preferred Career after Graduation

Consulting

Research Interests

Infrastructure Systems

Primary Mode

Rail

Top Accomplishments

Petros developed novel Topological Track Index (TTI) and tensor-based analytical models for railway track geometry and ballast condition assessment. He authored journal papers applying TDA and multiway decomposition to improve rail safety, predictive maintenance, and data-driven decision support.

Dissertation Title and Summary

Topology and Tensor Applications in Railway Track Engineering

“Topological Quality Index for Railway Track Assessment,” that develops a new TDA-based metric for evaluating railway track geometry performance and improving defect sensitivity beyond conventional TQIs.

Mr. Omar Achkar

University of Houston

Transportation Cybersecurity Center for Advanced Research and Education (CYBER-CARE) led by University of Houston

Bio

Omar Achkar earned his B.S. in Computer Science (with a Minor in Digital Media Production) in 2019 and is completing his M.S. in Cybersecurity at the University of Houston. He works with Dr. Kyu In Lee at UH's Smart Systems Security Lab as a research and teaching assistant, focusing on zero-interaction authentication and key generation in VR and transportation systems. He (co-)authored award-winning papers, including the Best Short Paper at IEEE S&P SecureTrans 2025. With over five years of freelance software and web development experience, he specializes in frontend UX, data aggregation, and creating interactive 2D/3D experiences for VR authentication research.

Degree and Graduation Date

B.S. in. Computer Science, University of Houston, May 2019

Preferred Career after Graduation

Continue for a PhD

Research Interests

Intelligent Transportation Systems

Primary Mode

Road

Top Accomplishments

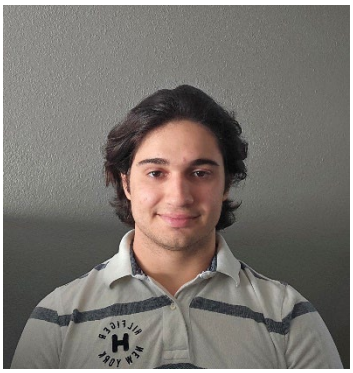
Omar's accomplishments include Best Short Paper Award at SecureTrans Workshop co-located with 46th IEEE Symposium on Security and Privacy.

Dissertation Title and Summary

Secure Key Generation and Authentication in Intra-Vehicular Systems

This research focuses on developing secure and efficient authentication mechanisms for connected vehicles. By leveraging tire pressure monitoring system (TPMS) signals and other in-vehicle sensor data, the work proposes methods for generating cryptographic keys and establishing trusted communication among vehicular devices. The goal is to enhance intra-vehicle cybersecurity while maintaining low latency and high usability. Experimental results demonstrate that physical-layer signal features can provide strong device authentication and key agreement without additional hardware, contributing to safer and more resilient automotive systems.

Mr. Luke Attard



The University of Kansas

Mid-America Transportation Center (MTC) led by University of Nebraska-Lincoln

Bio

Luke Attard is a Master's student in Computer Science at the University of Kansas specializing in machine learning and software security. His research applies deep learning and augmented reality to steel-bridge inspection, using Unity, YOLO models, Magic Leap 2, and planned UAV integration to create human-centered, real-time crack and corrosion detection tools. He earned his Interdisciplinary Computing bachelor's in three years with a 3.78 GPA, made the Dean's List annually, and served as an Undergraduate Ambassador. Luke leads development of the project's AR software and is co-authoring a forthcoming paper supporting USDOT goals. He graduates this Spring.

Degree and Graduation Date

B.S. in Interdisciplinary Computing, University of Kansas May 2024

Preferred Career after Graduation

Private sector

Research Interests

Infrastructure Systems

Primary Mode

Road

Top Accomplishments

Luke has addressed one of the most critical challenges in civil infrastructure: ensuring the safety of bridges through the development of advanced inspection technologies. Luke was the first researcher to develop a bridge inspection tool based on the Magic Leap 2 platform for augmented reality applications in bridge inspections.

Dissertation Title and Summary

Enhancing Structural Safety in Infrastructure Maintenance through Human-Centered Bridge Inspection Empowered by Artificial Intelligence and Augmented Reality

The project addresses one of the most critical challenges in civil infrastructure: ensuring the safety of bridges through the development of advanced inspection technologies. Traditional bridge inspections depend on human visual assessment, which can be time-consuming and subjective. The research team is developing a human-centered approach that integrates artificial intelligence, computer vision, and augmented reality to automate defect detection and to support inspectors with real-time visualization. Luke has played a central and indispensable role in transforming this vision into practice through his creativity, technical expertise, and leadership.

Ms. Angelina Caggiano

University of Massachusetts Amherst

New England University Transportation Center (NEUTC) led by University of Massachusetts Amherst

Bio

Angelina Caggiano is a Ph.D. candidate in Civil Engineering at UMass Amherst specializing in transportation safety. Her research and industry experience provide her with strong expertise in traffic safety and operations, and she has mentored undergraduate students through research and professional organizations. She also developed and taught a first-year course, Transportation Innovation and Smart Cities, to spark interest in transportation careers. Angelina aims to become a professor to advance transportation safety research, mentor future engineers, and promote diversity and innovation in the field.

Degree and Graduation Date

M.S. in Civil Engineering, University of Massachusetts Amherst, September 2024
B.S. in Civil Engineering, University of Massachusetts Amherst, May 2022

Preferred Career after Graduation

Academia

Research Interests

Traffic Engineering

Primary Mode

Road

Top Accomplishments

Angelina received the Dwight D. Eisenhower Fellowship to conduct her doctoral research in 2025. She was also awarded the Student of the Year award for the SaferSIM UTC in 2024, and has received numerous scholarships from both the Institute for Transportation Engineers and Women Transportation Seminar chapters from 2022-2025.

Dissertation Title and Summary

A Multi-Method Investigation of Vulnerable Road User Safety: Behavioral Insights, Crash Modeling, and Policy Review

Rising crashes involving pedestrians and other Vulnerable Road Users (VRUs) underscore the need for stronger protections at midblock crosswalks. Pedestrian Hybrid Beacons (PHBs) show promise, but key questions remain about how their design, context, and user behavior affect safety. This dissertation conducts a three-part study of VRU safety at PHBs in Massachusetts. A field study will use video analysis at multiple sites to examine pedestrian and driver behavior. Crash modeling will analyze pre- and post-installation data using statistical and machine-learning methods to identify design, site, and behavioral factors linked to unsafe events. A legal and policy review will assess how VRUs are defined in Massachusetts statutes and crash reports and compare to national practices. Together, these approaches will support recommendations to improve PHB design, strengthen VRU crash reporting, and inform policy decisions.

Ms. Shannon Elliott

Florida A&M University

Rural Safe, Efficient, and Advanced Transportation (R-SEAT) led by Florida A&M University

Bio

Shannon Elliott earned a B.S. in Civil Engineering in 2023 from Florida A&M University and was selected to continue directly into the university's B.S. to Ph.D. program. Her research focuses on improving Florida intersection safety and understanding driver behavior with Advanced Driver Assistance Systems (ADAS). She is currently conducting statewide crash data analyses and recruiting participants for survey and naturalistic driving studies. In 2024, she interned at the Federal Highway Administration's Turner-Fairbank Highway Research Center, gaining hands-on experience in transportation safety research and data analysis. Shannon is dedicated to advancing safe and data-driven transportation innovation.

Degree and Graduation Date

B.S. in Civil Engineering, Florida Agricultural & Mechanical University, May 2023

Preferred Career after Graduation

Private sector

Research Interests

Intelligent Transportation Systems

Primary Mode

Road

Top Accomplishments

Shannon completed a 2024 internship at the Federal Highway Administration's Turner-Fairbank Highway Research Center, contributing to transportation safety analysis. She passed a preliminary doctoral examination in 2025 and accepted to present conceptual research on ADAS and intersection safety at the 2026 TRB Annual Meeting. Shannon maintained a 4.0 GPA in Florida A&M University's Civil Engineering Ph.D. program.

Dissertation Title and Summary

Evaluation of Advanced Driver Assistance Systems (ADAS) Influence on Florida Intersection Safety

This research examines overreliance and behavioral differences between ADAS-equipped and legacy vehicle drivers at Florida intersections, where system limitations are most evident. Using a mixed-methods approach, the study integrates statewide crash data, naturalistic driving data, and driver surveys to assess how automation influences attention, decision-making, and crash risk. This research aims to improve intersection safety and guide safer, data-driven integration of vehicle automation into Florida's transportation system.

Mr. Kevin Freymiller

Carnegie Mellon University

Safety21 led by Carnegie Mellon University

Bio

Kevin Freymiller is currently a fifth-year Ph.D. Candidate at Carnegie Mellon University, in the department of Civil and Environmental Engineering. His research focuses on the interdependency of energy and transportation systems, and investigates novel operational paradigms for jointly reducing energy costs and travel time while balancing tradeoffs between the needs of the electric grid, the transportation operator, and passengers. This research leverages connected smart cities systems and has the potential to revolutionize transportation-energy system operational efficiency by maximizing the resilience, stability, and safety of critical infrastructure operations.

Degree and Graduation Date

M.S. Civil and Environmental Engineering, Carnegie Mellon University, May 2022
B.A. Physics, Reed College, May 2017

Preferred Career after Graduation

Consulting

Research Interests

Intelligent Transportation Systems

Primary Mode

Road

Top Accomplishments

Kevin's accomplishments include: Dwight David Eisenhower Transportation Fellowship, 2024 and Phillips and Huang Family Fellowship in Energy, Carnegie Mellon University, 2024. He gave conference presentations at TRB Annual Meeting in 2024 and 2025, and at INFORMS Annual Meeting in 2025. He has a publication in the IEEE Open Journal of Intelligent Transportation Systems, 2025.

Dissertation Title and Summary

Coupled energy and passenger mobility systems: interdependency modeling, joint optimization and pricing

In his thesis Kevin investigates the interdependency between transportation and energy systems, the impact of energy storage on the optimal joint system operation strategies, and the potential benefits for mobile energy storage systems to increase the stability, economic efficiency, and safety of the joint transportation-energy system under uncertainty. He proposes novel strategies for the joint system that adapt transport operational strategies to the dynamic needs of the energy system, reducing costs. Under power outage situations, these systems can also provide a new way to deliver energy during emergency power outage situations, potentially increasing the reliability and uptime for safety critical infrastructure in a highly flexible manner.

Mrs. Hadil Helaly

University of Illinois Urbana-Champaign

Transportation Infrastructure Precast Innovation Center (TRANS-IPIC) led by University of Illinois Urbana-Champaign

Bio

Hadil Helaly is a Ph.D. candidate in Civil & Environmental Engineering at the University of Illinois Urbana-Champaign. Her research advances the use of artificial intelligence and optimization to improve decision-making in bridge construction planning. She developed machine learning predictive models, optimization frameworks, and decision-support tools to make optimal decisions throughout different project phases. Her work focuses on optimizing cost, safety, mobility, and sustainability of infrastructure projects. Additionally, her work had measurable impact providing state Departments of Transportation, including IDOT, with data-driven tools to select the most cost-effective bridge construction method during the early design phase when detailed information is often limited.

Degree and Graduation Date

M.S. in Civil Engineering, University of Illinois Urbana-Champaign, Spring 2020.
B.S. in Architecture and Urban Planning, Suez Canal University, Egypt, Spring 2004

Preferred Career after Graduation

Academia

Research Interests

Infrastructure Systems

Primary Mode

Road

Top Accomplishments

Hadil developed a parametric decision-support tool adopted by IDOT to select the most cost effective bridge construction methods in early design. She earned UIUC's William E. O'Neil Award for innovative, high-impact construction management research. Hadil was also recognized on the University of Illinois List of Teachers Ranked as Excellent by Their Students for outstanding instructional performance.

Dissertation Title and Summary

Optimizing the Planning of Conventional and Accelerated Bridge Construction Methods

Her research focuses on developing machine learning models to accurately predict construction cost and durability of alternative bridge projects in the early design phase when data are limited. Additionally, she created a multi-objective framework for optimizing the planning of prefabricated bridge construction projects that simultaneously maximize safety, mobility, and sustainability while minimizing total construction costs. Together, these tools are expected to provide decision-makers and bridge planners with much needed support to make informed, data-driven decisions aligned with their project specific priorities, leading to more efficient, sustainable, and cost-effective delivery of prefabricated bridge construction projects.

Ms. Nashid Kamal Khadem

Morgan State University

Safety and Mobility Advancements Regional Transportation and Economics Research Center (SMARTER) led by Morgan State University

Bio

Nashid Kamal Khadem is a Ph.D. candidate at Morgan State University and Transportation Planner II at AECOM, specializing in transportation planning, safety, human behavior, and autonomous vehicle research. With more than seven years of experience as a Transportation Scientist, she has contributed to studies at the National Transportation Center and the Safety and Behavioral Analysis Lab, integrating safety and human factors into transportation planning. Nashid has authored peer-reviewed publications and earned multiple academic honors. She holds an M.S. in Geography and Environmental Planning from Towson University and a B.S. from the University of Dhaka, and previously worked as an Environmental Specialist and Resettlement Planner.

Degree and Graduation Date

M.A. in Geography and Environment, Towson University, Baltimore Maryland, December 2015
M.S. in Geography and Environment, University of Dhaka, Bangladesh, December 2011
B.S. in Geography and Environment, University of Dhaka, Bangladesh, December 2009.

Preferred Career after Graduation

Public sector

Research Interests

Transportation Planning

Primary Mode

Road

Top Accomplishments

Nashid received the Women's Traffic and Transportation Club's 2024 Scholarship and the 2020–2021 ITS Maryland Scholarship. She is a three-time Traffic Safety Scholar (2019, 2020, 2021) at the Lifesavers National Conference on Highway Safety Priorities. She earned third place in the 2019 International Association of Transportation Regulators Worldwide Hack-A-Thon and second place in FHWA's 2018 Excellence in Highway Safety Data Award competition. In 2020, she was selected to present her prototype at the Emerging Researchers National (ERN) Conference HBCU Innovation Showcase.

Dissertation Title and Summary

Assessing work zone safety conutermeasures for commercial motor vehicle using driving simulator

Work zone safety is a persistent challenge for Commercial Motor Vehicles (CMVs) due to size and maneuverability limits. This dissertation evaluates static signs, Portable Changeable Message Signs (PCMS), and in-vehicle warnings using a driving simulator, statistical analysis, and a prototype app. Surrogate safety measures were used to assess driver behavior assessed driver behavior. Results show in-vehicle warnings perform best, followed by PCMS, with static signs least effective.

Ms. Amelia Lawson

Louisiana State University

Maritime Transportation Research and Education Center (MarTREC) led by University of Arkansas

Bio

Amelia Lawson earned her B.S. and M.S. in Civil Engineering from Embry-Riddle Aeronautical University (ERAU) in 2023 and 2024. At ERAU, she served as team captain of the collegiate golf team and secretary of the Institute of Transportation Engineers. Her research focused on traffic safety during hurricane evacuations as well as pedestrian safety, access management, and motorcycle safety. She received the 2023 Dwight David Eisenhower Transportation Graduate Fellowship (DDETFP) for her hurricane evacuation research. Amelia gained industry experience through internships with Chastain & Associates LLC. She now serves as the Associate Director of the Gulf Coast Center for Evacuation and Transportation Resiliency.

Degree and Graduation Date

M.S. in Civil Engineering, Embry-Riddle Aeronautical University, May 2024
B.S. in Civil Engineering, Embry-Riddle Aeronautical University, May 2023

Preferred Career after Graduation

Academia

Research Interests

Traffic Engineering

Primary Mode

Road

Top Accomplishments

Amelia authored three papers in print and, by TRB 2026, will have presented her research six times at national conferences. A Dwight David Eisenhower Transportation Graduate Fellow, she also earned ERAU's Athletics Iron Eagle Award and still holds the university's 18-hole scoring record.

Dissertation Title and Summary

Investigating Traffic Safety During Wildfire and Hurricane Evacuations

This research investigates traffic safety during wildfire and hurricane evacuations across the United States through both conceptual and qualitative analyses. Public perception, shaped by news and media coverage, suggests that evacuations are more dangerous, and potentially more life-threatening, than everyday driving conditions, or even the hazards prompting evacuation. Yet, this assumption remains largely unsupported due to limited traffic safety research on these events. By examining crash data during wildfire and hurricane evacuation periods, this study evaluates crash rates, frequencies, and characteristics to determine whether traffic safety conditions during evacuations differ significantly from routine travel.

Ms. Jeannine Mbabazi

Tennessee State University

Center for Healthy and Durable Transportation (CHDT) led by University of Missouri-Kansas City

Bio

Jeannine Mbabazi received her bachelor's degree in Civil Engineering in 2022 and her master's degree in 2023 from Tennessee State University. Her master's thesis evaluated the effectiveness of median cable barriers in reducing severe crossover crashes, which contribute to improved highway safety by preventing vehicles from crossing into opposing lanes. Jeannine is currently a Ph.D. student in Transportation Engineering at Tennessee State University, focusing on travel demand modeling to enhance transportation system planning and management. Her research supports the development of safer and more efficient transportation networks for communities.

Degree and Graduation Date

M.S. in Civil Engineering, Tennessee State University, Deccember 2023
B.S. in Civil Engineering, Tennessee State University, May 2022

Preferred Career after Graduation

Academia

Research Interests

Transportation Planning

Primary Mode

Road

Top Accomplishments

Jeannine earned her master's degree, passed the Ph.D. candidate exam, co-authored seven technical papers for the 2025 TRB Annual Meeting, and published a sole-authored study at FMLDS2025. Her research advances multimodal safety, adaptive signal control, and AI-driven traffic management for safer, smarter transportation systems.

Dissertation Title and Summary

Evaluating the Capability of ESRI Roads and Highway for Building Tennessee's Statewide Travel Demand Modeling Network

This research evaluates the ESRI Roads and Highways Network as a potential solution for updating and enhancing Tennessee's Statewide Model (TSM) travel demand modeling highway network, which lacks comprehensive updates since its initial development. The project aims to incorporate completed and future road projects, update critical road attributes, and merge disparate datasets from TN TIMES (traffic counts), TDOT PPRM (project management), and road inventory systems, which are currently hindered by data standardization issues. Key tasks include conducting a state-of-the-art literature review, surveying State DOT practices, investigating Tennessee's road data sources, performing a technical analysis of ESRI Roads and Highways, and developing a master network to facilitate data sharing and improve statewide transportation planning.

Mr. Amir Milad Moshref Javadi

North Carolina A&T State University

University Transportation Center for Regional and Rural Connected Communities (CR2C2) led by North Carolina A&T State University

Bio

Amir Milad Moshref Javadi is a Ph.D. candidate in Industrial & Systems Engineering at North Carolina A&T State University. His research focuses on human behavior in driving and re-engagement, situational awareness and hazard response in rural animal crossings using eye-tracking, EEG, and driving simulation under Level-2 ADAS. He works on cognitive state modeling, human-automation trust, and multimodal driver monitoring. Milad is a member of CR2C2 and works on related projects on rural roadway safety and intelligent systems.

Degree and Graduation Date

B.S. in Mechanical Engineering, University of Isfahan, May 2015

Preferred Career after Graduation

Academia

Research Interests

Intelligent Transportation Systems

Primary Mode

Road

Top Accomplishments

Milad contributed to CR2C2 research on human–automation interaction on rural roads and animal crossing. He has contributed to several studies on simulation and driver behavior. He presented his work at IISE conference and continues to advance research in intelligent transportation, human factors, and emerging vehicle technologies.

Dissertation Title and Summary

Human Factors and Behavioral Analysis of Drivers Using Advanced Driver Assistance Systems (ADAS) in Rural Road Scenarios with Animal Crossings

The advancement of vehicle automation through Advanced Driver Assistance Systems (ADAS) holds great promise for enhancing road safety, particularly in rural environments where unpredictable events such as animal crossings are common. However, understanding how drivers interact with these technologies under diverse and dynamic conditions is essential to ensure trust, safety, and effective human-system collaboration. This research explores driver behavior, attention, and cognitive responses when interacting with ADAS in simulated rural driving environments that include sudden hazard events such as animal crossings. Using a stationary driving simulator integrated with EEG and eye-tracking systems, the study evaluates driver situational awareness, response time, and adaptability to varying automation levels. The findings aim to improve human-centered ADAS design, enhance driver safety in low-visibility or high-risk conditions, and contribute to the broader field of intelligent transportation and human-systems integration.

Ms. Rubina Singh

University of Washington

Pacific Northwest Transportation Consortium (PacTrans) led by University of Washington

Bio

Rubina Singh is a Ph.D. student in Transportation Engineering at the University of Washington, where she is a member of the Sustainable Transportation Lab. Her research focuses on collecting and analyzing mobility data to understand travel behavior, the impact of policy interventions, and the adoption of emerging mobility modes. She aims to translate rigorous quantitative analysis into actionable recommendations to advance the field of transportation planning.

Degree and Graduation Date

M.S. in Civil Engineering, University of Illinois Urbana-Champaign, Spring 2020.
B.S. in Architecture and Urban Planning, Suez Canal University, Egypt, Spring 2004

Preferred Career after Graduation

Academia

Research Interests

Infrastructure Systems

Primary Mode

Road

Top Accomplishments

In 2025, Rubina's thesis related to an engineering evaluation of reliability issues in public EV charging stations, received the Best Paper Award at a major international conference focused on advanced vehicle technologies. She also earned the Valle Scholarship, which supported a four-month research exchange at the Technical University of Denmark, where she further developed her technical expertise in vehicle-related systems and charging technologies.

Dissertation Title and Summary

Optimizing the Planning of Conventional and Accelerated Bridge Construction Methods

Her research focuses on developing machine learning models to accurately predict construction cost, and durability of alternative bridge projects in the early design phase, when data are limited. Additionally, she created multi-objective framework for optimizing the planning of prefabricated bridge construction projects that simultaneously maximize safety, mobility, and sustainability while minimizing total construction costs. Together, these tools are expected to provide decision-makers and bridge planners with much needed support to make informed, data-driven decisions aligned with their project specific priorities, leading to more efficient, sustainable, and cost-effective delivery of prefabricated bridge construction projects.

Mr. Mason Tribble

University of Georgia

Innovative Bridge Technologies/Accelerated Bridge Construction University Transportation Center (IBT/ABC-UTC) led by Florida International University

Bio

Mason Tribble completed his bachelor's degree in Civil Engineering in 2025 at the University of Georgia. He is currently a master's student at UGA. Mason's master's research is focused on developing intelligent prestressed concrete bridge beams as part of Georgia's UTC project. Simultaneously, he is assisting on a research project with the Georgia Department of Transportation (GDOT) that is educating county officials about better bridge maintenance practices. Mason is also currently serving as the Capstone Senior Design Teaching Assistant, supporting a capstone student bridge design project in collaboration with Michael Baker International, while working as a research assistant.

Degree and Graduation Date

B.S. in Civil Engineering, University of Georgia, May 2025

Preferred Career after Graduation

Private sector

Research Interests

Intelligent Transportation Systems

Primary Mode

Road

Top Accomplishments

Mason's accomplishments include: Graduated Summa Cum Laude 2025 Tau Beta Pi Honor Graduate Certified EIT

Dissertation Title and Summary

Bridge Structural Health Monitoring and Asset Management

Mason's thesis focuses on developing a proof of concept for intelligent bridge girders. Previous studies have identified critical regions in prestressed concrete girders, particularly the flexure, anchorage, and shear zones, that are prone to cracking and failure. These regions serve as the primary focus of this study. Although efforts to monitor these areas and understand their failure mechanisms are not new, no standard currently exists for simultaneously monitoring all critical regions to assess girder behavior in service or to translate such data into asset management decisions. This research aims to fill that gap by developing a practical and affordable standard that leverages advanced sensing technologies (e.g., embedded strain gauges) for monitoring prestressed concrete bridge girders. The proposed proof of concept can be scaled to larger girders, enabling bridge owners to monitor structural performance in real time and providing a means to validate condition data that support data-driven bridge asset management decisions.

Dr. Kyle Yates

Clemson University

National Center for Transportation Cybersecurity and Resiliency (TRACR) led by Clemson University

Bio

Kyle Yates received his Ph.D. in Mathematical Sciences from Clemson University in December 2025 and will be starting his professional career as an applied mathematician in January 2026. He earned his M.S. degree in Mathematical Sciences from Clemson University in 2022 and his B.S. degree in Applied Mathematics from San Diego State University in 2020. His research focuses on privacy-preserving computation and data processing using homomorphic encryption, including applications in Intelligent Transportation Systems.

Degree and Graduation Date

Ph.D. in Mathematical Sciences, Clemson University, December 2025
M.S. in Mathematical Sciences, Clemson University, August 2022
B.S. in Applied Mathematics, San Diego State University, May 2020

Preferred Career after Graduation

Public sector

Research Interests

Intelligent Transportation Systems

Primary Mode

Road

Top Accomplishments

Kyle has a published journal paper and has two additional journal papers under review. He has also been an invited speaker for the National Center for Transportation Cybersecurity and Resiliency Scholar Webinar Series and an invited speaker at two other conferences.

Dissertation Title and Summary

Leveled Homomorphic Encryption Schemes: Noise and Precision Control

Homomorphic encryption is a data encryption technique which allows for computations to be performed directly on encrypted data. In these types of encryption schemes, messages are encrypted by adding extra noise to hide the messages. However, this noise expands with computation. This limits the amount of encrypted computation one can perform and, in some schemes, destroys precision accuracy. This dissertation studies noise, precision, and computations in homomorphic encryption schemes.


UTC
1987
2026