

University Transportation Centers



33rd Annual Outstanding Student of the Year Awards

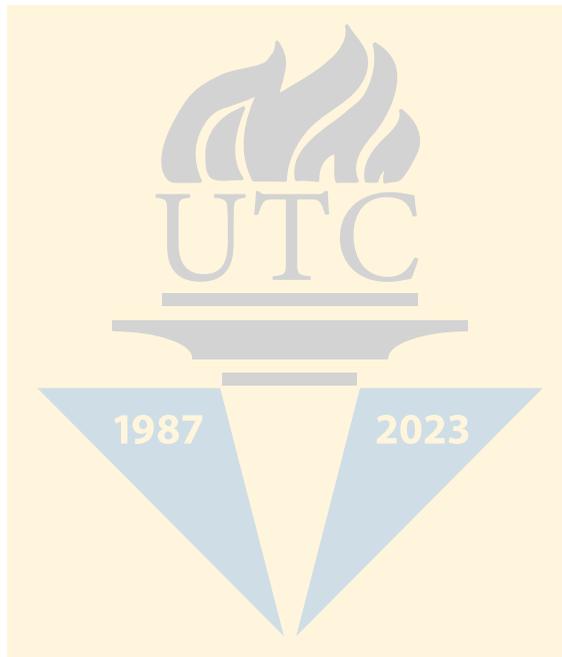
Presented by:

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

January 6, 2024



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



W E L C O M E

Welcome to the 33rd 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).

Each year, at the annual winter meeting of the Transportation Research Board, the Department honors the most outstanding student from each participating University Transportation Center 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.

The Office of the Assistant Secretary for Research and Technology (OST-R) administers the University Transportation Centers program with funding from the Federal Highway Administration.

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 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 set transportation in motion toward a more 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 University Transportation Centers (UTC) Program continues to bolster those efforts through advancing research on topics such as connected vehicles, pedestrian and cyclist safety, freight performance measures, and emissions reduction 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. Commonly known as the "Bipartisan Infrastructure Law" or "BIL," 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 area.

MULTIMODAL

Bailey Bullock
University of New Orleans

Erin Bulson
University of Wisconsin-Madison

Nicole Corcoran
Arizona State University

Wesley Darling
University of California, Berkeley

Justin Delgado
University of Utah

Ali Mahmoodigahrouei
Washington State University

Aleks Paskett
Utah State University

Hannah Power
University of Delaware

PUBLIC TRANSIT

Robert Binder
University of Southern California

Monisha Reginald
University of California, Los Angeles

Michael Wozniak
San Jose State University

RAIL

James Kasch
Virginia Polytechnic Institute and State University

ROAD

Joe Beck
University of Tennessee, Knoxville

Angelina Caggiano
University of Massachusetts Amherst

Bryce Grame
University of Florida

Eileen Herbers
Virginia Polytechnic Institute and State University

Holly Josephs
Rutgers, The State University of New Jersey

Claudia Marovic
University of Akron

Jackson Milner
University of Oklahoma

Jon Pinkham
University of Maine

Logan Prescott
University of Idaho

Elizabeth Rhinehart
Texas A&M University

Logan Scott-Deeter
Oregon State University

Moeid Shariatfar
Louisiana State University

Sarah Tucker
University of Nebraska Medical Center

Bailey Bullock



University of New Orleans

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

baileymbullock@gmail.com

Bio

Bailey Bullock is an urban and regional planner specializing in transportation and land use, currently enrolled in the M.S. in Transportation and the Graduate Certificate in GIS programs at the University of New Orleans (UNO). After graduating from Mississippi State University in 2016 with a bachelor's degree in Sociology, Bailey served with AmeriCorps (City Year '17; NCCC '20) and taught at universities in Colombia through the Fulbright Program. As a graduate research assistant at the UNO Transportation Institute, Bailey has participated in projects related to community engagement, intermodal chassis, international trade, and active transportation infrastructure.

Degree and Anticipated Graduation Date

M.S. in Transportation, University of New Orleans, May 2024

B.A. in Sociology, Mississippi State University, May 2016

Preferred Career after Graduation

Bailey plans to work in the private sector after graduating.

Broad Research Interests

Transportation planning

Specific Research Areas

Transportation demand and transit service delivery

Primary Mode

Multimodal

Top Accomplishment in 2023

Bailey validated pedestrian and bicyclist counts and collected perceived demographic data to support and evaluate a city of New Orleans program to add 75 miles of active transportation lanes throughout the city.

Thesis Title and Summary

"Opposition to Bus Rapid Transit: Who is a Stakeholder?"

This research employed a content analysis methodology to elucidate the predominant themes of opposition to Bus Rapid Transit (BRT) systems within the United States. Identified themes encompass financial concerns, reluctance towards dedicated bus lanes, concerns over displacement, equity and environmental externalities, apprehensions about service delivery, potential impacts on local businesses and pedestrian retail, and issues pertaining to stakeholder involvement and representation. A recurrent sentiment was the perception of stakeholders feeling marginalized in the transit decision-making process. The exploratory study uncovers the discursive tactics employed by property-leveraging stakeholders, namely drivers and homeowners, in their attempts to hinder transit expansion. Conversely, it underscores the success of coalition-building efforts in overcoming political barriers to improving the coverage and delivery of transit services.

Erin Bulson



University of Wisconsin-Madison

Center for Transportation Equity, Decisions and Dollars (CTEDD) led by the University of Texas at Arlington

bulson@wisc.edu

Bio

Erin Bulson is currently a PhD student at the University of Wisconsin-Madison. She holds an M.S. in Geosciences from the University of Wisconsin-Milwaukee and a B.S. in Business Administration. Erin worked on building a web-based tool to generate carbon dioxide emission data for different modes of transportation and trips, equating the impacts to the number of equivalent cheeseburgers. She utilized this web-based tool to conduct a survey as to the shifts in transportation behavior as a function of knowing the carbon dioxide emissions impact of the different modes of transportation for a trip.

Degree and Anticipated Graduation Date

PhD in Civil and Environmental Engineering, University of Wisconsin-Madison, May 2024

M.S. in Geosciences, University of Wisconsin-Milwaukee, 2018

B.S. in Business Administration, Colorado Technical University, 2008

Preferred Career after Graduation

Erin plans to pursue a career in the private sector after graduating.

Broad Research Interests

Transportation planning

Specific Research Areas

Sustainability of emerging transportation modes

Primary Mode

Multimodal

Top Accomplishment in 2023

Erin received the Wes and Ankie Foell Scholarship in Energy Analysis and Policy Environmental Research and Education Foundation Scholarship and was the Wisconsin Energy Institute Research Showcase Flash Talk Competition Winner International Society of Industrial Ecology Scholarship.

Dissertation Title and Summary

"Influence of Carbon Calculator on Mode Choice"

The echoing environmental toll of the transportation system calls for moving beyond carbon-intensive modes of transportation to more sustainable ones. With the rise of emerging modes of transportation, this transition is more promising than ever. In this work, we take a travel-centric approach to promoting the transition away from carbon-intensive modes of transportation by informing travelers about their emissions. A carbon calculator—as a function of trip distance and Well-to-Wheel Life Cycle Assessment—was developed and embedded on a website platform. Users input their trip distance, and the calculator outputs the carbon footprint (CO₂e) of the trip if it was to be transversed through seven different modes: car (gasoline), car (hybrid), car (electric), bus, electric bike, conventional bike, and walking. Additionally, the calculator outputs the equivalent of CO₂e as cheeseburgers for a more intuitive display. The overall goal of this work is to understand how travelers respond to being exposed to carbon footprint information. This serves as a step forward in realizing a sustainable transportation system. Study results indicated that trip distance, environmental awareness, age, income, and mode of transportation used were the most influential features in predicting modal shifts. Importantly, the majority of modal shifts results in reduced CO₂e emissions.

Nicole Corcoran



Arizona State University

Teaching Old Models New Tricks
(TOMNET)

ncorcor1@asu.edu

Bio

Nicole Corcoran earned her bachelor's and master's degrees in Industrial and Systems Engineering from the University of Iowa in 2018 and 2021, respectively. Currently, she is pursuing a PhD at the School of Geographical Sciences and Urban Planning at Arizona State University. Nicole has been serving as a graduate research associate at the TOMNET University Transportation Center at Arizona State University since 2021. Her research interests include travel behavior analysis, sustainable and equitable urban transportation, emerging mobility technologies, and transportation data analytics.

Degree and Anticipated Graduation Date

PhD in Urban Planning, Arizona State University, May 2025

M.S. in Industrial and System Engineering, University of Iowa, May 2021

BSE in Industrial and System Engineering, University of Iowa, May 2018

Preferred Career after Graduation

Nicole plans to work in academia after graduating.

Broad Research Interests

Transportation planning

Specific Research Areas

Travel behavior analysis, sustainable and equitable urban transportation, emerging mobility technologies, and transportation data analytics

Primary Mode

Multimodal

Top Accomplishment in 2023

Within TOMNET, Nicole significantly contributed to the data collection and analysis of the high-impact COVID Future Survey. She was invited to present survey findings at a 2023 TRB workshop. Nicole is a 2023 Dwight David Eisenhower Transportation Fellow and co-authored multiple publications showcasing her contributions to passenger transportation research.

Dissertation Title and Summary

"Understanding the Demand for Sports Utility Vehicles (SUVs) in the United States"

The new vehicle market in the U.S. has shifted away from cars over the past few decades. This change has been largely driven by the declining popularity of sedans and the increasing preference for SUVs and light-duty trucks, resulting in exacerbated externalities related to road transportation. To understand the factors behind this trend, Nicole's dissertation focuses on two key research questions: 1) What are the significant predictors influencing consumer vehicle choices over the past three decades? 2) How have the direction and influence of these predictors evolved over time? To answer these questions, Nicole developed a three-decade vehicle choice model based on individual observations of household vehicle ownership levels and types, utilizing data from the National Household Travel Survey (NHTS) data series since 1990. By unraveling the factors driving this demand for SUVs and light-duty trucks, her dissertation provides valuable insights into identifying strategies and policies to mitigate the adverse impacts of this demand on equity, climate change, and air quality.

Wesley Darling



University of California, Berkeley

National Institute for Congestion Reduction (NICR) led by the University of South Florida
wesley_darling@berkeley.edu

Bio

Wesley Darling is a doctoral student in Transportation Engineering at the University of California, Berkeley, where he matriculated following the completion of the M.S. program in Transportation Engineering in December 2021, also at UC Berkeley. Prior to attending UC Berkeley, Wesley received a B.S. in Business Administration from The University of North Carolina at Chapel Hill in 2017, and a B.S. in Civil and Environmental Engineering from the University of Tennessee, Knoxville in 2020. Wesley's research is focused on analyzing transportation network company services and exploring their role within multimodal transportation systems.

Degree and Anticipated Graduation Date

PhD in Civil and Environmental Engineering; Transportation Engineering, University of California, Berkeley, fall 2025

M.S. in Civil and Environmental Engineering; Transportation Engineering, University of California, Berkeley, December 2021

B.S. in Civil and Environmental Engineering, University of Tennessee, Knoxville, May 2020

Preferred Career after Graduation

Wesley plans to enter the consulting field or private sector after graduating.

Broad Research Interests

Transportation planning, traffic engineering, and freight

Specific Research Areas

Operations and analysis of transportation networking company services in multimodal transportation systems

Primary Mode

Multimodal

Top Accomplishment in 2023

Wesley's top accomplishments in 2022 include serving as the president of the Transportation Graduate Students Organizing Committee student organization for the 2021-2022 academic year and accepting in-person the 2021 William W. Millar Award for Outstanding Paper in Public Transportation at the 101st Transportation Research Board Annual Meeting.

Dissertation Title and Summary

"Enhancing Public Transportation for Low-Density Areas with TNCs"

Low-density areas are difficult for transit agencies to serve in an economical manner. Fixed-route transit and dial-a-ride (including microtransit) have yet to provide a desirable level of service at a reasonable cost. Small-scale pilots involving transportation network companies (TNCs), while more cost-effective than alternatives, have also failed, largely due to asymmetric information and unsustainable operating agreements. Wesley's dissertation work aims to address these challenges by developing Pareto-improving financial mechanisms and cost-saving operational changes to nudge TNCs into providing public transportation service for low-density areas in a manner that benefits all stakeholders. Initial results from continuous approximation models have shown that a system pairing rider subsidies with short-term incentive contracts for TNC drivers can reduce rider wait times and cost operators less than half that of turnkey microtransit solutions.

Justin Delgado



University of Utah

National Institute for Transportation and Communities (NITC) led by Portland State University

Justin.K.Delgado@utah.edu

Bio

Justin Delgado received a bachelor's degree in Environmental Science and Management at Humboldt State University in 2021 and is currently in the Master of City and Metropolitan Planning Program at the University of Utah. Justin currently works as a graduate research assistant for the Sustainability and Physical Enterprise Planning and Development offices, focusing on active transportation infrastructure research and design. In that role, he is helping to establish an active transportation counting program. Justin worked as a contract city planner from 2021-2022 for SHN Consulting Engineers and Geologists and as a transportation planning intern for Fehr and Peers in 2023.

Degree and Anticipated Graduation Date

Master of City and Metropolitan Planning, University of Utah, May 2024

B.S. in Environmental Science and Management, Humboldt State University, December 2021

Preferred Career after Graduation

Justin plans to work in the private sector after graduating.

Broad Research Interests

Transportation planning

Specific Research Areas

Transportation network improvement implementation phasing

Primary Mode

Multimodal

Top Accomplishment in 2023

In 2023, Justin successfully acquired \$50,000 to fund the establishment of the University of Utah's first continuous active transportation count program. This was achieved through contract negotiations with the university's micromobility partner, SPIN, and a direct funding application to the Sustainable Campus Initiative Fund.

Thesis Title and Summary

"Establishing an Active Transportation Count Program on the University of Utah Campus"

The University of Utah has limited information on the movement patterns of on-campus users and pedestrian, bicycle, and private micromobility volume data. Count volumes and movement patterns are essential tools to justify infrastructure funding. Without bike and pedestrian volumes, university staff cannot correctly anticipate the level of service along pathways. There are no adequately informed design standards for university facilities. Several staff brought up past experiences of not knowing the appropriate width for a pathway because they lacked design standards. Investment in active transportation facilities will not reach priority funding status without data, as evidenced by the university's current shortfall in achieving its bicycle network as described in the 2011 University Bike Master Plan. Supporting efforts to improve active transportation resources furthers the university goals of reducing carbon emissions. With current and projected growth of the campus, hundreds if not thousands of additional daily trips via active transportation are likely to occur on campus in the future. Counting technology is needed as soon as possible to establish current volumes so that future infrastructure is adequately planned to meet anticipated needs.

Ali Mahmoodigahrouei



Washington State University

National Center for Transportation Infrastructure Durability and Life-Extension (TriDurLE)

a.mahmoodigahrouei@wsu.edu

Bio

Ali Mahmoodi completed his M.S. in Polymer Engineering in 2021 at the Amirkabir University of Technology, Iran, and is a graduate student at Washington State University (WSU) pursuing his PhD in Civil Engineering. One noteworthy chapter of his dissertation studies biological approaches to the valorization of waste plastics for beneficial use in concrete infrastructure. Prior to joining WSU, Ali examined bio-based nanopigments and their application in pavement marking paints and protective coatings. He has contributed to and published research on bio-inspired materials, dyes, pigments, paints, and organic coatings. His work at WSU has earned multiple scholarships.

Degree and Anticipated Graduation Date

PhD in Civil Engineering, Washington State University, May 2025

B.Sc. in Textile Engineering, Isfahan University of Technology, Isfahan, Iran, September 2013

Preferred Career after Graduation

Ali plans to work in the private sector after graduating.

Broad Research Interests

Materials

Specific Research Areas

Polymers such as protective coatings for transportation infrastructure

Primary Mode

Multimodal

Top Accomplishment in 2023

Ali has authored more than a dozen peer-reviewed papers in scholarly journals. His research has been prominently featured in renowned journals such as the Journal of Cleaner Production, Dyes and Pigments, Scientific Reports, ACS Sustainable Chemistry & Engineering, and Progress in Organic Coatings.

Dissertation Title and Summary

"Micro-/Nano-Engineering of Interfaces for Durability of Reinforced Concrete in Harsh Environments"

This project proposes innovative methods to address the challenges of using ponded ash and waste plastic in sustainable concrete production, the success of which will translate to considerable benefits to stakeholders. His approaches include optimizing the use of ponded ash and waste plastic aggregate as partial replacements for cement and fine aggregate, respectively, in environmentally friendly concrete. Additionally, physical, chemical, and microbial methods can be used to enhance the pozzolanic reactivity of ponded ash and improve the compatibility of waste plastic aggregate with concrete. The study also suggests coating the waste plastic aggregate with a simple spray method to improve its interfacial bonding with the concrete mixture. Moreover, the resulting concrete will be evaluated based on performance parameters such as compressive strength, flexural strength, modulus of elasticity, abrasion resistance, and water absorption to assess its engineering performance and durability. Ali plans to employ life cycle assessment (LCA) methodologies to evaluate the environmental impacts of using ponded ash and waste plastic in concrete pavement and bridge applications, covering the entire life cycle of the product from raw material extraction to disposal.

Aleks Paskett



Utah State University

Mountain-Plains Consortium (MPC)
led by North Dakota State University

aleks.paskett@usu.edu

Bio

Aleks Paskett is a civil engineering master's student at Utah State University. His primary research has focused on the adoption of battery electric buses (BEBs), specifically the experiences of transit agencies adopting the technology on their systems. He is also assisting Dr. Ziqi Song with research on the resiliency of electric bus networks and better integrating persons with disabilities into regional transportation planning models. He plans to pursue a PhD in transportation systems on completion of his master's program.

Degree and Anticipated Graduation Date

M.S. in Civil and Environmental Engineering, Utah State University, December 2023

B.S. in Civil Engineering, Utah State University, May 2022

Preferred Career after Graduation

Aleks plans to pursue a career in academia after graduating.

Broad Research Interests

Transportation planning

Specific Research Areas

Transportation electrification and equity

Primary Mode

Multimodal

Top Accomplishment in 2023

Aleks was invited to present his initial research on transportation electrification at the TRB's 102nd annual meeting in 2023.

Thesis Title and Summary

"Barriers and Drivers to Bus Electrification: The Transit Agency's Perspective"

While agencies and policymakers are setting increasingly ambitious zero-emissions goals, many agencies still face significant barriers to adopting BEBs. This research seeks to understand the barriers faced by transit agencies at present, as well as the driving factors motivating their adoption of BEBs. Through a series of interviews conducted with transit agencies across the United States, agency leaders have indicated that although they understand the potential environmental and financial benefits of battery buses, they face significant financial and technical challenges in implementing this technology.

Hannah Power



University of Delaware

Center for Integrated Asset Management for MultiModal Transportation Infrastructure Systems (CIAMTIS) led by Pennsylvania State University

hpower@udel.edu

Bio

Hannah Power is a PhD candidate in the Department of Civil and Environmental Engineering at the University of Delaware. Her research focuses on bridge health monitoring, specifically on the innovative application of retroreflective sheeting materials as passive sensors. Hannah holds bachelor's and master's degrees in civil engineering from Villanova University. Before starting her graduate work at the University of Delaware, Hannah worked for Michael Baker International in the greater Philadelphia region designing and rehabilitating bridges. She is passionate about civil infrastructure and preserving bridges as well as humanitarian engineering. She is an active member of Engineers without Borders.

Degree and Anticipated Graduation Date

PhD in Civil Engineering with concentration in Structural Engineering, University of Delaware, January 2025

M.S. in Civil Engineering, Dual Concentration in Structural and Transportation Engineering, Villanova University, May 2020

B.S. in Civil Engineering, Minor Spanish Language and Literature, Villanova University, May 2016

Preferred Career after Graduation

Hannah plans to pursue a career in academia after graduating.

Broad Research Interests

Infrastructure systems

Specific Research Areas

Bridges, structural health monitoring, strain sensing, and civil infrastructure systems

Primary Mode

Multimodal

Top Accomplishment in 2023

Hannah has received numerous awards including ASCE O.H. Ammann Research Fellow in Structural Engineering and Professional Women in Construction, and the Philadelphia Student Recognition Award. She also published a paper in Measurement.

Dissertation Title and Summary

"Passive Strain Sensing for Structural Health Monitoring Using Retroreflective Sheeting Materials"

Retroreflective sheeting materials (RRSM) are widely used today for roadway signs and markings. Retroreflectivity (RR), defined as the portion of light returned to the source as measured in candelas per lux per square meter, can be measured in the laboratory, or quite easily in the field using a handheld retroreflectometer. Tests show that as load is applied to RRSM, the retroreflection changes, and for many types of RRSM, RR has a linear relationship to the material's strain. This opens the possibility for using RRSM as a passive sensor for structural health monitoring whereby measured changes in RR of RRSM mounted to a structure can be correlated to changes in strain. The sensor would be low cost, practical, and innovative. Material sensitivity (ratio of retroreflectivity to strain) is the most important factor when evaluating different types of RRSM for potential use as passive sensors. Materials with the highest sensitivity based on bare material cyclic tension tests were subjected to additional testing. This experimentation has led to the development of a steel mounted RRSM strain sensor that can be applied to various structural elements to passively monitor strain.

Robert Binder



University of Southern California

National Center for Sustainable Transportation (NCST) led by the University of California, Davis
robertbinder44@gmail.com

Bio

Robert Binder has been keenly interested in transit and high-speed rail since he was young, growing up in Metro Detroit and dreaming of a transit system for his region. Robert has committed himself to the broader urban planning field since. Following graduation from Michigan State University, Robert worked for six years as a transportation consultant, while completing a master's degree in City and Regional Planning at Georgia Tech. Following graduation, Robert worked for a research institute in Japan studying the risks of climate change and the development of smart cities. He is currently completing his dissertation as a PhD candidate in Urban Planning at the University of Southern California.

Degree and Anticipated Graduation Date

PhD in Urban Planning, University of Southern California, May 2024

Master's degree in City & Regional Planning, Georgia Institute of Technology, May 2018

B.S. in Civil & Environmental Engineering, Michigan State University, May 2013

Preferred Career after Graduation

Robert plans to pursue a career in academia after graduation.

Broad Research Interests

Transportation planning

Specific Research Areas

Transportation equity and justice, social interactions in public space, urban sociology, public transit, ethnography, community engagement, storytelling in planning, urban design, and public finance

Primary Mode

Public transit

Top Accomplishment in 2023

In 2023, Robert's top accomplishment was being awarded the American Public Transportation Foundation's Board Scholarship, which included a stipend to continue toward the completion of his dissertation and gave him the opportunity to attend the APTA TRANSform Conference where he met other emerging scholars and professionals passionate about public transit.

Dissertation Title and Summary

"Brushing Shoulders: In-Transit Social Interactions and Intersecting Identities in Los Angeles and Detroit"

The purpose of my research is to show how the functions of and interactions within public space may also occur on public transit, and thus, that public transit functions like a public space. Further, I examine how the interactions happening within transit vehicles, and my own vehicle while driving Lyft, may provide a social value that is not yet considered. With this research, I seek to understand the value of social interactions along public transit and answer the research question—Does public transit act as a mechanism or tool for social mixing? A mixed-methods approach is used in Los Angeles and Detroit which includes participant observations and interviews (ethnography), demographic and socioeconomic analysis for key transit routes to determine a Diversity Index, and the collection of field data using a previously observed list of interaction typologies.

Monisha Reginald



University of California, Los Angeles

Pacific Southwest Region University
Transportation Center led by the
University of Southern California
monisha.reginald@gmail.com

Bio

Monisha received a bachelor's degree in Economics and Mathematics from Northeastern University, where she first became passionate about pursuing a career in Transportation Policy and Planning during an internship at the Massachusetts Bay Transportation Authority (MBTA). After graduating, Monisha went to work at the MBTA full time, progressing from the role of Statistical Research Analyst to Manager of Statistical Research. She was able to bring unique value to her role at the MBTA by applying a social science research approach that illuminated individual-level factors influencing riders' choices and perceptions but felt propelled to enroll at UCLA to obtain a master's degree in urban and regional planning to broaden her knowledge in core transportation planning areas.

Degree and Anticipated Graduation Date

Master of Urban and Regional Planning candidate, UCLA, expected graduation date of June 2024

B.S. in Economics and Mathematics, Northeastern University, May 2018

Preferred Career after Graduation

Monisha plans to pursue a PhD after receiving her graduate degree.

Broad Research Interests

Transportation planning

Specific Research Areas

Sustainability, transportation safety, gender-equity

Primary Mode

Public transit

Top Accomplishment in 2023

Publication of an article titled "Developing a Methodology to Identify Non-Normative Key Destinations for Transportation Planning."

Research Topic and Summary

"Developing A Methodology to Identify Non-Normative Key Destinations for Transportation Planning"

Medium- to long-range planning processes generally aim to fix deficiencies in the current transportation network by better distributing existing resources or acquiring new resources. This requires some way of defining better service patterns, including identifying priority places to and from which the network will increase connectivity. Typically, identifying these priority places happens through project-specific outreach efforts, sometimes with the support of job density or population data. This paper discusses a process for leveraging confirmatory public outreach and combining it with location-based services data (or other sources of multimodal travel data, e.g., household travel surveys) to create an iteratively developed and reproducible methodology for identifying key destinations. This method allows an agency to minimize outreach fatigue by only conducting periodic public outreach on the subject, rather than asking the same baseline questions for every individual planning project. Additionally, this method better bolsters equity by moving away from normatively selected destinations (which tend to be traditional job centers with 9-to-5 commuters) and supporting more high-participation outreach efforts in the future. Ultimately, this paper makes the case that the output of outreach in a data-informed planning process should be a replicable methodology, not a static list.

Michael Wozniak



San Jose State University

Mineta Consortium for
Transportation Mobility (MCTM)
mike.wozniak@outlook.com

Bio

Michael Wozniak is currently pursuing a master's degree in Transportation Management from the Mineta Transportation Institute at San Jose State University. He currently serves as the Manager of Civil Rights Programs for the San Mateo County Transit District (SamTrans) and Caltrain in San Carlos, California. Mike has over 20 years of transportation experience in construction project management, facility design, environmental compliance, and civil rights programs.

Degree and Anticipated Graduation Date

Master's degree in Transportation Management from the Mineta Transportation Institute at San Jose State University, June 2024

B.S. in Construction Management, California State University, Chico, May 2003

Preferred Career after Graduation

Mike will pursue a career in the public sector after graduation.

Broad Research Interests

Transportation policy

Specific Research Areas

Transit safety and security

Primary Mode

Public transit

Top Accomplishment in 2023

Mike was promoted to Manager, Civil Rights Programs where he oversees Labor Compliance, DBE and SBE programs for SamTrans and Caltrain.

Research Topic and Summary

"Mitigating Assaults Against Bus Operators at SamTrans"

Mike's capstone research project evaluates strategies to reduce the specific types of harassment and assaults experienced by bus operators at SamTrans, a small-to-medium sized bus agency in the San Francisco Bay Area.

James Kasch



Virginia Polytechnic Institute and State University

Improving Rail Transportation Infrastructure Sustainability and Durability (RailTEAM) led by the University of Nevada, Las Vegas

jamesk18@vt.edu

Bio

James Kasch is a master's student at Virginia Tech's Center for Vehicle Systems and Safety (CVeSS), which is part of the RailTEAM UTC, led by UNLV. He received his bachelor's degree in Mechanical Engineering from Virginia Tech in spring 2023. His research focuses on improving train safety through developing a mobile, low-cost train inspection system that can detect failures or pending failures that may lead to unscheduled train stoppages or derailments. James is a founding member of the Beta Upsilon Chi chapter on campus.

Degree and Anticipated Graduation Date

M.S. in Mechanical Engineering, Virginia Tech, August 2024

B.S. in Mechanical Engineering, Virginia Tech, May 2023

Preferred Career after Graduation

James plans to pursue a career in consulting after receiving his master's degree.

Broad Research Interests

Intelligent Transportation Systems

Specific Research Areas

Vehicle dynamics and control, vehicle safety

Primary Mode

Rail

Top Accomplishment in 2023

James significantly improved the mechanical and controller design of a track crawler robot that is designed to operate underneath a train to video-map the undercarriage equipment condition for detecting any failures or pending failures. James's efforts have resulted in improved image resolution at speeds far higher than achieved before.

Thesis Title and Summary

"Track Crawler Robot for Imaging Train Undercarriage at High Speeds"

This study explores the design and feasibility of using a mobile robotic platform, equipped with digital cameras, thermal imaging, and similar systems for visual inspection of rolling-stock undercarriage while stationary. Condition monitoring and modern inspection methods are important parts of ensuring safe, reliable, and efficient operation of railroad equipment. Current wayside imaging inspection systems are effective, but stationary and costly. This study presents a functional system capable of traversing over and in between the rails, to cost effectively inspect train undercarriages in railyards or sidings. The ability to scan railcars safely will enable detection and documentation of their condition for improved maintenance diagnostics and preventive maintenance. The results of preliminary tests with off-the-shelf cameras capable of 120 FPS recording are also included. Earlier tests indicated the proximity between the cameras and the undercarriage components poses a challenge in ensuring that clear and visible images can be captured, especially when moving at higher speeds (say, more than 5 mph) and in low lighting. Traveling on ballasts and ties also poses challenges in terms of the vibrations caused by the rough terrain. The image stabilization feature that is present in most modern cameras is particularly helpful in reducing some of the blurring effects from the vibrations. The study offers an isolation system that significantly reduces vibrations to the cameras. It also includes controller adjustments and camera settings that improve the Crawler's speeds at which clear video images can be captured for offline processing, beyond the low speeds possible in the past.

Joe Beck



University of Tennessee, Knoxville

Collaborative Sciences Center for
Road Safety (CSCRS) led by the
University of North Carolina at
Chapel Hill

jbeck9@vols.utk.edu

Bio

Joe Beck is a PhD student in Mechanical Engineering at the University of Tennessee, Knoxville. A native of Murfreesboro, Tennessee, Joe graduated top of his class in Mechatronics Engineering at Middle Tennessee State in 2017. Joe has work experience as an electrical engineer and a controls engineer. He is using AI and machine learning techniques to further the validation and deployment of autonomous systems in vehicles and robotics.

Degree and Anticipated Graduation Date

PhD candidate, Mechanical Engineering-Systems & Controls, University of Tennessee, Knoxville, summer 2024

M.S., Mechanical Engineering-Systems & Controls, University of Tennessee, Knoxville, fall 2021

B.S., Mechatronics Engineering, Middle Tennessee State University, Minor in Mathematics, Most Outstanding Student in Mechatronics Award 2016-2017, Summa Cum Laude, spring 2017

Preferred Career after Graduation

Joe plans to pursue a career in the private sector after graduation.

Broad Research Interests

Intelligent Transportation Systems

Specific Research Areas

Machine learning techniques for automated driving validation

Primary Mode

Road

Top Accomplishment in 2023

Joe's top accomplishments include authoring three first-author papers and developing the controls and perception system for UTK's vehicle-in-the-loop testing setup, as demonstrated in a 2023 TRB submission.

Dissertation Title and Summary

"Simulation Techniques and Edge-Case Detection for the Validation and Deployment of Autonomous Vehicles"

This work encompasses the development and use of various machine learning techniques for the realistic simulation of autonomous vehicles in a virtual environment. These tools are also combined with an original vehicle-in-the-loop testing platform for incorporating real dynamic response. All of this culminates in the discovery of safety "edge-cases" for vehicle validation.

Angelina Caggiano



University of Massachusetts Amherst

Safety Research Using Simulation
(SAFER-SIM) led by the University
of Iowa

acaggiano@umass.edu

Bio

Angelina Caggiano is a doctoral student in Transportation Engineering at UMass Amherst. As an undergraduate student at UMass, Angelina worked as a transportation research assistant, peer advisor, and tour guide on campus. This allowed for a seamless transition to graduate school where Angelina has conducted research as part of the Safer Sim University Transportation Center in the areas of transportation safety and driver understanding of traffic control devices with an emphasis on vulnerable road users. Angelina has held several intern positions as an Intelligent Transportation Systems Intern at IBI Group, Highway Safety Intern at VHB, and Construction Intern at MassDOT.

Degree and Anticipated Graduation Date

PhD in Transportation Engineering, University of Massachusetts, spring 2026

M.S. in Civil Engineering, University of Massachusetts, May 2024

B.S. in Civil & Environmental Engineering, University of Massachusetts, May 2022

Preferred Career after Graduation

Angelina plans to pursue a career in academia after graduation.

Broad Research Interests

Traffic engineering

Specific Research Areas

Transportation safety

Primary Mode

Road

Top Accomplishment in 2023

As an active researcher and innovator focused upon transportation safety, Angelina led a Technology Challenge team that pitched and designed a small-scale prototype called GlowSafely: a passive detection system using a unique lighting array to illuminate the way for pedestrians and cyclists. They were awarded \$8,000 to advance their startup.

Thesis Title and Summary

"An Evaluation of Driver Comprehension of the Pedestrian Hybrid Beacon?"

Pedestrian Hybrid Beacons (PHBs) are becoming increasingly common at midblock pedestrian crossings to enhance safety. The tri-signal head design includes two red lights above a single yellow light and is used as a method of increasing the safety of vulnerable road users by stopping vehicles on high-traffic and high-speed corridors. This study was initiated to examine, 1) driver understanding and compliance with yielding to users; 2) pedestrian understanding and compliance in actuating PHBs; and 3) cyclist understanding and compliance in actuating PHBs within Massachusetts. Through a statewide video data collection effort, this study evaluated driver yielding and stopping rates at urban and rural locations. This includes the action of coming to a complete stop during the solid or flashing red signal phase, yielding during the flashing or solid yellow signal phase, or neglecting to stop or yield to a pedestrian or cyclist. An analysis was established to evaluate the likelihood of pedestrians and cyclists actuating the signal at PHB controlled midblock crosswalks. These data collection efforts were paired with results from a questionnaire that was disseminated to drivers across Massachusetts to investigate driver's understanding of PHB phases. This study provides key suggestions for implementing PHBs, teaching drivers about them, and providing recommendations for proper phasing sequences.

Bryce Grame



University of Florida

Southeastern Transportation
Research, Innovation, Development
and Education Center (STRIDE)

brycegrame@ufl.edu

Bio

Bryce Grame received a bachelor's degree in Civil Engineering and a minor in Statistics at Montana State University in 2021 and is currently a graduate student at the University of Florida. He is enrolled in a concurrent degree program, pursuing a PhD in Transportation Engineering and a master's degree in Urban and Regional Planning. Bryce works on research for NSF, FDOT, and FHWA pertaining to transportation safety, has interned with the Washington State Department of Transportation (2018: Spokane), Kittelson & Associates, Inc. (2019: Portland, 2021: Orlando, 2022: Miami), the Western Transportation Institute (2020: Bozeman) and England-Thims & Miller, Inc. (2023: Jacksonville), and has been involved extensively with his ITE student chapters.

Degree and Anticipated Graduation Date

PhD in Transportation Engineering, University of Florida, December 2026

M.A. in Urban and Regional Planning, University of Florida, May 2024

M.S. in Transportation Engineering, University of Florida, August 2024

B.S. in Civil Engineering (Statistics minor), Montana State University, May 2021

Preferred Career after Graduation

Bryce plans to pursue a career in consulting after graduation.

Broad Research Interests

Transportation planning

Specific Research Areas

Traffic forecasting, traffic safety

Primary Mode

Road

Top Accomplishment in 2023

Bryce received the following recognition and honors in 2023: ITE Florida-Puerto Rico District Student Chapter of the Year, Inaugural APA Florida Student Poster Competition Winner, and ITE Florida-Puerto Rico District Traffic Bowl Champion.

Thesis Title and Summary

"Eye-Tracking Applications for Transit"

This pilot study was the first in-field eye-tracking study conducted with bus drivers. It explored potential harms and benefits of large-scale eye-tracking implementation in transit identified by the drivers themselves, evaluated the current perspective of local transit agencies regarding eye-tracking technology, and sought to understand concerns expressed by the bus drivers and how eye-tracking could be leveraged to address these concerns.

Eileen Herbers



Virginia Polytechnic Institute and State University

Safety Through Disruption (Safe-D)

EHerbers@vtti.vt.edu

Bio

Eileen Herbers is a PhD student in the Biomedical and Engineering Mechanics Department at Virginia Tech. Her expected graduation date is May 2024. Her dissertation, "Measuring the Potential Safety Impact of Automated Driving Systems (ADS)," uses naturalistic driving data to assess how to measure the potential safety impact of ADS and where current approximations may be overestimating its possible impact. This past year, Eileen published a previous Safe-D UTC project as first author in *Human Factors Journal: The Journal of the Human Factors and Ergonomics Society*.

Degree and Anticipated Graduation Date

PhD in Biomedical and Engineering Mechanics, Virginia Tech University, May 2024

Preferred Career after Graduation

Eileen plans to pursue a career in the public sector after graduation.

Broad Research Interests

Intelligent Transportation Systems

Specific Research Areas

Connected and automated vehicles

Primary Mode

Road

Top Accomplishment in 2023

Eileen published as first author in *The Journal of the Human Factors and Ergonomics Society*, began working full time as a Human Factors Engineer at the Virginia Tech Transportation Institute, and was in the top three students at the Student Poster Competition at the Drive Smart Virginia, Distracted Driving Summit.

Dissertation Title and Summary

"Measuring the Potential Safety Impact of Automated Driving Systems (ADS)"

Eileen's dissertation uses naturalistic driving data to assess how to measure the potential safety impact of ADS and where current approximations may be overestimating its possible impact.

Holly Josephs



Rutgers, The State University of New Jersey

Center for Advanced Infrastructure and Transportation (CAIT)

holly.josephs@rutgers.edu

Bio

Holly Josephs is a second year PhD student in Dr. Jie Gong's lab and a member of the Megalopolitan Coastal Transformation Hub. She studies how riverine and coastal flooding affects buildings, infrastructure, and transportation networks and creates visualizations to support decisions in housing rebuilding choices before and after catastrophic flooding. She works with a great team of people working to make New Jersey a more sustainable and resilient place. Before joining Rutgers University, she was a housing counselor in Brooklyn, New York and worked with Professor Haydee Salmun from Hunter College to develop software to analyze Planetary Boundary Layer data.

Degree and Anticipated Graduation Date

PhD in Civil Engineering from Rutgers University, 2026

Master's degree in Geoinformatics, Hunter College, 2021

Bachelor's degree in Civil/Environmental Engineering and Urban Studies/Planning, Massachusetts Institute of Technology, 2016

Preferred Career after Graduation

Holly is open to opportunities in academia, consulting, the public and private sectors after graduation.

Broad Research Interests

Infrastructure systems

Specific Research Areas

Effects of flooding on infrastructure and transportation systems

Primary Mode

Road

Top Accomplishment in 2023

Holly produced emergency service disruption analysis during urban flooding, informed mitigation choices at the NJ state level, presented at conferences, and received the NSF CORE institute fellowship.

Dissertation Title and Summary

"Estimation of the Planetary Boundary Layer Height: Part 1: Global Radar Wind Profiler Network Data; Part 2: A Comparison to Ceilometer Data"

This study showed how a new, global dataset from UK Met Office can be used to estimate planetary boundary layer heights, which are necessary for climate studies.

Claudia Marovic



University of Akron

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

cm293@uakron.edu

Bio

Claudia Marovic received their bachelor's degree in Civil Engineering from Cleveland State University in 2018 and their master's degree in Civil Engineering with a focus on transportation in 2019. Claudia is currently pursuing a PhD in Civil Engineering from the University of Akron and is expected to graduate in 2025. Claudia's research is currently focused on older drivers, their usage of new technologies, and effective outreach strategies to inform the public about them.

Degree and Anticipated Graduation Date

PhD in Civil Engineering, University of Akron, May 2025

M.S. in Civil Engineering with a focus on transportation, Cleveland State University, May 2019

B.S. in Civil Engineering, Cleveland State University, May 2018

Preferred Career after Graduation

Claudia plans to pursue a career in academia after graduation.

Broad Research Interests

Intelligent Transportation Systems

Specific Research Areas

Connected and automated vehicles

Primary Mode

Road

Top Accomplishment in 2023

Through their research funded by the Center for Connected and Automated Transportation, Claudia has been invited to speak at three major conferences including the CCAT Global Symposium, the IFS International Conference, and OTECS 2023 Conference.

Dissertation Title and Summary

"Older Drivers and Vehicle Technology"

The uptake of connected and automated vehicles (CAVs) by older drivers has been hindered by their limited awareness, understanding, and acceptance of the features and functions of these technologies. To address this issue, this research project aims to design, implement, and evaluate an education intervention for older drivers about CAVs. The primary purpose of the intervention is to increase older drivers' awareness and knowledge of CAV technologies, their safety benefits, and potential challenges. By doing so, the intervention aims to improve older drivers' acceptance and adoption of CAVs, enhance their driving safety and mobility, and contribute to the overall societal goal of reducing traffic crashes and fatalities. The secondary purpose of the intervention is to generate insights and recommendations for transportation agencies, vehicle manufacturers, and other stakeholders to design more user-friendly and accessible CAV technologies that meet the diverse needs and preferences of older drivers.

Jackson Milner



University of Oklahoma

Accelerated Bridge Construction
(ABC-UTC) led by Florida
International University

jackson.c.milner-1@ou.edu

Bio

Jackson Milner completed a bachelor's degree in Civil Engineering in 2021 at the University of Oklahoma (OU) and is currently a master's student at OU. Jackson worked on research pertaining to accelerated bridge construction for bridge substructures. Specifically, he performed full-scale testing of a novel FRP-Concrete-Steel bridge column. The column eliminates the need for formwork and reinforcing steel within the concrete, allowing very rapid construction. The concrete, in turn, increases the buckling resistance of the inner steel tube and outer FRP tube, while the FRP tube provides enhanced corrosion resistance.

Degree and Anticipated Graduation Date

M.S. in Civil Engineering, University of Oklahoma, December 2023

B.S. in Civil Engineering, University of Oklahoma, May 2021

Preferred Career after Graduation

Jackson will pursue a career in the private sector after graduation.

Broad Research Interests

Materials

Specific Research Areas

Structural performance of hollow-core FRP-concrete-steel columns

Primary Mode

Road

Top Accomplishment in 2023

Jackson designed and helped fabricate the unique steel test frame to test these columns as the lab does not possess a strong wall. He fabricated and tested five full-scale column specimens, two with a high strength SCC core and two with a UHPC core, as well as one circular reinforced concrete column as a control specimen.

Thesis Title and Summary

"Performance of Multi-Hazard-Resistant Hollow-Core FRP-Concrete-Steel Columns with High-Strength SCC or UHPC"

The main objectives of this research were to determine the improved axial and flexural strength, ductility, and energy absorption afforded by the hollow-core FRP-concrete-steel columns when compared to traditional reinforced concrete columns.

Jon Pinkham



University of Maine

Transportation Infrastructure
Durability Center (TIDC)

jon.pinkham@maine.edu

Bio

Jon Pinkham is a second-year graduate research assistant. He graduated from the University of Maine with a bachelor's degree in Civil Engineering in May 2022. Jon worked his senior year (fall 2021-spring 2022) as an undergraduate research assistant at the Advanced Structures and Composites Center (ASCC) at the University of Maine. Jon has been a Maine resident his entire life and would like to pursue a career in the Civil and Structural Engineering fields within the state. Outside of school and work, Jon likes to assist in his community through various forms of volunteer work.

Degree and Anticipated Graduation Date

M.S. in Civil Engineering, May 2024

B.S. in Civil Engineering (Structural Engineering Concentration), May 2022

Preferred Career after Graduation

Jon plans to pursue a career in the private sector after graduation.

Broad Research Interests

Infrastructure systems

Specific Research Areas

Live load distribution in composite tub (CT) girder bridges

Primary Mode

Road

Top Accomplishment in 2023

Jon graduated summa cum laude with a bachelor's degree in Civil Engineering at the University of Maine and transitioned into a graduate career.

Thesis Title and Summary

"Distribution of Live Loads in FRP Composite Tub Girders for Highway Bridge Applications"

This thesis will focus on the research conducted on CT girder bridges that have been constructed and those modeled using the finite element method. Modeling automation will be done using computer script that forms models using varying parameters such as girder spacing and span length. A parametric study will be conducted using the results of the modeling analysis, and equations will be created to derive live load distribution factors for CT girders.

Logan Prescott



University of Idaho

Center for Safety Equity in
Transportation (CSET) led by the
University of Alaska Fairbanks

pres0545@vandals.uidaho.edu

Bio

Logan Prescott completed a bachelor's degree in Civil Engineering in 2022 at the University of Idaho (UI). He is currently a graduate student working under the direction of Professor Ahmed Abdel-Rahim on the project: "Impact of the COVID-19 Pandemic on Fatal Crash Rates for RITI Communities in Idaho." Logan has been a very strong student throughout his academic career, and he has also been active outside of the classroom, serving as President of the UI Institute of Transportation Engineers (ITE) Student Chapter. Logan is also a member of the UI varsity football team, where he has handled both place-kicking and kickoff duties.

Degree and Anticipated Graduation Date

M.S. in Civil Engineering, University of Idaho, May 2024

B.S. in Civil Engineering, University of Idaho, May 2022

Preferred Career after Graduation

Logan plans to continue for a PhD after graduation.

Broad Research Interests

Transportation policy

Specific Research Areas

Traffic safety

Primary Mode

Road

Top Accomplishment in 2023

Logan's top accomplishments in 2023 include completion of an internship with Kimley-Horn, elected University of Idaho ITE Student Chapter President, and recipient of Coral Sales Company/Dougals P. Daniels Scholarship 2023-2024.

Thesis Title and Summary

"Positively Impacting Traffic Safety Culture for Indigenous Youth: A Heritage-Focused Approach"

The research emphasizes the significance of creating culturally tailored content, highlighting its substantial influence on enhancing traffic safety culture within tribal communities. It is advised that tribal communities designate a local champion to spearhead their traffic safety education initiative, ensuring the incorporation of culturally grounded material.

Elizabeth Rhinehart



Texas A&M University

Center for Advancing Research in Transportation Emissions, Energy, and Health (CARTEEH) led by the Texas A&M Transportation Institute

erhinehart99@gmail.com

Bio

Elizabeth Rhinehart is a Graduate Assistant Researcher at the Texas A&M Transportation Institute, working on research projects with the Center for Advancing Research in Transportation Emissions, Energy, and Health (CARTEEH). Elizabeth focuses her research on the intersection of transportation and health. Her areas of interest include the impacts of traffic-related air pollution (TRAP) on vulnerable road users and other disadvantaged populations and providing transportation agencies with strategies to enhance health equity. Elizabeth holds a bachelor's degree in Public Health and is currently pursuing a master's degree in Environmental Health from the Texas A&M University's School of Public Health.

Degree and Anticipated Graduation Date

Master of Public Health, Texas A&M University, May 2024

B.S. in Public Health, (Minor in Biomedical Science), May 2022

Preferred Career after Graduation

Elizabeth plans to pursue a career in the public sector after graduation.

Broad Research Interests

Transportation planning

Specific Research Areas

Health and transportation

Primary Mode

Road

Top Accomplishment in 2023

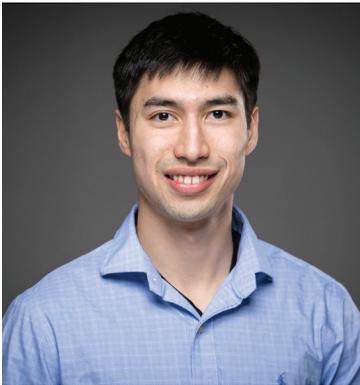
Elizabeth played an instrumental role in the development of CARTEEH's Health Equity Framework and Practitioner Toolkit, which involved the compilation of transportation strategies and linking them to health outcomes to provide an innovative user-friendly product that is grounded in scientific research and literature.

Research Topic and Summary

"Developing a Health Equity Framework and Practitioner Toolkit to Enhance the Public Health Benefits of Transportation Infrastructure"

The Health Equity Framework was developed to help decision makers, practitioners, and members of the public better understand the linkages between transportation infrastructure and health, as well as the approaches to enhance health equity in the transportation system. The framework can be used to minimize the negative impact of transportation on health and help create transportation systems that support and enhance public health. CARTEEH's Health Equity Framework is unique because it views the transportation infrastructure through the lens of health equity and provides an integrated approach to tackling the complexity surrounding transportation and health. The framework is a combination of health equity objectives aimed at ensuring the development and maintenance of transportation systems that promote sustainability, accessibility, and overall well-being of the public regardless of physical ability, socioeconomic status, or racial status. By integrating these objectives with a practitioner's toolkit, the Health Equity Framework aims to enhance transportation systems and provide new and innovative solutions to measure and implement health equity.

Logan Scott-Deeter



Oregon State University

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

scottdel@oregonstate.edu

Bio

Logan Scott-Deeter is a PhD student in the School of Civil and Construction Engineering at Oregon State University. Logan has a passion for improving both transportation operations and safety for all users. His research experience and interests include experiments conducted in the field and the laboratory focused on the experiences of bicyclists and commercial motor vehicle operators interacting with surface transportation systems. Logan strives to pursue a profession in academia where he can impart a similar passion to students interested in transportation.

Degree and Anticipated Graduation Date

PhD in Civil Engineering, Oregon State University, June 2024

M.S. in Civil Engineering, Oregon State University, August 2021

B.S. in Civil Engineering, Oregon State University, June 2019

Preferred Career after Graduation

Logan plans to pursue a career in academia after graduation.

Broad Research Interests

Traffic engineering

Specific Research Areas

Transportation safety and human factors in transportation

Primary Mode

Road

Top Accomplishment in 2023

Logan was named a 2023 Dwight D. Eisenhower Transportation Graduate Fellowship.

Dissertation Title and Summary

"Heavy Vehicle Gap Acceptance Behavior at Congested Single Lane Roundabouts: Challenges and Opportunities"

This two-phase study addresses concerns regarding the entering capacity of heavy vehicles at congested roundabout sites. It is believed that these large trucks experience added delay when trying to enter a roundabout as compared to other vehicles, which is worsened when operating during congested conditions. This impact increases delays and reduces the effectiveness of this intersection design alternative. The first phase of this study included fieldwork where over 2,600 trucks were observed and transcribed at roundabout sites and their entering capacity was assessed through gap-acceptance parameters. The second phase of this work used a high-fidelity driving simulation environment and 50 experimental participants to understand the impact of various roundabout designs and traffic control devices. This work aims to improve efficiency of heavy vehicles at roundabout sites through identifying areas of concern and providing recommendations for improvements moving forward.

Moeid Shariatfar



Louisiana State University

Transportation Consortium of Southcentral States (Tran-SET)

mshari6@lsu.edu

Bio

Moeid Shariatfar is a multidisciplinary scholar and researcher, specializing in data interoperability in infrastructure systems and leveraging artificial intelligence for enhanced infrastructure resilience. With a background spanning civil engineering, computer science, and construction management, Moeid's academic journey includes a PhD at LSU and prior master's degrees from LSU and Sharif University of Technology in Iran. His passion lies in developing innovative solutions to complex infrastructure challenges that exist in the fields of infrastructure and construction management.

Degree and Anticipated Graduation Date

PhD in Construction Management, Louisiana State University, May 2024

M.S. in Computer Science, Louisiana State University, August 2023

M.S. in Construction Engineering and Management, Sharif University of Technology, January 2017

B.S. in Civil Engineering, Islamic Azad University, April 2010

Preferred Career after Graduation

Moeid plans to pursue a career in academia after graduation.

Broad Research Interests

Infrastructure systems

Specific Research Areas

Pavement performance prediction, roadway vulnerability in flood-prone areas

Primary Mode

Road

Top Accomplishment in 2023

Moeid's top accomplishments in 2023 include publishing a paper in the *Journal of Computing in Civil Engineering*, and attaining a master's degree in Computer Science.

Dissertation Title and Summary

"Facilitating Model View Definition Development for Data Interoperability in Urban Infrastructure Systems Using Design Structure Matrices and Ontology"

The study introduces a structured approach to improve data interoperability within urban infrastructure systems. It establishes a framework that streamlines information exchange among different infrastructure components, ultimately enhancing their ability to work together seamlessly.

Sarah Tucker



University of Nebraska Medical Center

Mid-America Transportation Center (MATC) led by the University of Nebraska, Lincoln

stucker@unmc.edu

Bio

Sarah Tucker is a third year PhD student in the Department of Environmental, Agricultural, and Occupational Health at the University of Nebraska Medical Center (UNMC). She is pursuing her degree in environmental health, occupational health, and toxicology, specializing in toxicology. Sarah is a team member of a collaborative health monitoring and dashboard project led by Dr. Ann Fruhling (University of Nebraska-Lincoln) and Dr. Aaron Yoder (UNMC) supported by the Mid-America Transportation Center (MATC). Sarah investigated occupational groups' attitudes toward wearable technology for continuous health monitoring in real time. Sarah is passionate about protecting the health of vulnerable populations.

Degree and Anticipated Graduation Date

PhD in Environmental Health, Occupational Health, and Toxicology, University of Nebraska Medical Center, 2026

M.S. in Veterinary Medical Sciences, Forensic Toxicology concentration, University of Florida, August 2021

B.S. in Exercise Physiology, Florida State University, December 2015

Preferred Career after Graduation

Sarah plans to pursue a career in either consulting or the public sector after graduation.

Broad Research Interests

Intelligent Transportation Systems

Specific Research Areas

Public health, safety, wearable technology, health monitoring, and environmental monitoring

Primary Mode

Road

Top Accomplishment in 2023

Sarah was the first author on "Exploring wearable technology use and importance of health monitoring in the hazardous occupations of first responders and professional drivers" published in the Journal of Occupational Health. Sarah was also a Poster Competition Winner and Presentation Excellence Award recipient at the 2023 ASABE Annual International Meeting.

Dissertation Title and Summary

"Analysis of per- and polyfluoroalkyl substances (PFAS) and characterization of exposure in drinking water"

Sarah's dissertation focuses on understanding and characterizing poly- and perfluoroalkyl substances (PFAS) contamination in the environment and the potential risk to human health. Sarah will determine the presence and concentration of PFAS in Nebraska drinking water, explore spatial variations in drinking water concentrations using geographic information system (GIS), and conduct an exposure assessment to determine a hazard index of PFAS contamination through drinking water to identify communities at risk, which will be prioritized to recommend interventions to reduce their exposure. Sarah's research will use analytical methods to quantify PFAS in drinking water samples and quantitative methods to analyze household-level surveys of water use and health status. Her work will address other variables potentially related to PFAS exposure including social vulnerability. This is an important step to address environmental justice issues related to drinking water quality and ultimately protect the health of Nebraska residents.

