



# Center for Advanced Transportation Mobility

North Carolina Agricultural and Technical State University

## 2023 NCDOT Student and Faculty Field Trip

On Oct. 26, 2023, students and faculty from N.C. A&T's College of Engineering were afforded the opportunity to explore Greensboro's Triad Traffic Management Center. The center is one of three N.C. Department of Transportation's traffic management centers, the other two being located in Charlotte and Raleigh.

Orchestrated by Dr. Ventesh Pandey, Dr. Maranda McBride, and Mr. Nick Allen, the field trip was part of both the Center for Advanced Transportation Mobility and the N.C. A&T ASETTS ( Advancing STEM Education Through Transportation Studies) program's initiative designed to expose N.C. A&T students to transportation career opportunities.



"It was good to be a part of the setting where students could be in a learning process and we [faculty] also learned things about transportation we didn't know," said Dr. Pandey.

Participants were able to observe how the center handles vehicle incidents, manages traffic flow, and uses science to manage traffic signs and signals. Additionally, participants witnessed an exclusive tour of the center's control room, where all the center's program message boards and traffic monitors that showcase the flow of traffic throughout the city were displayed. After the tour, participants had a question and answer session with professionals at the center, enabling them to obtain a more detailed understanding of the day-to-day responsibilities of the center's employees.

Participants provided extremely positive feedback through the after event survey that was distributed. Most respondents said they deeply enjoyed the field trip and their interest in a transportation-related career was heightened.

"I learned about the way that different agencies in the DOT interact and how they get the information to update everybody on road conditions. They were also helpful in answering questions about DOT programs and internships and the different types of positions that are available," said student participant Dawn Deaton.

Overall, the 2023 NCDOT student and faculty field trip was successful and is expected to become a recurring event.

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## N.C. A&T Students Take on the Transportation Research Board (TRB) Annual Meeting



Left to Right: Dr. Venkatesh Pandey, Byron Hall, Trevor Elliot, Habeeb Mohammed, Oladameji Basit Alaka, Ridwan Tiamyu, Christian Bowens, Mikall Ali, Anusha Neupane, Daren Jehu-Appiah, Victoria Lanier and Rifa Tasnia.

Beginning on Jan. 6, 2024, Aggies from several of N.C. A&T's transportation-related degree programs met in the nation's capital, Washington D.C., to participate in the Transportation Research Board (TRB) Annual Meeting. The conference is an informational mecca that brings thousands of transportation researchers, policy makers, administrators, practitioners and students to participate in workshops, research presentations, lecture series, and networking events all for the sake of advancing the transportation discipline.

With over 13,000 attendees, individuals afforded the opportunity to experience the 2024 TRB Annual Meeting gained knowledge on topics ranging from street design equity to sustainable urban mobility. Since Aggies across the NC A&T campus are conducting relevant and important transportation research, showcasing their work at the TRB Annual Meeting was a great way for the students to interact with and obtain feedback from transportation professionals.

Byron Hall, a masters Mechanical Engineering student and Eisenhower Fellow at N.C. A&T presented his research on the topic of mounting and controlling autonomous vehicles.

"It feels really good to show your peers what you've been working on for so long, especially when you're able to see their reactions firsthand," said Hall.

Another Eisenhower Fellow, junior Architectural and Environmental Engineering student Mikal Ali presented a research poster titled "Differential Design of Discounts for Mileage-Based User Fees," which focused on finding a practical way to implement a nation-wide system where drivers no longer pay for gas by the gallon, but instead pay based on the mileage they have driven.

"It was an extremely fun opportunity. I really enjoy presenting my research," said Ali.

As A&T continues to produce the highest number of Black engineers in the nation, it's important that Aggies continue to seize opportunities like the TRB Annual Meeting to show the world that they're ready to make a difference!

## 2023 First Responder Safety Transportation Conference



The 2023 Emergency Responder Transportation Safety Research Summit was an extremely enriching experience for transportation professionals and researchers from all over the country. Essentially, the conference's main objective was to gather first responder agencies, technology developers, training experts, and transportation officials to express their ideologies on the topic of making transportation safer for first responders.

The two day event, which began on Nov. 1, 2023, was held in New Jersey at Rutgers University's Center for Advanced Infrastructure and Transportation (CAIT), one of the six conference sponsors. The other conference sponsors were N.C. A&T's Center for Advanced Transportation Mobility (CATM), Embry-Riddle Aeronautical University, the Multimodal Intelligent Transportation Systems Laboratory, HAAS Alerts, J-Tech, and AutoReturn. Several of the sponsors, like J-Tech and AutoReturn, had individuals from their organization host in-depth sessions to further illuminate the extensive research conducted by the passionate conference participants.

Research presenters at the conference delved into a plethora of research topics, some of which focused on legislation, such as the Move Over Law in New York. Other topics focused on the development of automated vehicles for first responders and the amount of current transportation safety resources that are available to first-responders. In addition to viewing and listening to riveting research presentations, conference attendees were afforded the opportunity to actually participate in multiple research exhibitions. For instance, during the Incident Management Tools and Vehicle Demonstration, attendees interacted with real technological tools that have been used to enhance transportation safety for first responders.

The conference concluded with a highly interactive and collaborative session titled, "What Keeps You Up at Night that Deserves Research Recognition?" During this session, attendees were able to share the groundbreaking transportation research they aspire to conduct. There is no doubt that the research presented at this conference will certainly ensure safer means of transportation for future generations of first-responders.

## 2024 HBCU Smart Cities Challenge Recap

The second annual HBCU Smart Cities Challenge Showcase, held on Mar. 23, 2024 at Winston-Salem State University, allowed seven teams of bright HBCU students to display their innovative ideas for using technology to aid their communities. Teams were composed of students representing North Carolina A&T State University, Elizabeth City State University, Fayetteville State University, Johnson C. Smith University, North Carolina Central University, and St. Augustine University.



Each team was given five months to build a smart city application for a local city in North Carolina that addressed and provided solutions to pressing urban challenges in the areas of transportation, water management, climate change, waste management, and agriculture. The participating cities for which solutions were designed included Charlotte, Winston-Salem, Rocky Mount, and Morrisville. At the end of the five months, all seven teams congregated to pitch their smart-city solutions. The pitches addressed issues such as poor transportation, lack of public safety, and poor resource management.

Although all the participating teams presented riveting pitches, only three teams could walk away with a winning title. The third place winning team was Morrisville Traffic Analytics, who's pitch focused on transportation route optimization. The second place winning team was the Milestones, who's pitch offered solutions to lowering the frequency of gun violence in Rocky Mount, NC. The overall winner of the competition was the Big Switch team, who created a plan to resolve the issue of outdated water metering infrastructure in Rocky Mount. Each winning team the competition with a check from the Pathway Community Foundation and all participants left with a heightened sense of service and technology.

"First and foremost, the challenge emphasized the power of collaboration. Working with a diverse team of students, faculty, and industry partners from various disciplines and backgrounds, I learned how to leverage different perspectives, expertise, and resources to tackle complex problems," said Bryan Daye, a senior marketing and supply chain management student at N.C. A&T.

Another Aggie, sophomore civil engineering student, Markel Alston, also agreed that the Smart Cities Challenges' emphasis on collaboration was very beneficial to him. "I learned from my colleagues and partners during the presentation. Viewing their confidence while describing their product, even if they messed up, is inspiring. It is something that I hope to add to my arsenal of presentation skills," said Alston.

Across the board, the 2024 HBCU Smart Cities Challenge was a highly enriching experience for everyone involved and will continue to foster future problem-solvers in years to come.

*Articles written by Miss Kani'ya Davis, sophomore journalism and mass communications student.*





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