

RESEARCH AND DEVELOPMENT NEWS

HIGHLIGHTS OF THE RESEARCH AND DEVELOPMENT UNIT



October 2025, Issue 2



Harkers Island Bridge

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Recent News!

The 2025 AASHTO Research Advisory Committee (RAC) summer meeting was held in Billings, Montana, from Sunday, July 13 through Thursday, July 17, 2025.

Over 60 participants from State Departments of Transportation **(including our manager)**, FHWA, the Transportation Research Board (TRB), the National Cooperative Highway Research Program (NCHRP), universities, and private firms attended. The agenda offered collaborative opportunities to explore various research issues and topics.



Dr. Rudolf Seracino of NC State University accepting the award

Harkers Island Bridge Replacement Project Wins Top Prize at CICE 2025 International Conference

The 12th International Conference on Fiber-Reinforced Polymer(FRP)Composites in Civil Engineering(CICE) was held in Lisbon, Portugal from July 14th to the 16th. R&D Research Project: Harkers Island Bridge Replacement: Material Characterization and Structural Performance was selected as the IIFC (International Institute for FRP(fibre-reinforced polymer)in Construction) Award for Outstanding FRP Field Applications in the category of New FRP Structures. The Executive Summary of the project notes that steel-reinforced concrete bridges in coastal North Carolina are exposed to aggressive environments conducive to corrosion. Two such bridges in Carteret County(near Harker's Island) were replaced after just 37 years of service. This situation is not unique to these bridges and represents a considerable financial burden to the NCDOT. This project addresses ways to eliminate one of the sources resulting in corrosion, which in this case is the internal steel reinforcing with non-corroding fiber-reinforced polymer(FRP). Learn more about this ongoing project, which proposes to use the same system of the Shinmiya Bridge in Japan that was built in 1988 and has been in service for 32 years with no signs of deterioration.



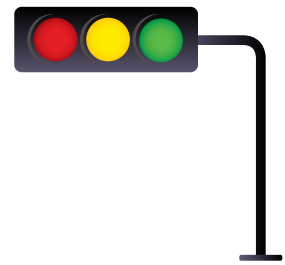
New Staff

Katherine Harrison,
Research Engineer for
Environment, Hydraulics,
and Multimodal

Logan Gunthrop, HBCU
Fellow, Office of Strategic
Initiatives and Program
Support

Recently Completed Research Projects

- [Developing and Operationalizing a Testbed of Connected Self-driving Shuttles to Test and Develop CAV Applications in North Carolina](#)
- [Geo-FRIT: A Web-based Geospatial Analytics Tool for Quantifying Freight Risk and Resilience in Transportation](#)
- [Low-Cost Visual Sensing of Stormwater Outlet Flow](#)
- [NM COAST: Non-Motorized Count Assurance Tool](#)



North Carolina DOT Dives Deep Into Traffic Data Analysis

Thousands of traffic intersections in North Carolina will undergo a deep analysis of their performance, offering real-time insights into their operations to help engineers move traffic safely and efficiently.

More than 2,500 intersections in the Tar Heel State will become part of a one-year pilot project led by the North Carolina Department of Transportation (NCDOT) using technology from **Flow Labs** to better understand how traffic is moving in real time.

"Using Flow Labs' analytics tools, we're evaluating travel patterns to identify which of our 400-plus signal systems need retiming, helping reduce delays and improve traffic flow," said Aaron Moody, assistant director of communications at the NCDOT, in an email. "The platform supports data-informed decisions while maintaining direct oversight and interpretation by our engineering staff."

Snippet provided by Government Technology Magazine



Can you find all the words hidden in this puzzle?

E	T	E	D	R	E	C	T	U
V	B	N	A	G	P	L	Z	S
N	C	I	D	M	A	R	D	S
J	L	I	C	H	A	A	W	T
X	R	G	P	Y	O	H	K	R
B	A	S	U	R	C	E	V	O
F	A	N	T	D	Q	L	Y	P
P	T	K	A	Y	R	R	E	F

ROADS

RDU

RAIL

BRIDGE

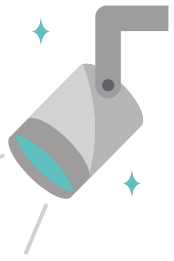
PORTS

ASPHALT

BICYCLE

FERRY

Staff Highlight Mustan Kadibhai



Title: Research Engineer, Pavement, Maintenance, Materials and Structures

Hired: October 1996

Favorite thing about working in R&D: I enjoy problem-solving and the pursuit of knowledge. The work here in R&D is always interesting and stimulating since we have to work on all subject areas in the transportation field.

Favorite Drink: Fresh Coconut Water

Fun Fact: I love playing with numbers and magic math.



Contact the NCDOT Librarian,
Lamara Williams-Jones, for
assistance: 919-707-6665,
Monday through Friday from
8:30am to 4:30pm.



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