TECHNOLOGY TODAY

VOL 39 ISSUE 4 — *A publication of the Louisiana Transportation Research Center*

SPOTLIGHT

LTRC Welcomes Dr. Samuel Cooper III as New Director

Samuel B. Cooper III, Ph.D., P.E., has been named the seventh Director in LTRC's nearly 40-year history, effective October of 2025. He transitions from his longtime role as the center's Materials Research Administrator. Bringing nearly two decades of transportation research, academic, and administrative experience into the role, Dr. Cooper is poised to lead LTRC's pioneering research, technology transfer, and training efforts into an exciting and effective new chapter.

continued on pg. 2

RESEARCH

LTRC Researchers Aim to Improve Incident Response through Enhanced Interoperable Communications

When an incident occurs on one of Louisiana's roadways, response time is critical. A rapid, well-organized response not only has the potential to mitigate the traffic disruption caused by such incidents; it also promotes the safety and wellbeing of everyone involved, from members of the traveling public to first responders themselves. As new communication technologies continue to emerge, traffic engineers and other transportation officials have more tools at their disposal than ever before as they seek to optimize interagency coordination and provide critical aid to road users in need.

With these goals in view, LTRC researchers Milhan Moomen, Ph.D., and M. Ashifur Rahman, Ph.D., recently partnered to complete the sweeping project, "Improved Incident Response through Coordinated, Interoperable

continued on pg. 6

IN THIS ISSUE

UPCOMING EVENTS

Microstation Connect Level 1
January 5-8, TTEC 179

AASHTO Stem Outreach Solutions
January 28-30, TTEC 160/175/179

To view more events, please visit http://www.ltrc.lsu.edu.

New LTRC Director (ctd. from pg. 1)

A Baton Rouge area native, Dr. Cooper earned dual Bachelor's degrees in Civil and Environmental Engineering from the University of Central Florida in Orlando, Florida, before returning to Louisiana to complete his graduate studies at Louisiana State University (M.S., Civil Engineering, 2011, and Ph.D., Civil Engineering, 2015). After spending several years working as a graduate student in LTRC's materials research laboratory under Professor Louay Mohammad, Dr. Cooper began working for DOTD in 2012. Prior to his appointment as Director, he served for nearly a decade as LTRC's Materials Research Administrator.

Dr. Cooper begins his directorship at a time marked by significant challenges and opportunities in the transportation industry in Louisiana and beyond. These include the continued exploration and implementation of emerging technologies in materials, construction and maintenance practices, and traffic engineering, as well as the need to facilitate ongoing workforce development and effectively engage a new generation of transportation industry leaders. LTRC's unique combination of academic, government, and industry resources positions it to make a significant impact across the state, and Dr. Cooper is eager to lead the center to maximize this potential:

"I am excited to help LTRC continue strengthening awareness of our services and the value we bring to Louisiana's transportation community. As a driving force in workforce development and research innovation, LTRC plays a vital role in advancing the state's transportation infrastructure, supporting economic development, and improving the quality of life for Louisiana's citizens. I am committed to highlighting our achievements and return on investment, promoting best practices, ensuring well-deserved recognition for our team, and championing safe, efficient, and transparent initiatives of which the State of Louisiana can be proud."

DOTD Chief Engineer Chad Winchester also anticipates great things from Dr. Cooper in his new role: "Especially during this time of transformation at DOTD, the door is open for fresh ideas that can really elevate how we use LTRC's rich, unique resources. Whether it is in research, innovation, training, or outreach, I truly believe that under Sam's leadership, LTRC is poised to make a big impact across DOTD and help position our agency as a leader in the transportation industry as a whole."

Dr. Cooper brings nearly two decades of research, academic, and administrative experience into his new role as LTRC Director.

Louisiana LTAP Expands Roads Scholar Program with Several New Classes

The Louisiana Local Technical Assistance Program (LTAP) serves local government agencies across the state through a broad-ranging catalog of training courses, special events, and technical assistance. Leading the way among these is LTAP's Roads Scholar Program, launched in the early 1990s, which delivers 16 practical, cost-effective training courses focused on roadway maintenance and safety.

The Louisiana LTAP team hosts a variety of Roads Scholar courses across the state each year.

In FY 2024-25, 608 local government employees were trained through the program. Program Manager Courtney Dupre emphasizes the value these training opportunities add to the transportation community in Louisiana, especially in rural and traditionally underserved areas. She explains: "We are very proud of our Roads Scholar Certificate Program! The program is designed to equip the state's local agency public works professionals with the knowledge they need to thrive."

Roads Scholar courses are offered regularly to local transportation and public works officials across Louisiana's many parishes and municipalities, and the entire program is designed to be completed in three years. Currently available courses in the program include:

Required Classes (6): RS #1: Basics of a Good Road; RS #2: Asphalt Roads, Common Maintenance Problems; RS #3: Drainage, Key to Roads That Last; RS #4: Temporary Traffic Control for Local Agencies; RS #5: Safety, A Common Sense Approach for Public Works Employees; and RS #6: Heavy Equipment Safety and Maintenance for Local Agencies.

Elective Courses (10): RS #7: Pavement Preservation and Road Surface Management; RS #8: Successful Supervision for Local Road Supervisors; RS #9: The Road to Better Signing; RS #10: Unpaved and Gravel Roads; RS #11: Road Safety Topic; RS #12: Trenching and Excavation; RS #13: Inspection of Local Bridges; RS #14: Bridge Maintenance and Repair; RS #15: Safety for Public Works First Responders; and RS #16: Roadway Construction Focus Four and Heat Hazards.

Dupre highlights the value in the program's course structure: "Our six required classes consist of what we consider core foundational skills that every public works employee should have, including: basic road maintenance, drainage, temporary traffic control, heavy equipment maintenance, and of course, on-the-job safety. The elective classes allow students to customize the certificate to whatever is most relevant in their particular job roles."

The LTAP team has recently introduced several new offerings into the Roads Scholar catalog, including RS#11, which centers on an annual rotation of Road Safety topics. For FY 2025-26, the focus is Road Safety 365, which emphasizes integrating safety into daily operations and long-term planning across

continued on pg. 5

TECH TRANSFER

How It's Made: LTRC's Publications Team in Action

If you're reading this article, you're a beneficiary of the work of LTRC's talented and hard-working Publications Team. The team's ways of creatively telling LTRC's story, however, extend far beyond just this newsletter. From editing to design and videography to social media, team members Emily Wolfe, Chris Melton, Jenny Gilbert, Corey Mayeux, and Todd Blount *(pictured above)* work each day to connect the innovative research, technology transfer, and training activities happening at LTRC to the transportation community locally, nationally, and globally. Here are a few of the ways this team leverages these skills to make this vision a reality:

Editorial Services

In partnership with Technology Transfer Engineer Corey Mayeux, Manager of Technical Publications Todd Blount oversees the editorial and publishing process for all of LTRC's research and training documents, including Project Capsules, Final Reports, Technical Summaries, and Training Manuals. This service enables the center's researchers and trainers to share the results of their work with the broader transportation community in a clear and compelling way. Blount and Multimedia Manager Jenny Gilbert also ensure accessibility compliance for all LTRC publications.

Newsletters and Reports

The team also writes, designs, and publishes LTRC's Annual Report, Annual Work Program, Technology Today newsletter, and LTAP's Technology Exchange newsletter in both print and digital formats. These publications, distributed to a broad range of constituencies across Louisiana and beyond, highlight the innovative and excellent work happening at the center on a daily basis.

Graphic Design and Social Media

Gilbert designs and manages the content on primary LTRC and LTAP websites, as well as overseeing content creation and scheduling for each of the center's social media channels (LinkedIn, Facebook, X/Twitter, YouTube). Additionally, Gilbert, Blount, and Public Information Director Emily Wolfe manage all of the center's email marketing efforts via Constant Contact.

Gilbert shares her passion for this essential work: "As the web, social media, and graphic design manager, I ensure LTRC's digital presence is functional, engaging, and reflective of our work and impact. From maintaining our website to creating visual content and sharing our work across platforms, I enjoy combining creativity,

communication, and design to highlight the impactful research, training, and accomplishments we carry out here at LTRC."

Photography, Videography, and Production

Multimedia Producer Chris Melton also provides a variety of multimedia production services to LTRC, LTAP, and Louisiana DOTD as a whole. These include event photography (e.g., Louisiana Transportation Conference, AASHTO special meetings, Maintenance ROADEO, etc.), filming and production for LTRC and DOTD video projects, and other special projects as needed. One of the team's newest and most exciting innovations are Video Summaries of selected research projects.

Registration Management Oversight

Wolfe is also responsible for the creation and operation of LTRC's Registration Management System (RMS), which processes registrations and payments for all of the center's sponsored classes, workshops, conferences, etc. This management includes ongoing financial reporting, maintaining e-commerce compliance, and providing customer service for system users and administrators.

Wolfe is excited for the opportunity she and her team have to serve such a broad range of individuals and groups through the diverse efforts described above. She explains: "It is our team's privilege to showcase the important work happening every day at LTRC. We provide in-house marketing and communications expertise in a variety of areas. From documenting formal research results and designing branding elements to publicizing trainings available to the transportation community and handling the logistics of our custom registration system, we strive to shine a light on the value LTRC brings to Louisiana."

To stay up to date on the Publications Team's latest work, visit the LTRC website at ***ltrc.lsu.edu*** *and follow the center on Facebook, X/Twitter, LinkedIn, and YouTube.*

Roads Scholar (ctd. from pg. 3)

all aspects of rural and local road activities. Other new courses in development include RS#12, Trenching and Excavation Safety, and RS#16, Roadway Construction Focus Four and Heat Hazards. Local government officials across Louisiana can look forward to this training being made available for the first time soon.

Dupre is both excited by the program's decorated history and its promising future: "It is our goal for students to enter the program and be able to graduate in just three years. I am thrilled to share that we have had 540 graduates since the program's inception, and we look forward to many more!"

For more information on upcoming Roads Scholar offerings, contact LTAP Program Manager ***Courtney Dupre*** *at (225) 767-9118 or courtney.dupre@la.gov.*

Louisiana LTAP's Roads Scholar Program has graduated 540 local government employees since its inception.

Interoperable Communications (continued from pg. 1)

"While traffic incident management is inherently reactive, proactive multi-agency interopability can mitigate the escalation of these incidents into major emergencies."

M. Ashifur Rahman, Ph.D.

Communications." This study, which was initiated in 2023, aimed to perform a comprehensive evaluation of both the communication technologies utilized in incident response and the overall performance of Louisiana's Traffic Incident Management (TIM) system.

Dr. Rahman highlights the importance of taking the proactive approach explored and advocated by their team's research: "While traffic incident management is inherently reactive, proactive multi-agency interoperability can mitigate the escalation of these incidents into major emergencies."

The research team's evaluation included an operational needs assessment and a series of broad-ranging interviews to identify areas for potential improvement, along with a suite of recommended data-driven strategies designed to address these gaps. Additionally, the team completed a thorough study of the best practices of effective TIM systems in other states across the U.S. In the aftermath of this project, Drs. Moomen and Rahman have provided Louisiana leaders with a wealth of actionable information designed to improve incident response and enhance the overall effectiveness of the state's TIM system. Key insights included:

- Louisiana needs to identify and implement a web-based, interoperable communication platform that connects the state's Traffic Management Centers (TMCs) with other key response agencies, including law enforcement computer-aided dispatch (CAD). Such a system would enable the automation of several key aspects of incident response, closing critical communication gaps and significantly increasing speed and efficiency.

- To develop such a plan, Louisiana's TIM system must be considerably revamped and reorganized. The system's goals, processes, and performance metrics must be understood and agreed upon by all cooperating agencies. Champions at both the state and local levels are needed to drive these conversations and implement the necessary changes.

- One existing incident response program, DOTD's Motorist Assistance Patrol (MAP), is very popular with the traveling public and should be expanded to cover additional areas across the state as funding for personnel and equipment becomes available.

- Concerns about data privacy, specifically the leaking of sensitive information, are a significant obstacle to effective interoperable communications. AnLy proposed solution(s) must be cognizant of these legitimate concerns and work proactively to mitigate them.

- Over the past several decades, Louisiana DOTD's TIM funding has not kept pace with rising operational costs. Additional dedicated funding, including from federal sources where available, is needed to effectively integrate emerging communication technologies (e.g., Next-Generation 911, unmanned aerial vehicles [UAVs], emergency vehicle lighting) into the state's incident response and TIM systems. Such an increased investment, while significant, should yield worthwhile returns that benefit Louisiana's road users in multiple real-world ways.

Drs. Moomen and Rahman are excited about the potential impact of this research on a diverse range of individuals and groups across Louisiana. Dr. Moomen emphasizes: "Traffic incident management in Louisiana is handled by teams of dedicated first responders who give their best every day under difficult circumstances. It will help them, along with all of Louisiana's citizens, greatly if communications interoperability is expanded and improved."

Read Final Report & Tech Summary 687 online:
www.ltrc.lsu.edu/publications

STAFF NEWS

Updates and Accomplishments

Tyson Rupnow, Ph.D., P.E., received the Frank G. Eskine Award from the Expanded Shale, Clay, and Slate Institute (ESCSI) for excellence in concrete materials research.

Vijaya "VJ" Gopu, Ph.D., P.E., presented on "Ethics in the Practice of Engineering" at the 2025 Southeast Symposium on Contemporary Engineering Topics (SSCET) held at Louisiana State University.

Masoud Nobahar published a paper, "Long-Term Performance Evaluation of Reinforced Embankment Test Sections over Extremely Soft, Compressible Soil: A Case Study in Louisiana," in the *Transportation Research Record Journal*.

Gavin P. Gautreau, P.E., received a Lifetime Achievement Award for excellence in civil engineering from the ASCE Baton Rouge Chapter. Gautreau also published articles in the *Louisiana Engineer & Surveyor Journal's* August 2025 and November 2025 issues.

Milhan Moomen, Ph.D., was featured in a news article and video feature by Fox 8 New Orleans for his work on Louisiana's emergency response system. This was part of the station's coverage on the 20-year anniversary of Hurricane Katrina and its aftermath.

Rudynah E. Capone was nominated by the Women in Transportation (WTS) Baton Rouge Chapters for two awards, Member of the Year and Outstanding Public Service. Capone, along with **Leo Maretta**, also recently presented on "Louisiana's Collaborative Blueprint for Safer Local Roads" at the AASHTO Safety Summit and Peer Exchange held in New Orleans. They highlighted the shared responsibility between Louisiana DOTD, LTAP, and local agencies in creating safer transportation networks statewide.

PUBLICATIONS

Recently Published

Project Capsule 26-2C

Evaluation of the Effect of Integral Waterproofing Agents (Admixtures) on Surface Resistivity Measurements
Ricardo Hungria, Ph.D., E.I.

Final Report & Tech Summary 716 (Project 21-3B)

Use of Innovative Recycling Agents for Improving the Sustainability and Durability of Asphalt Pavement
Louay N. Mohammad, Ph.D., P.E. (WY), F.ASCE; Ibrahim A. Elnaml, Ph.D.

VIEW ONLINE

To download a complete list of LTRC publications, visit the website at www.ltrc.lsu.edu.

LOUISIANA TRANSPORTATION RESEARCH CENTER

4101 Gourrier Avenue
Baton Rouge, LA 70808-4443
DOTD Section 33

ADDRESS SERVICE REQUESTED

Pre-Sort Standard
U.S. Postage
PAID
Permit No. 55
Baton Rouge, LA

www.ltrc.lsu.edu

Technology Today Publication Statement

Technology Today is a quarterly publication of the Louisiana Transportation Research Center.

For additional information on material included in this newsletter, contact the Public Information Director at 225-767-9183.

FOLLOW US

Keep up with our latest updates and information at www.twitter.com/LTRC_Updates, and search for us on Facebook, YouTube, and LinkedIn.

LTRC Administration and Publications Staff

This public document is published at a total cost of $2,029.45. Seven hundred and sixty copies of the public document were published in this first printing at a cost of $2,029.45. The total cost of all printings of this document, including reprints, is $2,029.45. This document was published by Mele Printing, 11930 South Harrell's Ferry Road, Baton Rouge, to report on the research and training of the Louisiana Transportation Research Center, as required in R.S. 48:105. This material was duplicated in accordance with standards for printing by state agencies, established pursuant to R.S. 43:31. Printing of this material was purchased in accordance with the provisions of Title 43 of the Louisiana Revised Statutes.