Semi-Annual Progress Report for

University Transportation Centers

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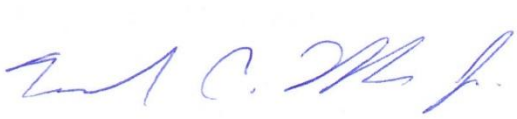

1. Accomplishments

1.1 What are the major goals of the program?

Our New England University Transportation Center (NEUTC) mission is to advance transportation safety through transformational research, education, and technology transfer. Our focus is upon translating research into implementation as we work to save lives today, while delivering research that transforms safety in the presence of evolving technology and opportunity. The passage of the Infrastructure Investment and Jobs Act (IIJA) and the development of the National Roadway Safety Strategy (NRSS), coupled with a more mainstream introduction of safety culture (e.g., Safe System) provide a foundation for improved safety across the surface transportation system. The time to make a generational impact in transportation safety is now.

NEUTC promises to advance transportation expertise and technology throughout the transportation discipline and contribute towards workforce development through the delivery of a robust research, education, and technology transfer agenda in support of IIJA statutory research priority of Promoting Safety along with the US DOT Strategic Plan Goals of Transformational Research. NEUTC brings together research and education leaders with a proven track record of delivering cutting-edge research to address key challenges in transportation safety. NEUTC will support the US DOT's mission to improve transportation safety.

1.1.1 Research

Traditional safety challenges—such as the safety of vulnerable users, driver behavior, infrastructure assessment, and rural safety—are both complicated and potentially improved by the emergence of advanced technologies including automated vehicles, smart infrastructure, and human-machine interactions (HMIs), as well as the varying needs across different regions and communities served by our transportation systems. This has created broad needs for educational and research breakthroughs and innovation across the safety spectrum. NEUTC's research addresses critical safety challenges and advances several of US DOT's Strategic Plan KPIs through the application of transformative technologies. To achieve impactful research and effective safety measures, focus is required on specific topic areas that either: a) provide the greatest potential for safety related improvements, and/or b) require additional attention due to the significance of crash-related outcomes. Our mission to advance safety through transformative research will cover four thematic priority areas:

- Embedding Community Engagement within Transportation Safety
- Developing Smart Infrastructure and Connected Systems
- Improving Safety for all Modes and Populations
- Promoting Automated Vehicle Safety

These topic areas address integral components of the transportation system, contributing to a safe transportation system for all.

1.1.2 Leadership Development

The members of our consortium are leaders within the transportation profession, and we are excited about the opportunity to expand our leadership role as we work to advance transportation safety in a transformative fashion. Developing the next generation of leaders in transportation is a core function of NEUTC. As leaders we expect NEUTC to be at the forefront in advancing US DOT's KPIs. Our plan is to mix new ideas with established best practices, such as an annual multi-day symposium that will bring

faculty, students, stakeholders, vendors, and practitioners together to discuss innovations in safety research. These symposia will include activities to support collaboration, foster networking, and develop leadership skills for both researchers and students. An added focus will be placed upon increasing participation from government and industry by ensuring invitations are extended to all collaborators on all NEUTC projects. Given our prioritization on leadership, we will continuously seek opportunities for our consortium members.

1.1.3 Education and Workforce Development

The education and workforce development components will address K-12, university, and continuing education students. We are excited about the wide range of education activities within NEUTC which will expand our transportation knowledge base and broaden participation in transportation. Some of the specific education and workforce development goals include the creation or expansion of the following activities:

The Safety Toolbox Curriculum: This initiative aims to develop and deliver educational materials focused on basic transportation safety concepts. The Safety Toolbox will feature a regional agenda including webinars, workshops, and outreach programs, targeting high school to undergraduate students and transportation professionals. It will also engage researchers, policymakers, and system operators.

Community College Pipeline: In collaboration with community college partners BHCC and HCC, this program will offer strategic educational activities such as the development of an introductory transportation course with transfer credit potential, a research and mentoring program (RAMP), visiting research and internship opportunities, and programming to address "the hidden curriculum" to help eliminate barriers to student success.

Expand Bridging Expectations & High School Course: This initiative builds upon a successful two-day pilot program designed to introduce high school students to careers and topics in transportation. The next phase involves developing a full-year elective course in collaboration with Springfield Public Schools. The course will cover fundamental transportation concepts, real-world applications, and career pathways, with the goal of offering dual enrollment credit through a partnering community college. As the curriculum is finalized and piloted, NEUTC plans to expand the program to additional schools across the consortium.

Hack-a-thons & Capstones: This effort includes hosting hack-a-thon style events where student teams from various academic backgrounds collaborate to solve transportation safety challenges—such as using data from smart infrastructure to improve decision-making. It also supports student involvement in capstone projects that align with their academic programs, providing hands-on experience in applying research concepts to real-world transportation issues.

Develop College Curriculum: NEUTC members aim to expand the presence of transportation safety topics in college curricula and enhance their quality. This includes creating case studies and curriculum modules for engineering courses—especially at the first-year level—to encourage interest in transportation fields. Additional plans involve incorporating subject matter expertise into existing courses, developing a general education module on the broader impacts of traffic safety, and supporting the creation of new courses and certificate programs.

Outreach to K-12: The consortium members will continue supporting K-12 STEM and career exploration activities, such as tours, internships, and presentations, along with sharing successful outreach practices across New England. Additionally, student contributions will be recognized through awards and features at annual symposia and on the NEUTC website.

1.1.4 Technology Transfer

Translating research into practice, policy, and state-of-the-practice advancement is a primary function of the UTC program and a documented strength of the NEUTC team. Our seven-part technology transfer plan complements the research and education activities, blending traditional methods (LTAP workshops, industry engagement, conference participation) with less traditional approaches (DECIDE©, NSF I-Corps, public information videos). Our focus is on translating research into implementation, especially in rural communities across New England, with each consortium member contributing.

1.2 What was accomplished under these goals?

1.2.1 Research

The New England University Transportation Center (NEUTC) is in its third year of operation and continues to advance an active and growing portfolio of transportation safety research, education, and technology transfer. During the October 2025 to March 2026 reporting period, the consortium executed and managed Year 2 and Year 3 projects in parallel, with several Year 1 and Year 2 projects approaching completion and a number of Year 3 projects entering data collection or analysis phases.

Funded Projects

During this period, NEUTC successfully managed an extensive portfolio of projects, comprising:

- Year one projects: Of the 21 Year 1 projects (18 research, 2 technology transfer, 1 outreach and education), approximately 12 have now been completed with final reports and/or journal manuscripts submitted. Additional Year 1 closeouts during this reporting period include Trust-Building in L4 Automation (Pradhan), Older Drivers' Reaction to FCW Systems (Shirani), GRIDSMART crash prediction (Ivan), Spatiotemporal Pedestrian Crashes (Ivan), and Cybersecurity Readiness (Tefe). Final reports for completed projects are posted on the NEUTC website.
- Year two projects: 5 phase-two projects and 14 new research projects remained ongoing during this period, with several teams completing data collection, IRB review, or manuscript preparation milestones.
- Year three projects: 21 projects were awarded and began execution during this reporting period. Year 3 awardees launched literature reviews, preliminary data collection, IRB submissions, and team formation. Several Year 3 PIs (e.g., Ai – high-friction surface treatment; Filipovska – STEER-AV; Zhang – LLMs for AV safety; Gonzales – curbside double-parking simulation) reported substantive early progress despite a Q1 2026 ramp-up window. The Gonzales Safety and Public Health Impacts of Microtransit Services project was completed during the period, with results being prepared for journal submission.

Peer Reviewed Journal Publications/Conference Papers

NEUTC researchers continued to produce a steady stream of peer-reviewed publications and conference papers during the reporting period, advancing knowledge in connected and automated vehicle safety, pedestrian and bicycle safety analytics, road network typology, infrastructure resilience, and human

factors. Highlights include published or in-press articles in Transportation Research Interdisciplinary Perspectives, Data Science for Transportation, Environmental Research Communications, Transport Reviews, International Journal of Disaster Risk Reduction, Journal of Safety Research, the IEEE Symposium on Ethics in Engineering, Science and Technology (ETHICS), and the Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Multiple manuscripts were also submitted or are under review at venues including Automation in Construction, Transportation Research Record, Transport Policy, Travel Behaviour and Society, Human Factors, ECCV, ACL, EuroSys, and the TRB Annual Meeting. Representative publications and presentations from this period are listed in Section 3.1.

Research-Related Engagements

NEUTC researchers actively engaged transportation professionals, policymakers, students, and the public through invited talks, conferences, and media features showcasing real-world safety applications. Selected highlights include:

- Bryan Reimer (MIT): Briefed NHTSA leadership in Washington, DC on supporting driver attention holistically; presented at the SAE Government/Industry Meeting AI Workshop; and delivered keynote and panel remarks at the Magna Board of Directors meeting, Safelite Client Conference, Allstate, and the Florida AV Summit.
- Pnina Gershon (MIT): Organized and moderated the TRB session "Driver Competency Across the Lifespan: Assessment, Technology, and Policy" at TRB 2026, with Lisa D'Ambrosio (MIT) serving as a panelist.
- Bruce Mehler (MIT): Co-organized Dagstuhl Seminar 26132 on Driver State Modelling and delivered invited lectures at Tongji University and the IEEE IITSC Workshop on Human-Autonomous Vehicle Collaboration.
- Michael Plotnikov (UMass): Presented the team's motorcoach seatbelt work at the TRB 105th Annual Meeting and the Eastern CMV Safety Summit in Northampton, MA, with companion legislative testimony in support of MA Senate Bill S.2611.
- Eleni Christofa (UMass): Delivered invited talks on bicycle infrastructure and equitable mobility at the Skabardonis Fest (UC Berkeley) and at Kittelson & Associates; presented the MassDOT Innovation Webinar "Measuring Access to Improve Public Health, Phase II," reaching approximately 106 practitioners.
- Anuj Pradhan (UMass): Co-led a panel on Vehicle Automation and Operator Training at the AAAFTS Safe Mobility Conference in Seattle.
- Davis Chacón-Hurtado (UConn) and Shareen Hertel: Delivered an invited guest lecture, "Engineering for human rights," at The Ohio State University.
- Song Gao (UMass): Presented at INFORMS (Atlanta) and the TRB 2026 Annual Meeting, and delivered seminars at UC Irvine, UC Berkeley, and Tsinghua University.
- Jimi Oke (UMass): Continued dissemination via the publicly hosted interactive crash typology dashboard at https://crashtypology.narslab.org/.
- Michael Cross & William Lyons (Norwich): Presented "Roadblocks to the Implementation of Autonomous Vehicles in Rural Areas" at the Vermont Agency of Transportation Research and Innovation Symposium and at the Norwich Dana Category 1 Award presentation.
- Eric Gonzales (UMass): Interviewed by author David Zipper (Feb 23, 2026) for an upcoming trade non-fiction book on traffic congestion, drawing on the team's curbside double-parking simulation work.

External Grants

NEUTC consortium members continued to leverage Center-supported research into externally funded follow-on initiatives during the reporting period:

- Shannon Roberts (UMass): NYSEARCH (Natural Gas Research, Development & Demonstration), Impact of Mechanical or Electronic Signage/Signals in Work Zones, $125,000, 04/01/2026 – 10/30/2026.
- Eleni Christofa (UMass): MassDOT, Evaluation of Transit Signal Display Options.
- Eleni Christofa (UMass): Awarded as a team member on the FHWA Safety IDIQ.
- Eleni Christofa (UMass): NCHRP 15-87, Vision and Roadmap for the Next Generation of the Highway Safety Manual.
- Fatemeh Fakhrmoosavi (UConn): Connecticut DOT, Advancing Microtransit Efficiency: A Comprehensive Evaluation and Optimization Tool for Connecticut.
- Michael Plotnikov (UMass): Proposals submitted to USDOT National Safety Council Road-to-Zero Coalition (NSC RTZ) and Safe Streets for All (SS4A) extending the motorcoach seatbelt research.
- Eric Gonzales (UMass): NSF Infrastructure Systems and People (ISP) program, "Collaborative Research: Activity-based Model for Curb Management" (under review).

These awards demonstrate NEUTC's continued success in leveraging Center research to attract external support for applied transportation safety, infrastructure, and workforce development initiatives across the consortium.

Invited Research Presentations

NEUTC faculty, researchers, and students shared their work at major national and international venues during this period:

- Bryan Reimer (MIT): Magna Board of Directors (Birmingham, MI); Safelite Client Conference (Orlando); Allstate (Chicago); Florida AV Summit (Orlando); NHTSA Leadership Briefing (Washington, DC); SAE Gov/Industry Meeting (Washington, DC).
- Bruce Mehler (MIT): Tongji University (Shanghai), three lectures on AI in the automotive cockpit, HMI design, and aesthetics/cognition; IEEE IITSC Workshop (Gold Coast, Australia); Dagstuhl Seminar 26132 (Wadern, Germany).
- Pnina Gershon (MIT): STAR; AutoUI 2025 (workshop co-organizer); 28th COTA Winter Symposium (Young Professionals Lightning Talk); TRB 2026 (session organizer/moderator); SAE Gov/Industry Digital Summit (Washington, DC).
- Eleni Christofa (UMass): Skabardonis Fest, UC Berkeley; Kittelson & Associates Boston.
- Shannon Roberts (UMass): UConn Seminar in Transportation and Urban Engineering; Amherst College Department of Mathematics Colloquium; Tufts University Human Factors course; AAAFTS Safe Mobility Conference; Eastern CMV Safety Summit.
- Song Gao (UMass): UC Irvine; UC Berkeley; Tsinghua University; INFORMS; TRB 2026.
- Anuj Pradhan (UMass): AAAFTS Safe Mobility Conference panel.
- Davis Chacón-Hurtado (UConn): The Ohio State University, Engineering for Human Rights guest lecture.
- Devin Rhoads (UConn): INFORMS Annual Meeting, Atlanta; UConn Transportation Seminar.
- Quinn Packer (UConn): UConn CE-5030 Transportation and Urban Engineering Graduate Student Seminar.
- Michael Cross & Gavin Newton (Norwich): VTAOT Research and Innovation Symposium, Barre, VT; Norwich Dana Category 1 Award presentation.

- Egemen Okte (UMass): Academy of Pavement Science and Engineering (APSE) Annual Meeting on relationships between pavement condition and crash rates.
- Michael Plotnikov (UMass): TRB 105th Annual Meeting; Eastern CMV Safety Summit (Northampton, MA).

1.2.2 Leadership Development

NEUTC continued to demonstrate national and international leadership in the transportation field during this reporting period, with consortium faculty, researchers, and students recognized through prestigious awards, promotions, professional society leadership roles, editorial positions, and invited service on federal review panels. This active involvement promotes NEUTC's visibility within the academic and professional communities and strengthens its impact on transportation policy and practice.

Invited Presentations and Workshops

Beyond the project-related presentations summarized in Section 1.2.1, NEUTC faculty led or facilitated influential professional development and leadership-oriented sessions that broadened the Center's national visibility:

- Pnina Gershon (MIT) co-organized the workshop "Shaping In-Vehicle Behaviours through Activity-Centered Design" at the 17th International Conference on Automotive User Interfaces (AutoUI), and organized and moderated the TRB 2026 session on Driver Competency Across the Lifespan.
- Bruce Mehler (MIT) co-organized Dagstuhl Seminar 26132 on Driver State Modelling, an invitation-only international gathering of leading researchers in cognitive and computational driver modeling.
- Michael Plotnikov (UMass) provided sustained legislative leadership in support of expanding the Massachusetts seatbelt law to cover motorcoach passengers, including formal testimonies on October 21 and November 19, 2025 before Massachusetts legislators in support of S.2611.
- Eric Gonzales (UMass) moderated the workshop session "Using AI and Partnerships to Build Resilient Public Transportation Systems" at the TRB 105th Annual Meeting.

Professional and Paper Awards

- Bryan Reimer (MIT): 2025 A. R. Lauer Safety Award, Human Factors and Ergonomics Society.
- Anuj Pradhan (UMass): Barbara H. and Joseph I. Goldstein Outstanding Junior Faculty Award.
- Moses Tefe (Norwich): Promoted to full Professor.
- Daniel Baker (UConn, advised by J. Bi): 2025 NEUTC/UTC Student of the Year (representing the Center).
- Sophia Ashebir (MIT, advised by L. D'Ambrosio): MIT 2025 NEUTC Student of the Year.
- Stephen Onyeukwu (UMass, advised by A. Pradhan): 2026 Lifesavers TSSF Scholar.
- Intisar Becic (UMass, S. Roberts research group): 2nd Place Best Poster, AAAFTS Safe Mobility Conference (April 2026).
- Syed Islam (UConn, advised by M. Filipovska): UConn School of Civil & Environmental Engineering Graduate Leadership Fellowship Award.
- Shan Zuo (UConn): Castleman Term Professor in Engineering Innovation Award (2025); Quantum Regional Partnership Investments Award.
- Mohamadamin Rajabinezhad (UConn, advised by S. Zuo): Multiple awards including IEEE/ECE Graduate Student Poster Competition (2nd Place, 2025), Summer Predoctoral Fellowship (2025),

and travel awards for ACC 2026 and AIM 2024.

Journal Editorships and Grant Review Panels

NEUTC researchers continued to provide national and international leadership through editorial and peer-review roles across major journals and federal funding programs. Federal and national review panel service during this reporting period included:

- NSF Engineering Education and Centers (ENG/EEC) panels (Davis Chacón-Hurtado).
- NSF Division of Civil, Mechanical and Manufacturing Innovation; Infrastructure Systems and People program (Song Gao, Jan 2026).
- NSF ENG Directorate DCSD program (Shan Zuo, 2025); NSF CISE NeTS CoRe panel (Wei Zhang).
- NIH Special Emphasis Panels (Jinbo Bi).
- Singapore Land Transport Authority Urban Mobility Innovation Programme Grant Review Panel (Anuj Pradhan).
- Institute for Collaboration on Health, Intervention, and Policy (InCHIP) review (Wei Zhang).
- USDOT NEUTC research proposal review panel (Michael Plotnikov).

Editorial leadership during the period included:

- Associate Editor, IEEE Transactions on Neural Networks and Learning Systems; IEEE Transactions on Cybernetics; Transactions of the Institute of Measurement and Control (Shan Zuo).
- Associate Editor, Transportation Research Record (Eleni Christofa, Anuj Pradhan, Chengbo Ai).
- Associate Editor, ASCE Journal of Transportation Engineering Part A: Systems (Eleni Christofa); ASCE Journal of Computing in Civil Engineering (Chengbo Ai); Accident Analysis & Prevention (John Ivan); Transportation Research Part B (Song Gao); IEEE ITSC 2026 (Monika Filipovska).
- Editorial Boards: Transportation Research Part C (Eleni Christofa); ASCE Journal of Infrastructure Systems (Jimi Oke, invited Fall 2025); International Journal of Pavement Engineering (Egemen Okte); Ergonomics (Shannon Roberts); Smart Health (Jinbo Bi, action editor); Frontiers in Neuroergonomics: Social Neuroergonomics, Journal of Law & Mobility, Transportation Research Record (Anuj Pradhan).
- Conference and program committees: AAAI, ICML, NeurIPS, MLSys 2026, IEEE ICDCS 2026, ACM Middleware 2026 (Wei Zhang); ACM/IEEE ICCPS, CPS-IoT Week 2025 (Shan Zuo); Vice-Chair, AAAM Scientific Program Student Subcommittee (Anuj Pradhan).
- Guest editorships: Special issue on Intelligent Transportation Systems for Sustainable Mobility, Applied Sciences (Nicholas Lownes); Special Issue, Human Factors in Healthcare (Shannon Roberts).
- TRB committees: ACF11 Traffic Flow Theory, Models, and Simulation (Eleni Christofa); ASCE T&DI AI and Highway Pavements committees, APSE Treasurer (Egemen Okte); Geospatial Methods and Technologies AKL19 (Chengbo Ai); Massachusetts Bicycle and Pedestrian Advisory Board (Eleni Christofa).

Leadership in Professional Organizations

NEUTC faculty hold key leadership roles shaping national and international research directions in safety, automation, and infrastructure:

- Michael Knodler (UMass): Vice President, Council of University Transportation Centers; President, Research & Education Division, ARTBA.
- Shannon Roberts (UMass): Executive Council Member, Human Factors and Ergonomics Society; Paper Review Coordinator, Safety/Human Factors/Pedestrians/Bicycles Section.
- Anuj Pradhan (UMass): Vice-Chair, AAAM Scientific Program Student Subcommittee.

- Egemen Okte (UMass): Treasurer, Academy of Pavement Science & Engineering; Member, ASCE T&DI AI and Pavement Committees; Faculty Advisor, ASCE Student Chapter.
- John Ivan (UConn): Associate Editor, Accident Analysis and Prevention.
- Eric Gonzales (UMass): Member, TRB AP012 Committee on Transit System Planning.
- Devin Rhoads (UConn): President, UConn ITE Student Chapter; Jon Lof Leadership Academy.

Student Leadership Activities

NEUTC continued to promote student leadership through mentoring, research participation, and centerwide events. Student-led activities during this period included:

- UConn: Daniel Baker continued mentoring three undergraduates on explainable-AI projects in J. Bi's group; Devin Rhoads led the UConn ITE Student Chapter (~20 members) and participated in the Jon Lof Leadership Academy (~75 students); Syed Islam was recognized with a Graduate Leadership Fellowship in CEE.
- UMass: Students in the Roberts, Pradhan, Christofa, Plotnikov, Boakye, Oke, Gao, and Wandenkolk groups participated in NEUTC Symposium planning, presented at TRB and the AAAFTS Safe Mobility Conference, and engaged in legislative testimony preparation.
- MIT: Sophia Ashebir presented at the NEUTC Leadership Summit and Symposium and was recognized as MIT's NEUTC Student of the Year.
- Norwich: Ryan Cross (CE) and Gavin Newton (ECE) led VTAOT Symposium presentation activities.
- HCC/BHCC: Engineering Pathways students supported the second annual HCC Innovation Challenge, transportation-themed K-12 outreach, and visits to UMass Amherst.

1.2.3 Education and Workforce Development

NEUTC continued to invest in education and workforce development across the consortium during this reporting period, integrating Center research into curricula, supporting hands-on student research opportunities, and expanding K-12 outreach across New England.

Hack-a-thon, Capstone, and Innovation Challenge Participants

NEUTC supported student engagement through structured, project-based learning during this period:

- Holyoke Community College: Hosted the second annual HCC Innovation Challenge under a Transportation Science theme, with three competing teams completing a poster and pitch session. Dr. Shannon Roberts (UMass) delivered the keynote address.
- Norwich University: Continued to support transportation-related Capstone projects, including ECE student Gavin Newton's work on evaluating AV performance in rural Vermont environments under the supervision of Dr. Michael Cross.
- UConn: Continued participation of senior design teams on transportation systems, infrastructure, and safety analysis projects across the John Ivan, Lownes, Chacón-Hurtado, and Filipovska groups.

NEUTC Peer Mentors and Mentees

NEUTC's mentoring network continued to connect faculty, graduate, and undergraduate students across consortium institutions:

- UConn: Daniel Baker (PhD, J. Bi's group) continued mentoring three undergraduates (Charli Hughes, Ben Guo, Adib Rouf) on explainable AI for automated driving; Davis Chacón-Hurtado guided two PhD candidates (Wilmalis Rodriguez, Sophiya Shrestha) on transportation research.

- UMass: Anuj Pradhan, Eleni Christofa, Egemen Okte, Jimi Oke, Song Gao, and Isabelle Coppa Wandenkolk continued mentoring graduate and undergraduate research assistants across active NEUTC projects.
- Norwich: Moses Tefe and Michael Cross mentored undergraduate Civil Engineering and ECE students contributing to the Mobility & Safety Needs Assessment and AV-in-rural-areas projects.
- HCC: Beth Breton mentored seven Engineering Pathways students serving as STEM Mentors at the HCC Innovation Lab.
- BHCC: Krista Reichert continued to coordinate transportation-related mentoring activities through the BHCC STEM pipeline (see Section 1.2.4).

Summer/Winter NEUTC Research Fellows

Planning is underway for the next NEUTC-supported research-fellow cycle this summer. The RIDE Research Experiences for Undergraduates (REU) program at UMass Amherst, supported by the National Science Foundation with supplemental funding from NEUTC, will host another cohort of students in Summer 2026 and continue expanding partnerships with Holyoke Community College and other regional institutions. AI Summer Camp (Jinbo Bi, UConn) and the Norwich Governor's Institute residential program will again incorporate NEUTC-supported research content during Summer 2026.

Students Supported by NEUTC Projects

During this reporting period, NEUTC directly supported research and professional development for approximately 30 PhD students, 4 master's students, and 15 undergraduate students across the consortium. These students contributed to projects advancing transportation safety, intelligent infrastructure systems, crash modeling, public transit planning, AV trust and HMI design, distracted-driving mitigation, pavement engineering, and human factors in vehicle automation. Representative student researchers include Daniel Baker, Quinn Packer, Devin Rhoads, Manmohan Joshi, Mohsen Tahmasbi, Wilmalis Rodriguez, Sophiya Shrestha, Olin Green, Syed Islam, and Mohamadamin Rajabinezhad (UConn); Stephen Onyeukwu, Sanidhya Kumar, Honon Lee, Yu-Min Yang, Mohammed Abdalazeem, Yuxin Sun, Guocheng Jiang, Anastasia Shub, Jiewen Luo, and Mahdi Azhdari (UMass); Sophia Ashebir (MIT); Madelyn Chasse (UConn); and Gavin Newton and Ryan Cross (Norwich). Several students were recognized externally during the period (see Section 1.2.2).

New Courses and Modules

NEUTC faculty continued to incorporate research outcomes into new and existing courses, expanding transportation and systems education across the consortium:

- UMass: Egemen Okte developed a distress-detection module for CEE 515 Pavement Design (spring 2026); Chengbo Ai updated the horizontal-curve section of CEE 450 with new high-friction surface treatment research outcomes.
- UConn: Davis Chacón-Hurtado developed a new case study for ENGR-HRTS "Engineering for Human Rights," incorporating transportation research outcomes from the Center's UConn project portfolio.
- UConn: Jinbo Bi and Daniel Baker continued integrating explainable-AI lectures from project research into first-year engineering teaching.
- BHCC: Krista Reichert continued offering the Geospatial Technology Certificate Program with NEUTC-aligned material integrated into multiple courses.
- Norwich: Moses Tefe continued advising the Senior Capstone module on vehicle quality and

traffic-stop analysis.

K-12 Student Engagement

- Holyoke Community College: Hosted approximately 200 students from Springfield International Charter School (October 2025) for a transportation-science activity at the HCC Innovation Lab; supported a Springfield Water Supply enrichment trip (Nov 2025); and brought nine Engineering Pathways students to UMass Amherst's Community College Day (Feb 2026).
- Norwich University: Dr. Michael Cross hosted 22 Vermont FIRST LEGO League (FLL) Challenge teams at Norwich, drawing approximately 300 students, coaches, families, and volunteers; NEUTC also sponsored the VT FLL Challenge qualifier and the VT FIRST Tech Challenge (FTC) qualifier (combined ~550 K-12 students), with NEUTC banners and logos displayed.
- UConn: Hosted students from E.O. Smith High School at UConn's driver simulation facilities.
- UMass: Continued to host high-school visits to the Human Performance Laboratory (Roberts) and to the Driving Simulator and Distractology research facilities (Pradhan, Roberts, Tainter), including hosting Destination Days for prospective first-year undergraduates.

1.2.4 Technology Transfer

Technology transfer activities continued at high intensity during this period, with multiple consortium members translating research outcomes into practitioner-facing workshops, legislative testimony, agency briefings, LTAP/T2 Center training, and media engagements.

NEUTC-Related Events and Attendance

NEUTC members organized, hosted, and participated in several major technology-transfer events during this reporting period:

NEUTC Cyber-Informed Engineering in Transportation Systems Tabletop Exercise. On December 10, 2025, the consortium delivered a tabletop exercise (TTX) on the NUARI DECIDE© platform focused on cybersecurity readiness for connected transportation infrastructure. Sixteen participants represented NEUTC, NUARI, MassDOT, the MBTA, NHDOT, the Central Massachusetts Regional Planning Commission, the Southeastern Regional Planning & Economic Development District, TRC Companies, UMass Amherst, and XRoadz Inc. The exercise introduced Cyber-Informed Engineering principles as a proactive strategy for resilience and safety across surface transportation systems.

Eastern CMV Safety Summit. UMass hosted (with NEUTC) the Eastern Commercial Motor Vehicle Safety Summit in Northampton, MA in March 2026, bringing together fleet safety practitioners, researchers, and policy stakeholders. Michael Plotnikov presented research on motorcoach seatbelt promotion, while Shannon Roberts presented on adapting trucking jobs for an automated future.

MassDOT Innovation Webinar (Phase II). On October 22, 2025, Eleni Christofa, Chengbo Ai, and collaborators delivered a MassDOT Innovation Webinar on "Measuring Access to Improve Public Health, Phase II," reaching approximately 106 practitioners and researchers across MassDOT and partner organizations.

Driver Simulator and Research Facility Tours. UConn hosted three separate group tours of its driver simulation facilities for visitors from E.O. Smith High School, the CSCE Younger Members section, and CTDOT highway safety. UMass continued to host Distractology, simulator, and Human Performance Laboratory tours for K-12, undergraduate, and industry audiences.

HCC Innovation Challenge (Transportation Science theme). HCC hosted its second annual Innovation Challenge under a Transportation Science theme, with three competing teams and a keynote address by Shannon Roberts (UMass), supporting the BHCC/HCC community-college pipeline.

Planning is well underway for the 3rd Annual NEUTC Symposium, scheduled for May 2026 in Worcester, MA, in coordination with the MassDOT Innovation Conference.

LTAP Engagements

From October 1, 2025 to March 31, 2026, Baystate Roads (UMass) and the UConn T2 Center continued to deliver high volumes of LTAP and transportation-training programming across New England. Course offerings during this period covered safety-focused topics including Work Zone Safety, OSHA 10-Hour Construction, Chainsaw Safety and Storm Damage Awareness, Welding Equipment Safety & Operation, Bucket Truck Operation & Safety, Flagger and First Aid Certification, and the two-day Chainsaw Skills and Safety course, along with the deeper FFY25 module on safety challenges faced by public works employees.

The UConn T2 Center continued offering Traffic Signal Inspector Training for CTDOT, Planning Complete Streets, All About Asphalt, Green Snow Pro for Roadways, multiple Road Master Program sessions, and the FHWA Proven Safety Countermeasures Workshop. The 10th cohort of the Connecticut Transportation Leadership Program continued. Virtual programming included Adaptive Signals webinars, Sustainable CT's Coffee Hour, and the Safety Matters: Working Toward ADA Compliance series. Staff also continued to distribute the CT Crossroads e-newsletter to local and state transportation agencies across Connecticut.

Media Requests

NEUTC researchers continued to garner significant media attention during this period, with consortium members appearing in dozens of regional and national outlets:

- UConn / Connecticut Transportation Institute (Eric Jackson and colleagues): Provided commentary and data to approximately 37 outlets during the period, including CT Insider, USA Today, MSN, NBC, FOX61, CT Mirror, Hartford Courant, CT News Junkie, New Britain Progressive, CT Post, New Haven Register, WTNH, Yahoo, the Darienite, News Times, The Day, AAA, News 12, the CT DOT press office, and UConn Today / Daily Campus, on topics including drowsy driving, daylight saving time, school-bus seat belts, traffic fatalities, speed and red-light cameras, pedestrian and bicyclist deaths, EV charging, wrong-way driving, deer crashes, mopeds, AVs and electric pickups, teen driving, and pending traffic-safety legislation.
- MIT (Bryan Reimer & Pnina Gershon): Featured on the Make Way for Waymo podcast (World Radio); Forget Robotaxis - Personal AVs Is Where It's At (Autoline); Autonomous Vehicles and the Future of Mobility (Interconnected Series); The Automotive Leaders Podcast (AI, Trust, and the Human Shift); and articles in Junko's Tech Probe, the Detroit Free Press, CarBuzz, CNBC, and MIT News.
- UMass: Anuj Pradhan and Shannon Roberts featured on Boston 25, WWLP, and Western Mass News on Distractology, simulator-based bike-safety research, distracted-driving studies, and the UMass Vehicle Safety Summit; Charles and Anne Schewe and the motorcoach seatbelt team interviewed on UMass-Springfield TV (Thanksgiving 2025); Egemen Okte's pavement-AI research featured on Boston 25 News ("New England DPWs turn to AI to tackle spring pothole season," April 2026).

These features continue to expand NEUTC's national visibility and public impact, strengthening awareness of the Center's research contributions to safer, smarter transportation systems.

Industry and Governmental Stakeholders Requests for Technical Assistance

During this reporting period, NEUTC researchers were frequently called upon to provide technical guidance, subject-matter expertise, and testimony to government agencies, legislators, and industry organizations. Highlights include:

- Michael Plotnikov and collaborators (Charles and Anne Schewe, John Collura) provided sustained legislative engagement on Massachusetts Senate Bill S.2611, which would extend Massachusetts' seatbelt law to motorcoach passengers. The team gave formal testimonies on October 21 and November 19, 2025 before MA legislators, met with congressional aides for Sen. Comerford and Rep. Domb, and engaged Sen. Michael Rodrigues (Chair, Ways and Means Committee) and Kevin Hart (Chief Legal Counsel, MA Joint Committee on Transportation). The team also worked directly with the Massachusetts Department of Public Utilities (MassDPU) to develop a public Sit-Click-Ride Challenge campaign and draft regulatory brochures.
- Bryan Reimer (MIT) continued to advise national policy through the FAA Task Force on Human Factors in Aviation Safety Aviation Rulemaking Committee (HF Task Force ARC) and through the NHTSA Leadership Briefing on driver attention.
- Moses Tefe (Norwich) and Norwich University Applied Research Institutes (NUARI) led the December 2025 cyber-informed-engineering TTX with MassDOT, MBTA, NHDOT, and regional planning agencies as noted above.
- Chengbo Ai (UMass) coordinated with the MassDOT Safety Office on scope alignment for the Year 3 high-friction surface treatment project, including direct engagement with MassDOT's curve-advisory signage program.
- Eleni Christofa (UMass) continued ongoing technical exchanges with FHWA and MassDOT on connected-vehicle systems, traffic operations, and data-driven safety analytics, reflected in the team's three external grants this period.
- Davis Chacón-Hurtado (UConn) supported GIS and program-management engagement with the CT Transportation Research Safety Center and the Capitol Region Council of Governments.

Social Media Engagements

NEUTC researchers and consortium institutions continued to use professional and institutional platforms throughout the reporting period to share research highlights, announce events, and showcase ongoing transportation safety initiatives.

NEUTC Platforms. The NEUTC LinkedIn page continued its steady growth, expanding the professional audience well past 216 followers and garnering tens of thousands of organic impressions over the past year. Posts featuring project updates, workshop announcements, and researcher spotlights continue to foster engagement across the regional transportation community. The NEUTC YouTube channel continued to host recorded webinars and presentations, expanding public access to research outcomes and professional-development content.

Highlighted researcher engagements during the period:

- Shannon Roberts shared NEUTC-supported research on roadway complexity and ADAS training via LinkedIn.
- Eleni Christofa promoted bicycle-infrastructure survey participation and Mobilysis collaboration

updates via LinkedIn.
- Moses Tefe and the Norwich/NUARI team highlighted the Cyber-Informed Engineering TTX through LinkedIn posts.
- Michael Plotnikov's motorcoach seatbelt research received continued amplification through UMass Media Relations, including the UMass-Springfield TV interview with the Schewes.

Practitioner Attendance at Events

NEUTC-hosted and affiliated events during this reporting period drew strong participation from transportation practitioners, including representatives from state departments of transportation, municipal agencies, transit operators, consulting firms, and industry partners. Notable practitioner audiences this period included approximately 106 attendees of the MassDOT Innovation Webinar Phase II; the 16-agency December 2025 cyber-informed-engineering TTX; approximately 100 attendees of the Plotnikov motorcoach seatbelt presentation at TRB 2026; the Eastern CMV Safety Summit in Northampton, MA; and the VTAOT Research and Innovation Symposium. NEUTC is also continuing to participate in planning and delivery of the MassDOT Innovation Conference in May 2026.

DOT Requests for Presentations or Proposals

During this reporting period, NEUTC researchers were invited to share findings and ongoing research with state departments of transportation, reflecting growing interest in the Center's applied research efforts:

- Michael Cross, William Lyons, and Gavin Newton (Norwich): Presented preliminary results from the AV-in-rural-areas project at the VTAOT Research and Innovation Symposium (September 2025), engaging state officials and practitioners on rural AV deployment challenges.
- Eleni Christofa (UMass): Multiple state DOT and FHWA engagements as part of the externally funded MassDOT Transit Signal Display, FHWA Safety IDIQ, and NCHRP 15-87 awards.
- Moses Tefe (Norwich) & Michael Plotnikov (UMass): Presented at TRB 2026 sessions attended by federal and state DOT representatives.
- Egemen Okte (UMass) confirmed attendance and presentation at the 2026 MassDOT Innovation Conference.

1.3 How have the results been disseminated?

As the NEUTC research, technology transfer, and education projects progress, we anticipate continued increases in opportunities to disseminate the results of our activities. During this period, dissemination occurred through peer-reviewed publications and conference presentations (Section 3.1), invited research talks at national and international universities and agencies, MassDOT and VTAOT innovation events, the Eastern CMV Safety Summit, the December 2025 cyber-informed-engineering TTX, the Plotnikov-led legislative testimony in Massachusetts, sustained LTAP and T2 Center training, and an active social-media and media-relations footprint reaching consortium-wide regional and national audiences.

1.4 What do you plan to do during the next reporting period to accomplish the goals?

During April–September 2026, NEUTC will host the 3rd Annual NEUTC Symposium and Leadership Summit in Worcester, MA in May 2026, in coordination with the MassDOT Innovation Conference; help host Moving Together (non-motorist safety); and run the 2026 RIDE REU, AI Summer Camp at UConn, and Norwich Governor's Institute. Year 3 projects will progress into data collection and analysis, while several Year 1 and Year 2 projects close out with final reports and journal submissions.

2 Participants and Collaborating Organizations

2.1 What organizations have been involved as partners?

Partner organizations active during this reporting period continued to include the New England state departments of transportation, with particularly strong integration of MassDOT, CTDOT, NHDOT, and VTAOT. MBTA, the Massachusetts Department of Public Utilities, the Central Massachusetts Regional Planning Commission, and the Southeastern Regional Planning & Economic Development District participated directly in the December 2025 cyber-informed-engineering TTX. Industry partners contributing this period included Toyota, Allstate, Magna, Safelite, Mobilysis, NIRA, Waymo, XtraMile, Via Transit, TRC Companies, XRoadz Inc., NUARI, FIRST, and Tongji University. World is our Classroom (a 501(c)(3)) and the Springfield Public Schools continued to partner on K-12 outreach and the planned high school transportation elective course.

NEUTC continued its partnership with MassDOT in planning and co-hosting the MassDOT Innovation Conference, which will be held in May 2026 alongside the 3rd Annual NEUTC Symposium.

2.2 Have other collaborators or contacts been involved?

NEUTC has continued to engage with other collaborators both within and outside the UTC Program, including via TRB, CUTC, AAAFTS, INFORMS, ETHICS, AutoUI, IEEE, AAAM, ASEE, and Dagstuhl, and via federal review panels at NSF and NIH and at international agencies including the Singapore Land Transport Authority.

3 Outputs

3.1 Publications/presentations/conference papers

Selected publications, conference papers, and presentations from this period are listed below; venue names are italicized.

Selected Peer-Reviewed Journal Articles and Conference Papers

- Boakye, J., Chacón-Hurtado, D., & Hertel, S. (2025). Moving from engineering to societal metrics: Modeling the impact of transportation infrastructure disruption using a capability approach. *2025 IEEE International Symposium on Ethics in Engineering, Science, and Technology (ETHICS)*. https://doi.org/10.1109/ETHICS65148.2025.11098190 (Published) Federal support acknowledged: Yes.
- Agyekum, A., Boakye, J., Okte, E., & Koch, M. (2025). Integrating economic, environmental, and social sustainability metrics: Assessment of cross-modal passenger transportation. *Transportation Research Interdisciplinary Perspectives*. 34, 101672. https://doi.org/10.1016/j.trip.2025.101672 (Published) Federal support acknowledged: Yes.
- Han, Z., Christofa, E., Gonzales, E. J., Donaghy, S., & Oke, J. (2026). Robust forecasting framework for energy-informed planning in urban rail transit systems. *Data Science for Transportation*. 8(1), 2. https://doi.org/10.1007/s42421-025-00145-1 (Published) Federal support acknowledged: Yes.
- Abdalazeem, M., Altayb, G., Christofa, E., & Oke, J. (2026). Maps are good but are simpler maps better? Insights on urban bicycling in the US. *Environmental Research Communications*. 8(2), 025004. https://doi.org/10.1088/2515-7620/ae3945 (Published) Federal support acknowledged: Yes.
- Han, Z., & Oke, J. (2025). Novel typology of fatal crash behaviors via natural language processing. *Data Science for Transportation*. 7(3), 1–19. (Published) Federal support acknowledged: Yes.
- Abdalazeem, M., & Oke, J. (2025). Roadway crash typology of census tracts enables targeted

interventions via interpretable machine learning. *Data Science for Transportation*. 7(2), 14. (Published) Federal support acknowledged: Yes.

- Plotnikov, M., Collura, J., Schewe, C., & Schewe, A. (2026). Comprehensive set of actions to promote use of seatbelts on motorcoaches in New England to reduce fatalities and injury severity. *Proceedings of the TRB 105th Annual Meeting*. Washington, DC. (Published) Federal support acknowledged: Yes.
- Zhang, C., Guo, H., Wang, Z., Feng, F., Pradhan, A. K., Jia, B., & Bao, S. (2025). Assessing the effectiveness of driver training interventions in improving safe engagement with vehicle automation systems. *Journal of Safety Research*. (Published) Federal support acknowledged: Yes.
- Onyeukwu, S. G., Hungund, A. P., Shub, A., & Pradhan, A. K. (2025). In HMI we trust: Systematic review of impact of content and mode of human-machine interfaces on passengers' trust in automated vehicles. *Human Factors*. (Under review) Federal support acknowledged: Yes.
- Pai, G., & Pradhan, A. K. (2025). Impact of VR headset-based training on drivers' hazard avoidance and mental models when driving with ADAS. *Transportation Research Interdisciplinary Perspectives*. (Under review) Federal support acknowledged: Yes.
- Noonan, T. Z., Gershon, P., Domeyer, J., Mehler, B., & Reimer, B. (2025). Quantifying the role of kinematic and behavioral features in driver-pedestrian interaction across environments: An inverse reinforcement learning approach. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. 69(1), 1323. (Published) Federal support acknowledged: Yes.
- Gershon, P., Noonan, T. Z., & Lenneman, J. (2025). The impact of electrification and partial automation on driver speeding behavior. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*. 69(1), 1323. (Published) Federal support acknowledged: Yes.
- Gershon, P. (2026). Human-aware automation: The future of vehicle intelligence depends on understanding people. *Supply Chain Management Review*. (Published) Federal support acknowledged: Yes.
- Abdollahi, C., & Okte, E. (n.d.). Evolution of automated surface distress detection and assessment for flexible pavements: A state-of-the-art review. *Automation in Construction*. (Under review) Federal support acknowledged: Yes.
- Sun, Y., & Gao, S. (n.d.). Work experience and challenges of gig drivers in Massachusetts: Evidence from semi-structured interviews. *Transport Policy*. Also accepted for presentation at the World Conference on Transport Research (WCTR 2026), Toulouse, France. (Submitted) Federal support acknowledged: Yes.
- Baker, D., & Bi, J. (2026). Global summary tokens enable inference-time caption steering in vision-language models. *European Conference on Computer Vision (ECCV)*. (Submitted, Mar 2026) Federal support acknowledged: Yes.
- Chu, K., Xiang, D., Guo, H., Lu, Y., Zheng, Y., Yang, Y., Wang, P., Lin, Z., & Zhang, W. (n.d.). ReLACE: Runtime adaptive connectivity enhancement for efficient OOD-ANNS. *Manuscript*. (Under submission) Federal support acknowledged: Yes.
- Xiang, D., Chu, K., Xu, W., Zhang, W., & Zhang, W. (2026). LLM-as-Scheduler: Dynamic multi-agent system workflow scheduling. *64th Annual Meeting of the Association for Computational Linguistics*. (Accepted) Federal support acknowledged: Yes.
- Su, J., Zhang, W., Zhang, Y., Chu, K., Guo, H., Lu, Y., & Zhang, W. (2026). TrustInfer: Integrity measurement and attestation framework for LLM inference. *European Conference on Computer Systems (EuroSys)*. (Accepted) Federal support acknowledged: Yes.
- Su, J., Zhang, Y., & Zhang, W. (2026). In-kernel aggregation and broadcast acceleration for optimized distributed communication. *1st New Ideas in Networked Systems (NINeS 2026)*. (Accepted) Federal support acknowledged: Yes.

- Tefe, M., & Lyons, W. (2026). Mobility and safety needs assessment: A case study of Northfield. *ITE International & Great Lakes District Annual Meeting and Exhibition*. Detroit, MI. (Accepted for presentation) Federal support acknowledged: Yes.
- Sun, Y., & Gao, S. (2026). Ride-sourcing demand estimation using aggregated public data. *Annual Meeting of the Transportation Research Board*. Washington, DC. (Presented) Federal support acknowledged: Yes.
- Luo, J., Cardenas, C., Gonzales, E. J., & Christofa, E. (2026). Modeling the effect of multimodal accessibility on public health outcomes. *105th Annual Meeting of the Transportation Research Board*. Washington, DC. TRBAM-26-05169. (Presented) Federal support acknowledged: Yes.
- Luo, J., Gonzales, E. J., & Christofa, E. (2026). Measuring walk accessibility and equality by the National Walkability Index. *105th Annual Meeting of the Transportation Research Board*. Washington, DC. TRBAM-26-05517. (Presented) Federal support acknowledged: Yes.
- Azhdari, M., & Gonzales, E. J. (2026). Measuring fare non-interactions and revenue loss in bus transit using automated data. *105th Annual Meeting of the Transportation Research Board*. Washington, DC. TRBAM-26-03804. (Presented) Federal support acknowledged: Yes.

Selected national and international presentations are also listed in Section 1.2.1 (Research-Related Engagements and Invited Research Presentations) and Section 1.2.4 (NEUTC-Related Events).

3.2 Policy papers

None to report this period. The Plotnikov motorcoach team's regulatory brochure and monograph drafted for the Massachusetts Department of Public Utilities are anticipated to be released in the next reporting period.

3.3 Website and other engagements

The NEUTC website (https://www.umass.edu/neutc/) continues to serve as a central hub for sharing consortium news, project updates, completed-project final reports, and event information. The Center's web presence is supplemented by the publicly hosted interactive crash typology dashboard at https://crashtypology.narslab.org/, the NEUTC LinkedIn page, and the NEUTC YouTube channel for recorded webinars and presentations. The LinkedIn page continued to grow steadily during the reporting period, with sustained engagement on project announcements, events, and researcher spotlights.

3.4 New methodologies, technologies or techniques

Multiple Center projects produced novel methodological or technical outputs during this period, including: the MOT-CUP framework for collaborative perception in connected and automated vehicles (Miao); a global-summary-tokens vision-language architecture for explainable AV decision making (Bi/Baker); LLM-as-Scheduler and TrustInfer for trustworthy LLM systems in AV/transportation contexts (Zhang); a YOLOv8n-based pipeline for right-turn FYA conflict detection at mixed-modal intersections (Zuo); GIS-based digital-twin maps of crosswalk safety reports for community workshops in Holyoke, MA (Boakye); the interactive crash-typology dashboard at narslab.org (Oke); and the inverse-reinforcement-learning STEER-AV pipeline for replicating proprietary AV driving policies on Waymo data (Filipovska).

3.5 Inventions, patents, and/or licenses

None to report this period.

3.6 Other Products

Additional products developed during this period include the Sit-Click-Ride Challenge campaign materials and draft regulatory brochure/monograph supporting Massachusetts S.2611 (Plotnikov); an

instrumented on-road data collection package combining Tobii Glasses 3 eye tracking, heart-rate monitors, and OBD-II devices for naturalistic VRU response studies (Shirani); and curated benchmark dataset assemblies (BDD-X, SALICON, WebVid2M, CC3M, ADAPT) supporting explainable-AV research (Bi/Baker).

4 Outcomes

Selected outcomes by area during this reporting period include:

Vehicle and Infrastructure Systems

- Pavement Monitoring (UMass – Okte): State-of-the-art review submitted to Automation in Construction; pavement-condition vs. crash-rate analysis presented at APSE.
- High-Friction Surface Treatment (UMass – Ai): >100 horizontal curves extracted from historical LiDAR data for run-off-road analysis in coordination with MassDOT.
- Information Design for Public Transportation (UConn – Lownes): Optimal model structure for large-scale networks developed; results indicate proper information structuring improves travel choice and system performance.
- AI/LiDAR Truck Permitting and Bridge Clearance (UMass – Gerasimidis): Year 3 projects launched; AI/LiDAR data collection underway.
- Curbside Double-Parking Simulation (UMass – Gonzales): Block-level simulation model developed combining curb-user choice, parking search, and traffic-flow congestion impacts; reinforcement-learning framework established for dynamic curb pricing; companion NSF ISP proposal under review.

Safety and Crash Analysis

- Crash Typology (UMass – Oke): Two papers published in Data Science for Transportation; interactive dashboard publicly hosted at crashtypology.narslab.org.
- GRIDSMART Crash Prediction & Pedestrian Crash Trends (UConn – Ivan): UConn portions complete; pedestrian-crash article published in the Journal of Safety Research; two GRIDSMART papers under review.
- Right-Turn FYA Conflict Detection (UConn – Zuo): YOLOv8n pipeline implemented and tested on real intersection video; Manchester, CT site identified for evaluation.
- Linked Crash/Health Data for Minors (UConn – Auguste): Deterministic data linkage complete; awaiting AIS-table purchase to enable ICD-10 to KABCO conversion.

Automation and Human Factors

- Trust-Building in L4 Automation & ADAS Hazard Anticipation (UMass – Pradhan): L4 project completed with three publications; Year 3 ADAS-hazard taxonomy under development.
- Older Drivers and FCW (UConn – Shirani): Project completed; TRB lecture delivered. VRU Naturalistic Study (Shirani): IRB approved; on-road data collection underway.
- Explainable AI / Multimodal LLMs for AV Safety (UConn – Bi, W. Zhang): ECCV submission (Bi/Baker); three papers accepted at ACL, EuroSys, and NINeS (Zhang). Daniel Baker named UTC Student of the Year.
- STEER-AV (UConn – Filipovska): Waymo data processing and IRL method development underway.
- Naturalistic Road User Behavior (MIT – Reimer): Three papers published, three additional accepted, and four manuscripts under review; Dr. Reimer received the 2025 HFES A. R. Lauer Safety Award.
- Cell Phone Use & Teen Driver ADAS Education (UMass – Wandenkolk): 96/100 surveys, 18/20

driver interviews complete; cross-site (UMass/UConn) simulator-based training in development.
- Naturalistic Behavior Across Lifespan (MIT – D'Ambrosio): Self-regulation and distracted-driving analyses extended; TRB panel delivered.
- AVs in Rural VT (Norwich – Cross): Multi-month AV performance dataset across road classifications and conditions; VTAOT presentation delivered.

Active Mobility, Transit, and Shared Mobility

- Bicycle Infrastructure & TSP (UMass – Christofa): Updated drone trajectories received; surrogate-safety estimation underway; two refereed publications in Environmental Research Communications and Data Science for Transportation; Year 3 TSP-intersection project launched.
- Active Transportation & Built Environment / Bus Ridership (UConn – Chacón-Hurtado): Two refereed publications in Transport Reviews and the IEEE ETHICS proceedings; BRANY IRB approval received Feb 17; quantitative manuscript resubmitted to Travel Behaviour and Society.
- Mobility & Safety Needs Assessment / Healthcare Access / Cybersecurity Readiness (Norwich – Tefe and team): ITE Great Lakes paper accepted; Healthcare Access PI transitioned to Dr. Jacob Van Den Berg with Tefe as co-PI; cybersecurity TTX delivered with NUARI and project closed out.
- MOD / Microtransit (UConn – Fakhrmoosavi, Ha): Microtransit data gathered statewide; CTDOT Advancing Microtransit Efficiency follow-on secured; preliminary XtraMile/Via Transit data collected.
- Ride-Sourcing, Gig, and Microtransit Public Health (UMass – Gao, Gonzales): WCTR 2026 paper accepted (Gao); INFORMS/TRB presentations delivered; Gonzales Microtransit Safety & Public Health project completed.

Education, Workforce, and Cross-Cutting Highlights

- Community-Centered Traffic Safety (HCC/BHCC – Breton/Reichert): Second annual HCC Innovation Challenge with Transportation Science theme delivered; BHCC Geospatial Technology Certificate Program continued.
- Motorcoach Seatbelt Campaign (UMass – Plotnikov): Continued legislative engagement on Massachusetts S.2611, including formal testimony, MassDPU collaboration, and the Sit-Click-Ride Challenge campaign.
- Cyber-Informed Engineering TTX (Norwich/UMass): 16-agency tabletop exercise delivered Dec 10, 2025.
- Digital Twins & AI-Enabled Culvert Decision-Making (UMass – Boakye): Crosswalk safety GIS heat maps developed for Holyoke community workshops; geospatial culvert network and ML deterioration modeling underway.

5 Impacts

5.1 Impact on the effectiveness of the transportation system

NEUTC's focus on understanding human interactions within a complex and dynamic transportation landscape continued to drive improvements in both safety and operational efficiency during this reporting period. Specific impacts visible during the period include: legislative engagement to extend Massachusetts' seatbelt law to motorcoach passengers (MA S.2611); MassDOT and MassDPU adoption pathways for the Plotnikov team's Sit-Click-Ride Challenge campaign and motorcoach regulatory brochure; CTDOT and MassDOT engagement on connected-vehicle and transit-signal research; the December 2025 16-agency cyber-informed-engineering TTX with state DOTs and regional planning agencies; and Daniel Baker's recognition as the 2025 UTC Student of the Year for explainable-AI work in autonomous driving. Together, these impacts support safer travel, better integration of multiple

transportation modes, and strategies to reduce conflicts and crashes—contributing to more reliable and effective transportation systems.

5.2 Impact on the adoption of new practices, or instances where research outcomes have led to the initiation of a start-up company

No start-ups have spun out of NEUTC research this period. Adoption-of-practice impacts include the Plotnikov team's MassDPU-bound regulatory brochure and Sit-Click-Ride campaign; the Tefe/NUARI Cyber-Informed Engineering TTX positioned as a transferable framework for MassDOT, NHDOT, and MBTA; and the Christofa team's transition from Center research into externally funded MassDOT, FHWA, and NCHRP follow-on awards.

5.3 What is the impact on the body of scientific knowledge?

Highlighted in Section 1.2.1 and Section 3.1.

5.4 What is the impact on transportation workforce development?

Highlighted in Section 1.2.3.

6 Changes/problems

6.1 Changes in approach and reasons for change

NEUTC continues to ensure all activities comply with the recent series of Executive Orders and Secretarial Memoranda relating to transportation. One personnel transition: Dr. Jacob Van Den Berg (Norwich Psychology) assumed the role of PI for the Healthcare Transportation Access in Rural Vermont project, with Dr. Moses Tefe continuing as co-PI, completing the leadership change initiated by William Lyons' departure.

6.2 Actual or anticipated problems or delays and actions or plans to resolve them

Nothing to report.

6.3 Changes that have a significant impact on expenditures

Nothing to report.

6.4 Significant changes in use or care of human subjects, vertebrate animals, and/or biohazards

Nothing to report.

6.5 Change of primary performance site location from that originally proposed

Nothing to report.

7 Special Reporting Requirements

N/A