Sustainable Transportation and Transit Workforce Development Strategies: Education and Technology Transfer (Prototyping and Testing Phase)

Recipient/Grant (Contract) Number: University of New Orleans; University of Florida/69A3552348337

Center Name: Center for Transit Oriented Communities (CETOC)

Research Priority: Preserving the Environment

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Project Partners: Gainesville Regional Transit System

Project Funding: $70,000 (USDOT) + $35,000 (matching funds) = $105,000

Project Start and End Date: 10/1/2024 – 5/31/2026 (Phase 2)

Project Description: Improving the development of sustainable transportation and public transit systems requires a well-trained and well-staffed workforce who is skilled in emerging technologies such as artificial intelligence (AI) and data science and has a deep understanding of pressing societal issues. To support workforce development in sustainable transportation and public transit, there must be continued efforts to recruit, retain, and educate current and future workers in these fields. These efforts should target both students at various levels and transportation professionals who are working in related domains. This three-year effort proposes a comprehensive approach to enhance the workforce development in sustainable transportation and public transit. By focusing on education and technology transfer, we aim to equip transportation professionals with the skills needed to address emerging challenges. The three-year effort consists of three inter-connected thrusts: 1) leveraging research findings from CETOC to refine the public transit curriculum at partnering institutions; 2) organizing a "leadership in sustainable transportation and public transit" lecture series, including both in-person seminars and online webinars; and 3) developing a platform that tracks and monitors the operational performance and service reliability of selected transit systems (e.g., Gainesville Regional Transit System), which can facilitate the implementation of CETOC research to inform public transit planning and operational decisions. Through a phased approach involving planning, prototyping and testing, and evaluation and refinement, the research team proposes to accomplish this three-year effort by initiating the prototyping and testing phase based on the results and findings from the planning phase. This year's project includes four key tasks, i.e., 1) public transit curriculum development and publication, 2) lecture series organization, 3) prototyping of the real-time transit management platform and seeking feedback from local stakeholders, and 4) support for undergraduate and graduate students at the University of Florida (UF) to present CETOC research in the 2025 TRB Annual Meeting. These tasks seek to provide training, resources, and opportunities for the transportation workforce while also offering practical tools and technologies for public transit planning, operations, and decision-making. Overall, this project

represents a targeted effort to promote workforce development and advance the sustainability and efficiency of next-generation public transit systems in the U.S.

USDOT Priorities: *Economic Strength and Global Competitiveness*, *Transformation*, and *Organizational Excellence*, including workforce development, data-driven programs and policies, expanding access, global economic leadership, matching research and policy to advance breakthroughs, collaboration and competitiveness, and flexibility and adaptability.

Outputs: 1) Public transit curriculum and course material publication on CETOC website 2) Recordings of the lecture series (to be shared on CETOC YouTube Channel) 3) A prototype of the real-time transit management platform by using Gainesville Regional Transit System as a case study 4) A white paper and tutorial for the real-time transit management platform 5) Multiple TRB presentations and publications led by UF students 6) Quarterly reports and a final report

Outcomes/Impacts: This project will provide training, resources, and opportunities to cultivate a competitive workforce in sustainable transportation and public transit. The refined public transit curricula, enriched by insights gleaned from cutting-edge research, will empower transportation professionals with enhanced skills and knowledge, thereby fostering a more adept and responsive workforce. The lecture series will serve as a dynamic forum for knowledge exchange and collaboration, nurturing a community of practice committed to driving innovation and addressing societal challenges within the sustainable transportation and public transit sector. Supporting students to attend the TRB Annual Meeting will not only enrich their educational experience but also foster future leaders in transportation research, innovation, and policy, contributing to a more robust and dynamic transportation workforce. Moreover, the development and implementation of the real-time transit management platform represent a paradigm shift in transit planning and operations, offering stakeholders new insights into system performance, and enabling data-driven decision-making in real-time. By enhancing reliability and efficiency while concurrently reducing costs, this platform promises to elevate the overall quality and effectiveness of public transit systems. Furthermore, by fostering workforce development and informing policy decisions, these outputs will contribute to a more resilient and sustainable transportation ecosystem, ultimately benefiting communities and society at large.

Final Report: (Link to be provided after project completion).