Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
Project Title	Robust Routing, Assignment, and Simulation of Transit Systems
University	The University of Connecticut
Principal Investigator	Nicholas Lownes
PI Contact Information	(860)-486-2717 / nicholas.lownes@uconn.edu
Funding Sources and Amount Provided (by each agency or organization)	The University of North Carolina at Charlotte: $95,000
Total Project Cost	$95,000
Agency ID or Contract Number	
Start and End Dates	01/20/2017 – 09/30/2018
Brief Description of Research Project	Transit system complexity is a function not just of the infrastructure but is strongly tied to user behavior, which is driven by perception of the quality of service (in experiencing waiting, transfers, and travel time variability), which is not always an accurate reflection of the true quality of service. The variability and inconsistency (with reality) of these perceptions can be captured in part by correlating the multiple data sources, observing travel patterns and modeling user behavior under uncertainty. The effect of service reliability and accessibility will be investigated toward development of route choice, stop choice, and departure time choice models. Stochastic multimodal network and user

	behavior models will be leveraged toward the development of routing, assignment, and simulation models for ridership estimation and performance analysis. Robust analysis tools will be developed that take into account system characteristics that are a function of the performance of the auto network, models passenger flow in the network under stochastic rules and predicts system wide travel patterns. Such models will enhance decisions made by transit agencies when allocating resources toward additional capacity, schedule updates, and stop/station location in the long term; and stop skipping, rerouting, and vehicle holding as real-time operational decision.
Describe Implementation of Research Outcomes (or why not implemented) *Place Any Photos Here*	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links • *Reports* • *Project website*	https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2017-UTC-Project-Information-06-Lownes.pdf https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2017-UTC-Project-Report-06-Lownes-Final.pdf