

UTC Project Information	
Project Title	Data Fusion for Signalized Arterial Performance Measurement (Project N2)
University	North Carolina State University
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Funding Source(s) and Amounts Provided (by each agency or organization)	STRIDE: \$70,000 NCDOT: \$70,000
Total Project Cost	\$70,000
Agency ID or Contract Number	69A3551747104
Start and End Dates	August 1, 2018 – January 31, 2020
Brief Description of Research Project	According to the Federal Highway Administration, there are more than 330,000 traffic signals in the US (EDC-4 ATSPM Report). Over 75% of these signals could be improved by updating their equipment or timing plans (FHWA-HRT-05-002). Poor traffic signal timing accounts for nearly 300 million vehicle-hours of delay on major roadways alone (TTI Urban Mobility Report). Traditional maintenance and operations methods rely on local knowledge, driver feedback/complaints, and long-range planning with more recent applications incorporating performance-based management. However, as agencies access more and more data sources for performance measurement, there is difficulty in ensuring each source is appropriately utilized. Agencies must consider cost, availability, accuracy and accessibility of data sources and often are not fully informed of most factors aside from a cost estimate when deciding which data to use. This project will review these data sources including ATSPM, connected and instrumented vehicles, commercial probe data and Bluetooth/WiFi data and develop a framework in which combined performance measures can be created through data fusion. These measures will be validated using simulation and

	NGSIM datasets and summarized for use by local and state agencies with various data sources available.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	Not available. Research is in progress.
Impacts/Benefits of Implementation (actual, not anticipated)	Not available. Research is in progress.
Web Links <ul style="list-style-type: none">• Reports• Project website	https://stride.ce.ufl.edu/project-n2/