Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
Project Title	Short Term Intersection Traffic Flow Forecasting
University	Texas Southern University
Principal Investigator	Yi Qi, Mehdi Azimi and Qun Zhao
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Funding Sources and Amount Provided (by each agency or organization)	The University of North Carolina at Charlotte: $55,983 Texas Southern University: $27,351
Total Project Cost	$83,334
Agency ID or Contract Number	
Start and End Dates	10/01/2020 – 09/30/2022
Brief Description of Research Project	Although there are many tools and online services, such as Google Maps, that can show drivers the roadway traffic conditions in real-time, it's often too late given that drivers may well be approaching the bottlenecks already. Being able to accurately predict traffic congestions in about a half-hour advance is very critical for advanced trip planning and traffic management. To address this problem, this study is to develop a model that can accurately forecast the traffic conditions at a signalized intersection up to a half-hour in advance. To achieve this goal, existing methods for intersection traffic flow forecasting will be reviewed and synthesized. Cycle by cycle traffic data will be collected from a real-world signalized intersection for model development and evaluation. New models for short term

	intersection traffic flow forecasting will be developed with different data mining methods. The performance of the developed models will be evaluated based on the collected traffic data, and the one with the best performance will be selected. The developed model can be used for advanced trip planning and traffic management. For example, it can help the freight and logistic companies to better plan their truck dispatching schedules and routes, thereby reduce their operation cost caused by traffic congestion.
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-2021-UTC-Project-Information-08-Qi.pdf https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2021-UTC-Project-Report-08-Qi-Final.pdf