

## Research Project Descriptions

UTC Project Information	
Project Title	Incorporation of Speed/Travel-time Data Sets in Traffic Performance Analysis
University	University of Oklahoma (OU) Oklahoma State University (OSU)
Principal Investigator	PI: Hazem Refai (OU) Co-PI: Samir Ahmed (OSU)
PI Contact Information	hazem@ou.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	Oklahoma Department of Transportation
Total Project Cost	\$199,907
Agency ID or Contract Number	DTRT13-G-UTC36 OU Subaward # SPTC 15.2-08
Start and End Dates	1/1/2016 – 6/30/2018
Brief Description of Research Project	<p><b>PROBLEM:</b> The increase in just-in-time manufacturing processes and complex supply chain networks highlights the value of travel time reliability to businesses, as well as commuters and personal travel. An increasing emphasis on customer-based performance metrics makes network and travel time reliability essential measures for rating transportation agency performance and determining the effectiveness of mitigating roadway congestion and transportation delays. State DOTs have recently been required to deliver high-quality travel-time data that translates into 90% availability at 85% data accuracy. Such stringent timelines, data availability assurances, and high data accuracy requisites imply that states must implement multi-technology, fault-tolerant systems with redundant components, and that check points must be designed to distinguish between normal and abnormal traffic conditions either due to actual weather/roadway incidents or as a consequence of system sensor failures or actual weather/roadway incidents.</p> <p><b>PROPOSED SOLUTION:</b> This project will develop a Travel Time Reliability Monitoring System (TTRMS) composed of Bluetooth identification devices strategically placed on interstate highways coupled with analytical models and software algorithms designed to evaluate the quality of real-time collected data while improving system responsiveness and reliability.</p>
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	
Impacts/Benefits of	

Implementation (actual, not anticipated)	
Web Links <ul style="list-style-type: none"><li>• Reports</li><li>• Project website</li></ul>	