



<b>UTC Project Information</b>	
Project Title	Improving the efficiency of trucks via CV2X connectivity on highways
University	University of Michigan
Principal Investigator	Professor Gabor Orosz
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Funding Source(s) and Amounts Provided (by each agency or organization)	\$400,000 provided by CCAT
Total Project Cost	\$500,000
Agency ID or Contract Number	69A3551747105
Start and End Dates	May 1, 2020 – April 30, 2022
Brief Abstract of Research Project	We will deploy a connected smart infrastructure (CSI) on a highway in order to collect and aggregate traffic information that can be used by heavy duty trucks traveling the corridor to improve their efficiency. The system will consist of a set of road side units which collect traffic data via cellular vehicle-to-everything (CV2X) communication. The heavy duty trucks will utilize the collected data when controlling their longitudinal motion in order to maximize their fuel economy without compromising their travel time.
Most Relevant CCAT Research Thrusts (choose all applicable)	<input checked="" type="checkbox"/> Enabling Technology <input type="checkbox"/> Planning and Policy <input type="checkbox"/> Human Factors <input checked="" type="checkbox"/> Infrastructure Design and Management <input checked="" type="checkbox"/> Control and Operations <input checked="" type="checkbox"/> Modeling and Implementation
Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here	Road side units will be deployed along a 20-mile long section of highway I-275. These will include CV2X units that can monitor the motion of connected vehicles passing by. The information will be transmitted in real time to U of M servers using the cellular network and used for real time traffic forecasting. These forecasts will be communicated to connected heavy-duty trucks via CV2X and the efficiency of the trucks responding to these forecasts will be evaluated experimentally.
Impacts/Benefits of Implementation (actual, not anticipated)	The instrumentation will provide and unprecedented opportunity to monitor and predict traffic. Moreover, we will demonstrate the direct benefit of such information for the fuel economy of heavy duty trucks.
Web Links <ul style="list-style-type: none"> <li>• Reports</li> <li>• Project website</li> </ul>	ccat.umtri.umich.edu