

<b>UTC Project Information</b>	
Project Title	MPC-644 – Crash Modeling of High-Profile Moving Vehicles under Strong Crosswinds Based on Computational Fluid Dynamics
University	Colorado State University
Principal Investigator	Karan Venayagamoorthy Suren Chen
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Funding Source(s) and Amounts Provided (by each agency or organization)	<p>USDOT, Office of the Assistant Secretary for Research and Technology \$60,000</p> <p>Colorado State University \$63,000</p>
Total Project Cost	\$123,000
Agency ID or Contract Number	69A3551747108
Start and End Dates	November 11, 2020 to July 31, 2022
Brief Description of Research Project	<p>The overall goal of this research project is to provide new insights and develop preliminary guidelines on improved vehicular safety performances under strong crosswind conditions. The main thrust is on investigating the variability in modeling wind loads on high-profile moving vehicles under different scenarios involving turbulent wind forcing conditions interacting with highway infrastructure (bridges, embankments, cuttings etc.) and adjacent vehicles. To do this in an effective manner, we propose an integrated study comprising of: (i) a comprehensive literature review of the state-of-the-art for modeling wind loads on moving vehicles and crash simulation under high crosswinds; (ii) novel preliminary Computational Fluid Dynamics (CFD) simulations to explore feasibility to model the wind loads on moving vehicles under different scenarios and (iii) provide preliminary modeling of single vehicle crash occurrence based on the modeled wind loads from CFD.</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>	