

<b>UTC Project Information</b>	
Project Title	Assessment of Work Zone Pre-crash Scenarios Using Crowdsourced Data
University	TAMU/TTI
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PI Contact Information	b-dadashova@tti.tamu.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	TTI- 39,100
Total Project Cost	\$39,100
Agency ID or Contract Number	Grant No: 69A3551747115 Project: TTI-Student-07
Start and End Dates	08/20/2020 – 05/15/2021
Brief Description of Research Project	<p>Work zones are one of the hot spots with an increased risk of crashes. Work zones require that drivers temporarily change their travel path and travel lanes, which can increase the crash probability if the drivers are engaged in distracted behaviors and are not able to see the warning signals and pavement markings. In recent years, the diffusion of emerging technologies facilitated collecting high-quality data from vehicles that provide the safety researchers with the opportunity to explore the sequence of events leading to crashes, as driver behavior. Identifying dangerous scenarios to prevent their occurrence is a problem at the very core of intelligent transportation systems (ITS) research. Nowadays, vehicles can easily be equipped with not only the standard telematics sensors, such as accelerometers and gyroscopes, but also video cameras such as dashcams that can help to detect the unsafe situations that lead to traffic crashes. The problem of the crash and near-crash event identification calls for the detection and classification of the driving events using vehicle data collected from onboard devices. The objective of this study is to explore the potential of dashcam data for conducting pre-crash scenario analysis for work zones. In this project, the research team will identify unsafe driving events at work zones from videos collected by Nexar’s front-facing dashboard camera (dashcam) and trajectory data. The results of this project could be used for developing automated driving systems (ADS) and automated driver assistance systems (ADAS) to improve the safety at work zones.</p>

<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	<p>The methods developed in this project can be potentially used by transportation agencies to detect pavement damages in a cost-effective way, without implementing manual labor and collecting image data with specialized equipment. By detecting the pavement damage from the widely-used dashcam images, the transportation agencies can improve the roadway condition hence improving the overall safety and driver comfort.</p>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<p>No actual implementation practice to report.</p>
<p>Web Links</p> <ul style="list-style-type: none"><li>• Reports</li><li>• Project website</li></ul>	<p><a href="https://safed.vtti.vt.edu/projects/detecting-pavement-distresses-using-crowdsourced-dashcam-camera-images-2-2/">https://safed.vtti.vt.edu/projects/detecting-pavement-distresses-using-crowdsourced-dashcam-camera-images-2-2/</a></p>