

<b>UTC Project Information</b>	
Project Title	Developing an Intelligent Transportation Management Center (ITMC) with a Safety Evaluation Focus for Smart Cities
University	San Diego State University (lead); Virginia Tech/VTTI
Principal Investigator	Arash Jahangiri
PI Contact Information	Email: <a href="mailto:AJahangiri@sdsu.edu">AJahangiri@sdsu.edu</a> Phone: (540) 200 - 7561
Funding Source(s) and Amounts Provided (by each agency or organization)	Safe-D (Federal): \$ 211,243 SDSU faculty In-Kind and Startup (Non-Federal): \$ 189,532 City of Chula Vista In-Kind: To be estimated
Total Project Cost	\$ 400, 775
Agency ID or Contract Number	Grant No: 69A3551747115 Project: 04-110
Start and End Dates	04/01/2019 – 06/30/2021
Brief Description of Research Project	The goal of the proposed project is to develop an intelligent transportation management center (ITMC) that adopts automated video data analysis to evaluate safety. The proposed ITMC demonstrates how intelligent transportation systems (ITS) technologies and big data analytics can be utilized to proactively assess transportation safety at signalized intersections.
Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here	<ol style="list-style-type: none"> <li>1) The final project outcomes including the final project report and all data sets used/developed in this project according to the project timeline. The following project tasks will be conducted: <ul style="list-style-type: none"> <li>• Literature review</li> <li>• Collaboration development</li> <li>• ITMC System architecture development</li> <li>• Safety monitoring system development</li> </ul> </li> <li>2) The education and workforce development plan include: <ul style="list-style-type: none"> <li>• Developing course materials for a new graduate course at Civil, Construction, and Environmental Engineering department entitled “Intelligent Transportation Systems”, and a new 500-level course at Electrical and Computer Engineering department entitled “Accelerated Computing”.</li> <li>• Reaching out to agencies local to SDSU (e.g. City of Chula Vista) to create opportunities for practitioners to learn about potential applications and tools that can be developed by utilizing the ITMC.</li> </ul> </li> </ol>

	<ul style="list-style-type: none"> <li>• Providing funding for two graduate/undergraduate students at SDSU.</li> </ul> <p>3) The technology transfer plan includes:</p> <ul style="list-style-type: none"> <li>• Developing the intelligent transportation management center (ITMC) test bed</li> <li>• Developing video demonstrations for object detection and tracking</li> <li>• Developing video demonstrations for proactive safety analysis</li> <li>• Publishing multiple journal/conference papers</li> </ul>
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	<ul style="list-style-type: none"> <li>• The proposed ITMC provides a testbed for researchers, students, and practitioners (e.g., Cities, MPOs, DOTs) to collaborate and work towards solutions for our current and future transportation problems through disruptive technologies. Specifically, consumers of the end result can proactively evaluate safety at signalized intersections by analyzing video data collected in short periods of time.</li> <li>• Researchers and practitioners can utilize the proposed ITMC to conduct before and after studies to measure the benefits of safety countermeasures.</li> <li>• While the focus of ITMC in this project is safety analysis, it is anticipated that the ITMC test bed will be used for other transportation applications such as improving mobility and lessening environmental impacts of transportation.</li> <li>• Students involved with the project will have the opportunity to become proficient in using the latest tools and technologies to analyze video data and proactively assess safety through safety surrogate measures.</li> </ul>
<p>Web Links</p> <ul style="list-style-type: none"> <li>• Reports</li> <li>• Project website</li> </ul>	<p><a href="https://www.vtti.vt.edu/utc/safe-d/index.php/projects/developing-an-intelligent-transportation-management-center-itmc-with-a-safety-evaluation-focus-for-smart-cities/">https://www.vtti.vt.edu/utc/safe-d/index.php/projects/developing-an-intelligent-transportation-management-center-itmc-with-a-safety-evaluation-focus-for-smart-cities/</a></p>