



Research Project Statement 24-172 FY 2024 Annual Program

Title:	Identification of Needs and Strategies for First Responder Interactions with Automated Vehicles (AVs)
The Problem:	Vehicles with automated functions are increasing in number on Texas roadways. Several companies are in the process of testing or will soon deploy demonstrations of Level 4 automated vehicles (AVs) within the state, with no notification requirements. While safety goals are aimed at minimizing the number of adverse incidents that occur, it is inevitable that a crash or other adverse operations will happen. TxDOT's Highway Emergency Response Operator (HERO) program is part of the front line that needs to be prepared to encounter an AV along with other law enforcement and first responders. This project will identify needs and strategies for TxDOT's HERO program and other first responders to understand how these vehicles operate, how to safely approach and disable these vehicles as needed during routine interactions, and how to interact with AVs during an adverse event.
Technical Objectives:	<p>This research will develop increased knowledge of AV operations, safety cases, and testing activities through the creation of a central repository for AV interaction plans and enhancement of collaboration between Texas Department of Public Safety, TxDOT, and AV developers.</p> <p>To meet the objectives of this project, the research team shall:</p> <ul style="list-style-type: none"> • Conduct a literature review of current international, national, and state initiatives to increase first responder knowledge base of AV operations and safe interactions. • Establish an assessment of Texas policies and needs regarding first responder awareness of automated vehicle activities. • Conduct a series of roundtable discussions with TxDOT, other state agencies, first responders, and AV developers to identify areas of concern and increase collaboration. • Develop a catalog of scenarios for first responder interactions with AVs, including practices for routine and emergency situations. • Create a catalog of AV interaction plans. <p>The expected technology readiness level (TRL) for this project is 6.</p>
Anticipated Deliverables:	<ol style="list-style-type: none"> 1. Technical memorandum for each activity completed. 2. Monthly progress reports. 3. Value of Research (VoR) that includes both qualitative and economic benefits, to be included in the final research report. This is not a stand-alone deliverable. 4. Product P1: First Responder Interaction Guide 5. Research report documenting the findings of the research, including recommendations and best practices regarding first responder interactions with AVs. 6. Project Summary Report
Proposal Requirements:	<ol style="list-style-type: none"> 1. Proposal Deadline: 12:00 p.m. Central Time, Monday, March 6, 2023. 2. RFP#1 Q&A Deadline: 12:00 p.m. Central Time, Wednesday, February 1, 2023. 3. Use the current "ProjAgre" and "PA Forms" templates located at the RTI Forms webpage. 4. Proposals will be considered non-responsive and will not be accepted for technical evaluation if they are not received by the deadline or do not meet the requirements stated in RTI's University Handbook. 5. Proposals should be submitted in PDF format; (1) PDF file per proposal. File name should include project name and university abbreviation. 6. This project will be tracked during the life of the project using the Technology Readiness Level (TRL) scale. 7. The 2021 Texas Legislative Session requires that universities be in compliance with Senate Bill 475 by submitting a completed and signed TxDOT Security Questionnaire (TSQ) to RTIMAIN@txdot.gov in advance of a proposal submission. Universities found to not submit a completed and signed TSQ in advance of proposal submitting will be held in non-compliance and unable to participate in the Program.