

PROJECT SUMMARY REPORT

0-7199: Identification of Needs and Strategies for First Responder Interactions with Automated Vehicles

Background

The rapid deployment of automated vehicles (AVs) presents both opportunities and challenges, especially for first responders tasked with ensuring public safety during emergencies. This project addressed critical needs and strategies for interactions between first responders and AVs. The project sought to identify the needs and strategies for Texas first responders to understand how AVs operate; how to safely approach and disable these vehicles, if needed, during routine and adverse incident interactions; and how to interact with AVs during an incident or emergency.

What the Researchers Did

The research team conducted a literature review and stakeholder interviews to identify critical issues and assess policy needs. To further identify issues, the team organized a well-attended two-day summit of representatives from the AV industry; first responder organizations; federal, state, and local governments; regulatory agencies; traffic incident management organizations; and other key stakeholder groups. The research team then compiled a catalog of scenarios and best practices based on information gathered during the summit, literature, and policy reviews. The team also evaluated first responder/law enforcement interaction plans provided by AV companies. Using this information, the team developed first responder procedures for each scenario by adapting existing procedures to include AV-related considerations. After a series of internal and external reviews, the team developed the *Texas First Responder Guide for Interactions with Automated Vehicles (AVs)* (Figure 1) and the *Texas Automated Vehicle Recognition Guide for First Responders* for the Texas Department of Transportation (TxDOT) to distribute to first responders. Additionally, the team developed the *Texas Automated Vehicle Operator Contact Sheet* of known Texas AV operators, provided to TxDOT for limited distribution to first responder organizations. Finally, the project team prepared a final report of the project documenting the project and its findings.

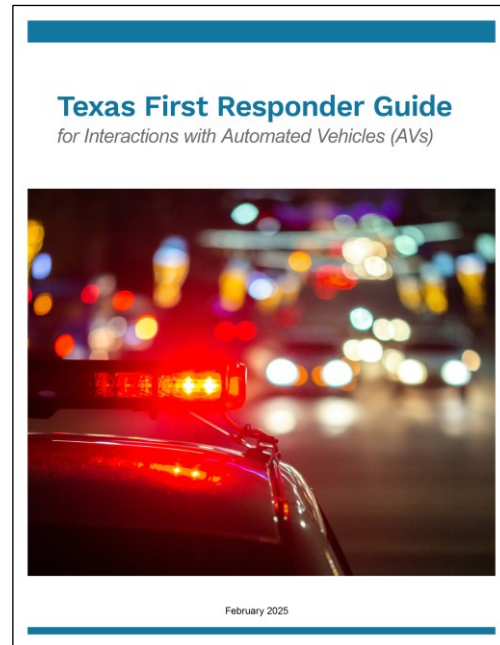


Figure 1.
Cover of the
*Texas First
Responder
Guide for
Interactions
with
Automated
Vehicles
(AVs)*.

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Project Completed:

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What They Found

Many first responders struggle to identify AVs, and many are unaware of SAE Automation Levels 1–5 used by the industry, which leads to misunderstandings about capability and errors in crash reporting. Consumers operating SAE Level 2 or Level 2+ advanced driver assistance system vehicles can also overestimate the abilities of the vehicle, leading to roadway incidents. States and communities benefit by creating formal communication channels with AV companies through organized task forces. Establishing a standardized public reporting system for AV-related incidents and statewide incident data tracking can provide states and communities with the situational awareness to identify issues to address with AV operators.

The primary response for first responders to any scenario involving an AV is to assess the situation, recognize the vehicle as an AV, and contact the vehicle's operator. However, several operators in Texas were unresponsive to the project team's requests for information. Limited accessibility to some AV operators poses a challenge, particularly when first responders need to coordinate training, consult with the operator on vehicle operational design domain modifications, or seek emergency assistance.

First responders favor standardized, certified AV training and procedures over company-specific approaches. First responders also seek clear autonomy status indicators, such as external autonomy-engaged lights, and a manual override function. While Texas currently does not require first responder/law enforcement interaction plans, several AV operators proactively develop and distribute them to communities where they operate.

What This Means

First responders can use the guides developed during this project to improve AV incident response and increase first responder and public safety immediately because these guides are the first of their kind. The *Texas First Responder*

Guide for Interactions with Automated Vehicles provides a structured approach for handling AV-related incidents, ensuring safety and efficiency (Figure 2 shows one of the graphics featured). The *Texas Automated Vehicle Recognition Guide for First Responders* offers a visual reference to help responders quickly identify AVs operating in Texas. Additionally, the *Texas Automated Vehicle Operator Contact Sheet* centralizes emergency and non-emergency contact information for AV companies currently known to operate in Texas. However, the changing nature of the AV industry will require future updates to these guides and contact lists to remain relevant and useful. Similarly, distribution of the guide to responders and the incorporation of the developed materials into training and first responder certification programs will require additional coordination and periodic review/improvement based on experience.

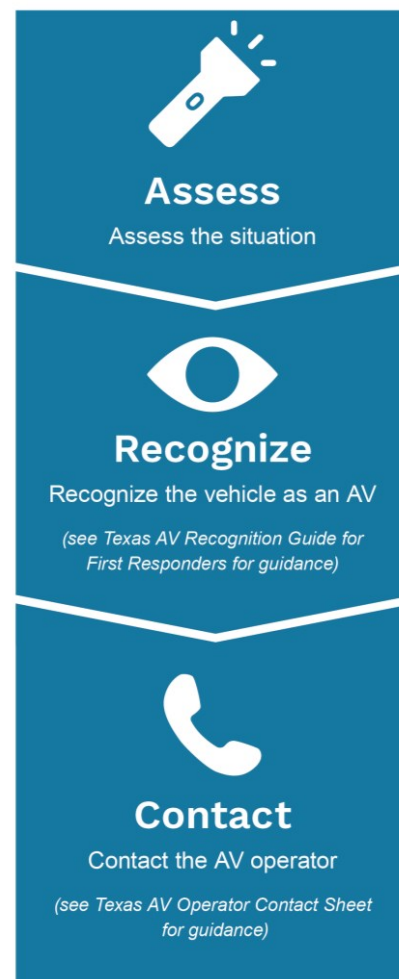


Figure 2. The Assess, Recognize, Contact Graphic as Shown in the *Texas First Responder Guide for Interactions with Automated Vehicles (AVs)*.

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