Tort Liability for TxDOT from C/AV Technologies

RTI Project 0-7130

August 29, 2023 // v3

CONNECTED AND AUTONOMOUS VEHICLES

The Opportunity

Connected and autonomous vehicles (C/AV) present the opportunity for momentous and positive changes to most aspects of modern life. When described, the impact to mobility is imagined as safer and more efficient. This comes from the chance to build a self-driving and connected network of vehicles, infrastructure, and supporting data exchanges.

KEY QUESTIONS

- What is the role of State DOTs?
- What liabilities does the operation of C/AVs on public roads present for state DOTs, if any?
- How can any identified liabilities be avoided or mitigated?

Source: Stantec

C/AVs present different use cases that need to be considered

CONNECTED AND AUTONOMOUS VEHICLES

The Law

These technologies may also necessitate changes in the law, particularly when discussing "highly" autonomous vehicles with little to no need for a human operator.

The still-evolving technology and use cases contribute to legal uncertainty due to grey areas around laws developed with human drivers in mind.

The Risks

Questions of liability dominate conversations about how to manage new mobility paradigms like C/AVs, including in areas of tort liability.

Although Texas governmental entities typically enjoy some level of sovereign immunity, the Texas Tort Claims Act (TTCA) expressly identifies areas where government agencies have waived that immunity, and can have limited liability for specific torts.

Because C/AV technologies were not contemplated when laws providing immunity were enacted, there are grey areas around whether existing protections for governmental entities apply without updates to those protections.

THE WHY AND WHAT

Focus and Approach

As a leader in seeking to promote the safe and transformational deployment of C/AV technologies, TxDOT developed and issued for research proposals one of the first C/AV research projects focused on liability issues from the state DOT perspective.

The research team, consisting of the Texas A&M Transportation Institute (TTI) and Stantec, embarked on a 24-month project consisting of the following research tasks to identify potential tort liability for TxDOT from the deployment of C/AV technologies.

The full report can be found here: https://tti.tamu.edu/documents/0-7130-R1.pdf.

Literature Review

Stakeholder Interviews

State and Federal Law Analysis

Use Case Analysis

Peer Symposium

Web-Based Tool

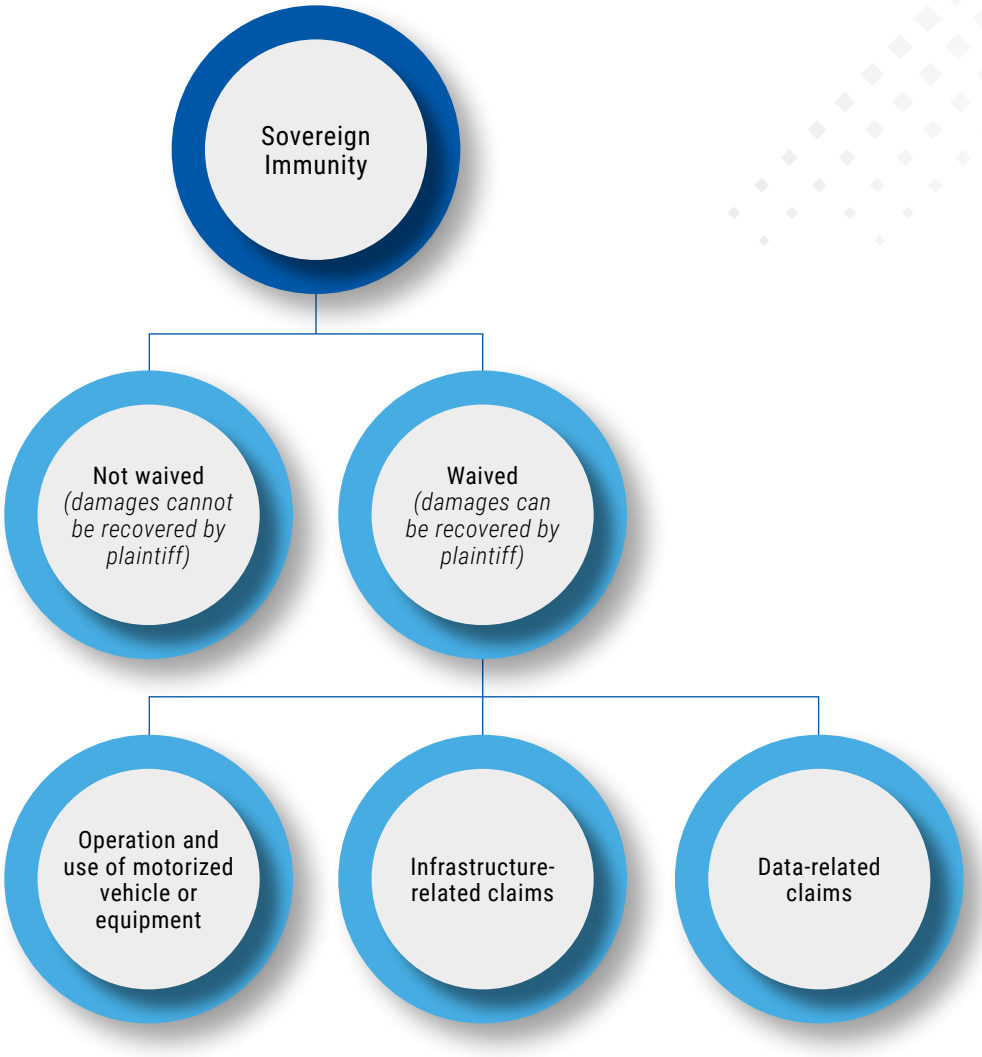
A MAJOR THEME

Sovereign Immunity

A common theme in performing all of the use case analyses was the need to first ask the threshold question of whether TxDOT waived its sovereign immunity. This stems from the basis that a majority of the analyses involved the Texas Tort Claims Act, which narrowly limits liability for governmental agencies like TxDOT to claims where an intentional or negligent act of an employee proximately causes property damage, injury, or fatality.

For those instances where TxDOT was determined to have waived sovereign immunity, the waiver was based on an employee's operation and use of a motor vehicle or motorized equipment, dangers presented by infrastructure or data (e.g., condition or use of property; premises defects; special defects; traffic signs, signals, and warning devices), or both.

An example of a gray area in the law is how the potential remote operation of C/AVs by a TxDOT employee is analyzed within the sovereign immunity context.



Tex. Civ. Prac. & Rem. Code Ann. §§ 101.001 et seq.; Tex. Civ. Prac. & Rem. Code Ann. §§ 101.051 et seq

Literature Review

Question

How have states and other governmental entities addressed or responded to issues of tort liability from C/AV technologies?

Approach

The research team reviewed 45 guidance, policy, research, and legal documents. These documents included legally focused papers, statutes, and case law. The goal of the review was to identify which tort liabilities may arise for state DOTs and local governments within the context of C/AV operations, and any mitigation techniques those entities undertook. Areas of investigation included:

- Sovereign Immunity
- Federal Preemption/Supremacy Clause
- Design Immunity
- Data Management, Security and Privacy
- Notice Regarding Infrastructure Conditions
- Vehicle Safety Certification
- Insurance

Key Findings

The literature reviewed focuses on the issue of tort liability as it relates to vehicle or component manufacturers, suppliers, and sellers (i.e., product liability), in addition to the ability of third parties to recover from insured drivers and manufacturers of C/AVs. Few sources included discussions about the liability of state DOTs or other public regulators, specifically, with regard to C/AV deployments. The existing literature also lacks insights into issues related to proprietary data sharing and potential notice from C/AVs around infrastructure deficiencies, such as potholes.

Additional Takeaways

- State products liability law should continue to govern tort liability matters for defective design, manufacture, and instruction.
- States should retain their authority over human driver licensing, vehicle registration, traffic laws, and enforcement.
- Until the National Highway Traffic Safety Administration issues new Federal Motor Vehicle Safety Standards for C/AVs, these technologies will continue to blur the clear lines that now exist between state and federal legal authority over the safety of vehicles.
- States should strongly consider legally defining and investing resources in legal teams to proactively address new questions of law that do not fit neatly into existing legal frameworks, including tort law and existing immunities.
- Case law concerning tort liability for state DOTs involving C/AVs is scarce, but is anticipated to increase as more C/AVs are deployed onto public roads.

Stakeholder Interviews

Question

Since C/AVs are only now beginning to operate on a scaled basis, how may questions of existing immunities for public agencies be interpreted, especially around vehicle operator liability, data ownership and privacy, and the state's duty to cure a traffic, road, or other infrastructural condition or defect, particularly upon receiving notice of a potential defect?

Approach

The research team conducted interviews with 14 practitioners in transportation, with backgrounds in law, industry, research, planning, and engineering.

Key Findings

Compared to other states, Texas enjoys significant protection from tort liability through its sovereign immunity laws. Deployment of C/AV technologies should not effect the state's immunity, especially since private operators are not seeking special infrastructural accommodations for C/AV vehicles at this point in time. New interpretations of liability could arise around a state's management of data in areas of data protection, data privacy, and data ownership.

Additional Takeaways

- Due to open records laws, private companies are and will continue to be wary of partnering with governmental entities unless they formalize mechanisms to protect certain proprietary, confidential, or trade secrets information from disclosure.
- C/AVs will potentially give rise to more data regarding infrastructure conditions and defects than governmental entities currently manage, so agencies may need to consider data management and response policies and procedures, and may need to seek out additional legislative protections under sovereign immunity laws.
- State DOTs and local governments should anticipate receiving more, but also better information about roadway conditions that will help prioritize repair work more efficiently.
- Transportation agencies that provide data or products that C/AV manufacturers can obtain and use may need to provide a user agreement or a warning that clearly states that the information may not be accurate or may be limited in other ways to reduce potential liability.
- Lawsuits involving C/AVs will likely be tried under products liability theories and lead to a long evolution in case law. In most states, products liability and rules of the road are handled similarly, but differ with respect to caps on economic damages.

State and Federal Law Analysis

Questions

- Has Texas or federal law addressed the liability issues identified in prior tasks?
- How does tort limitation affect TxDOT's efforts in deployments of C/AV technologies?
- How do TxDOT and local government entities position themselves to address increased liability concerns?
- What can be learned from existing laws that may indicate what liability TxDOT and local jurisdictions might have?

Approach

The research team conducted this analysis by first searching Texas statutory codes and case law, as well as federal legislation and case law. Analyses of state and federal law fall into five major areas:

- Federal and state roles
- Tort liability and immunity
- Data collection and management
- Notice of infrastructure conditions
- Products liability

Key Findings

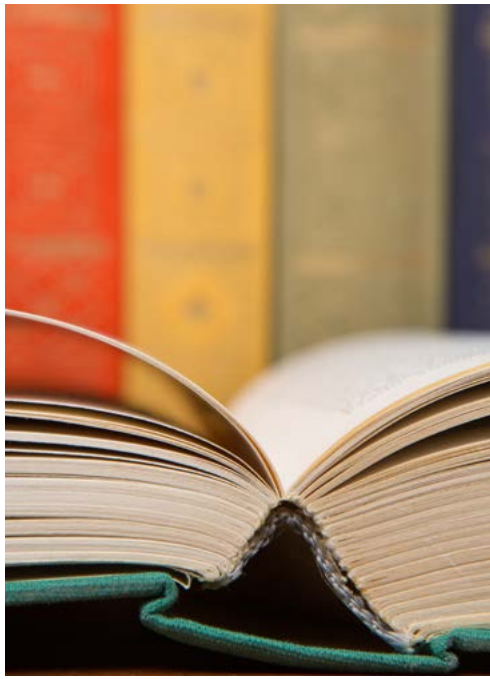
- State law: The TTCA narrowly limits liability for governmental agencies like TxDOT to claims where, unless waived, an intentional or negligent act of an employee arising from the operation of a motor vehicle or motor vehicle equipment proximately caused damage to property or human injury or fatality. In other words, whether the facts comprising the claim also involved data, C/AVs, roadway or traffic signal defects, or the acts of third parties, these threshold elements must be present for liability to attach to a state agency. If they are not, that agency is likely protected by sovereign immunity.
- Federal law: There are currently no federal laws in place around C/AVs; however, legislation and rulemakings directly related to C/AVs are being considered. There is also activity on related issues, including data management and privacy, artificial intelligence, and workforce.

Additional Takeaways

The areas where the law has not been tested or is silent are in three general topics: (a) electronic data, (b) whether FMVSS requirements and recent Texas state law may be in conflict, and (c) whether product-related injuries may expose the agency to tort liability.

Due to the grey areas that currently exist around some aspects of how existing laws and regulations may apply to C/AVs from a torts and liability perspective, coordination within TxDOT for legally focused risk management is recommended for ensuring the safe operation of C/AVs on public roads.

A list of relevant C/AV statutes can be found here: https://tti.tamu.edu/documents/0-7130-P7.xlsx.



Use Case Analyses

Question

What is TxDOT's potential liability in seven near-future use cases arising from the deployment of C/AV technologies? What recommendations are necessary to address any liability concerns arising in these scenarios?

Approach

The research team worked with TxDOT to develop seven use cases that represent specific issues of concern to TxDOT related to C/AV operations, as well as issues that revealed themselves during the early project tasks. These include:

- A C/AV reports icy bridge conditions in real time
- A C/AV cannot read a damaged road sign and crashes
- A maintenance drone causes an invasion of privacy
- Incorrect work zone data delivered to C/AV causes fatality
- Automated TMA in wrong lane crashes into oncoming vehicle
- Data leak from PIA request
- Public transit C/AV crash

Key Findings

Liability was likely to attach to TxDOT if the facts comprising the use case involved government-owned vehicles or equipment; condition or use of property; premises defects; special defects; traffic signs, signals, and warning devices; or the acts of third parties. Otherwise, TxDOT was likely protected by sovereign immunity. In cases where sovereign immunity had been waived, plaintiffs could recover damages from TxDOT if they could prove that the agency breached its duty to users of the roadway. Each use case also presented strategies that TxDOT may consider to address current gaps in the law or mitigate potential liabilities presented by the operation of C/AVs on public roads in the state.

Additional Takeaways

Findings for legislative mitigation strategies mostly consist of ways to amend existing sections of the Texas Civil Practices and Remedies, Transportation, and Local Government Codes to expand or narrow definitions or requirements related to preserving or strengthening TxDOT's sovereign immunity.

Operational mitigation strategy recommendations focus on:

- Data management
- Contracting
- Proactive risk identification and mitigation in coordination with counsel

Peer Symposium

Question
What is the best way to ground-truth project findings with informed peers and build a more robust bank of information on C/AV liability issues through the lens of TxDOT's research questions?

Approach
The research team virtually convened a group of informed practitioners who are involved in the testing and deployment of C/AV technologies. The focus of experience was on practitioners who could speak to the issues of tort liability and from perspectives of public agencies, industry, and academia.

The program consisted of 3 structured panel discussions, group polling, virtual breakout rooms, and discussion in the chat. The event was video-recorded and the recording professionally edited. Portions of the recordings will be available through the web-based tool.

Key Findings
Participants and panelists expressed concerns over a wide range of liability challenges. Safety was the leading issue, followed by multifaceted questions around data use and management, appropriate jurisdiction for enforcement of vehicle laws for C/AV technologies, operational design domains, insurance, and the role of sovereign immunity. There was also a robust chat discussion around infrastructure considerations for connected vehicles.

Additional Takeaways
In considering how the themes of the project to date align with the takeaways from the Peer Symposium, the research team noted the following points:

- Event attendees were largely in agreement with many of the project findings.
- There is an absence of existing case law from which to draw direct analogies because many of the questions around risk, immunity, and C/AVs have yet to be adjudicated.
- Due to laws and regulations still being developed at the federal level, states are on the front lines managing these nascent legal questions.

Because of the role state agencies have found themselves in, communication between local governments, state DOTs, and members of the C/AV industry present opportunity for collaborative risk mitigation.

CONCLUSIONS

State Law

Sovereign Immunity

The TTCA provides sovereign immunity against tort claims for government agencies like TxDOT. That immunity can be waived where an intentional or negligent act of an employee arising from the operation of a motor vehicle or motor vehicle equipment proximately caused damage to property or human injury or fatality. Regardless of whether the facts comprising the claim also involved data, C/AVs, roadway or traffic signal defects, or the acts of third parties, these threshold elements constituting a waiver must be present for liability to attach to a state agency. If they are not, that agency is likely protected by sovereign immunity.

Gaps and Silences in the Law

The research project affirmed that the law has not been tested or is silent in three general areas: (a) electronic data, (b) whether FMVSS requirements and recent Texas state law may be in conflict, and (c) whether product-related injuries may expose the agency to tort liability.

The law is clearer with regard to premises defects, special defects, and traffic signs, signals, warning devices, and other traffic control devices (including lane markings). Liability for these issues is likely similar in an environment with C/AVs in operation as it is in the current environment without C/AVs. Dangerous roadway conditions will still potentially create unreasonable risk of harm to passengers in C/AVs as they do in human-operated vehicles.

CONCLUSIONS

Federal Law

For a variety of reasons, it has been difficult for Congress to act on C/AVs. However, there continue to be rulemakings and requests for comments around C/AVs. The information being gathered by USDOT through such rulemakings will hopefully lead to informed regulatory action that considers the flexibility needed as C/AV technologies continue to mature and use cases evolve. While there are few specific references to C/AVs in federal legislation at this point in time, there are several bills being debated that address issues touching C/AVs. This includes legislation focused on privacy, smart cities, and infrastructure focused on intelligent transportation solutions.

RECOMMENDATIONS

Operational, Legal, and Relational Recommendations

The results of this project's analysis are that there are a number of legislative, operational, and relational mitigation strategies that TxDOT can consider in order to best prepare for managing or mitigating the risks identified around the growing operation of C/AV on Texas roads.

Legislative strategies to mitigate risks mostly consist of ways to amend existing sections of the Texas Civil Practices and Remedies, Transportation, and Local Government Codes to expand or narrow definitions or requirements related to preserving or strengthening TxDOT's sovereign immunity. There are also opportunities to clarify protections for proprietary and confidential information resulting from public and private partnerships, particularly in the pilot projects phase.

Relational strategies to mitigate risks include a number of comments from the Peer Symposium focused on fostering robust collaboration between different levels of government and the C/AV community. This collaboration is needed to understand capabilities and use cases for the technology, supporting public engagement and adoption, and ensuring resources are in place to support changes that may be needed to support full commercial deployment, including investment in data management protocols.

Operational strategies to mitigate risks fall into three main categories:

- Data management strategies address data management protocols for protection of personal information or trade secrets; direct data transfers between the agency and C/AVs; work zone traffic management processes; receiving more but better information about roadway conditions; making data available to OEMs; increased familiarity with C/AV sensor data; provision of notice or warnings to travelers; contractual requirements with vendors for security control.
- Strategies for addressing unmanned vehicles include providing notice to travelers of the presence of inspection drones; evaluating whether closing the sections of roadways where drone inspections are occurring is advisable; and using artificial intelligence software to immediately obfuscate photographic images of people captured by drones.
- Contractual mitigation strategies include eliminating contract provisions that assign a right to control to contractors and define them as employees; including new requirements and clauses to C/AV contracts regarding insurance coverage against all types of C/AV incidents; and considering alternative dispute resolution approaches that ensure matters are being heard by adjudicators that understand the evolving technologies of C/AVs.

FINAL PRODUCT

Web-based Tool

The research team collaborated with TxDOT's IT Division to produce a project web site for internal use. The web site acts as an archive for the technical memoranda produced for each task, the recorded video from Task 6, the Excel spreadsheet used to track the relevant laws to each project topic, and this interactive PDF that TxDOT can use to share externally.

RESEARCH TEAM

TxDOT PMC

Becky Blewett,
Deputy General Counsel, General Counsel Division

Misty Barham,
Associate General Counsel, General Counsel Division

Robert Davis,
Transportation Engineer, Houston District

James Kuhr,
Strategy Portfolio Project Manager, Strategic Planning Division

TTI

William Hwang
Gretchen Stoeltje
Todd Hansen
Tina Geiselbrecht

Stantec

Greg Rodriguez
Priyanshi Shah
Ashley Thompson