



Texas A&M Transportation Institute  
3135 TAMU  
College Station, TX 77843-3135  
979-317-2863  
<http://tti.tamu.edu>

## TECHNICAL MEMORANDUM

### TxDOT IAC – Technical Support to the CAV Task Force

**DATE:** November 5, 2020

**TO:** Zeke Reyna, TxDOT  
Strategic Research Analyst, CAV

**COPY TO:** TTI\_Reports@tti.tamu.edu  
Tim Hein, Research Development Office, TTI  
Ed Seymour, Executive Associate Agency Director, TTI  
Robert Brydia, Senior Research Scientist, TTI

**FROM:** Beverly Kuhn Research Supervisor  
Senior Research Engineer Texas A&M Transportation Institute

**RE:** Safety, Liability, and Responsibility Subcommittee  
October 22, 2020 Meeting Notes

#### Attendees:

Alison Pascale	Audi
Andrea Gold	Texas Innovation Alliance
Beverly Kuhn	Texas A&M Transportation Institute
Brad Schlueter	USAA
Charlie Leal	Governor's Office
Daniel Goff	Kodiak
Darran Anderson	Texas Department of Transportation
Donald Davidson	Volkswagen Group of America
George Villareal	TxDOT Traffic Safety Division
Gerardo Interiano	Aurora
Hannah Barron	Austin Transportation Smart Mobility
Jeff Peterson	First Transit
Jordan (Alex) Payson	Austin Transportation Smart Mobility
Julia Monso	Cintra
Julian Gomez	Julian C. Gomez Law Firm
Kathleen Baireuther	Ford

Kristie Chin	Texas Innovation Alliance
Leighton Yates	Alliance for Automotive Innovation
Mark Worman	Texas Department of Insurance
Michael Moore	UT Transportation Research
Michael Walton	University of Texas Center for Transportation Research
Morgan Avera	University of Texas Center for Transportation Research
Rachelle Celebrezze	Cruise
Rob Braziel	Texas Automobile Dealers Association
Robert Brydia	Texas A&M Transportation Institute
Sam Dreiman	Argo AI
Steven Rundell	Texas Department of Public Safety
Sue Santo	Ike Robotics
Tony Reinhart	Ford Motor Company
Zeke Reyna	Texas Department of Public Safety

**I. Opening Comments/Roll Call – Zeke Reyna, TxDOT**

- Zeke welcomed the group to the 4th Data, Connectivity, Cyber Security, and Privacy Subcommittee meeting.
- Appreciated everyone participating and eager to hear thoughts shared
- Will continue to use Mural today as the meeting is recorded

**II. Chair Welcoming Statements – Steven Rundell, Texas DPS / Michael Walton, The University of Texas at Austin**

- Offer thanks to organizers of meeting and White Paper writers, as well as all committee participants of meetings thus far.
- Grateful for everyone’s active and involved discussion, respect and participation as we listen to all ideas presented.

**III. Review of Task Force Web Site – Bob Brydia, Texas A&M Transportation Institute**

- Want to allow each sub-committee a chance to view and give feedback on the structure and information accessible via our new website developed by TxDOT and TTI which we hope to go live later this month.
- Preview website’s four aspects
  - Activities of the Task Force
    - Information about each Sub-Committee
    - Future home of White Papers
    - Meeting Minutes (notes are kept broad – feel free to review)
  - Public
    - What is CAV?
    - What does it mean for them?
    - What does it mean for Texas?
  - Industry (for those new to Texas)
    - For those coming into Texas who want to start CAV trials
    - How do they do that?
    - How do they get information to start?

- Call out to those who want to share information to enrich others
    - Announcements in Texas
  - Research
    - Map of Deployments Across Texas
    - Agencies involved in doing research (linked)
    - Continually developing resource
- Have FAQ section cross-linked and indexed (continuing to develop/living and active)
- Website is not fully populated yet.
- Please review current website and provide feedback to make this the best it can be
- Please do not share or forward this link.

#### **IV. Review of White Paper Progress and Next Steps**

- Initial Meeting
- Topic Discussion
- Voted on topics
- Developed an Outline
- Received Feedback on Outline
- Draft White Paper
- Under Review: this is where we are today
  - We want to ensure that we get your feedback on the elements that included in the White Paper and how we can refine this document, enduring that it meets the objectives that were set out when we determined this topic
  - On the Mural Board, you will see the main topics of the White Paper (Level 1 Headings)
  - We will start with Introduction, as the front matter is fairly self-explanatory, and the Executive Summary will not be finalized until the rest of content is complete. But, do not feel that if you have a comment, we need to go in order of the headings.
- Opportunities

#### **V. White Paper Draft – Facilitated Discussion**

- Overall document
  - Discussion/Question related to the incorporation of specific standards, like UL4600 into the WP.
    - Putting highly competitive information into the public domain is problematic
    - How do we ensure that this information isn't shared? Fundamental concern.
    - Perhaps just upload the VSSA
    - Concern over the case studies that flow from UL4600
    - Subcommittee expressed concerns that current paper reads as an endorsement of UL 4600.
    - Don't elevate one standard / topic / path over others while the conversations are still going, and this entire discussion is still developing.
- List of Figures
- Acknowledgments

- Disclaimer
- Texas CAV Task Force Charter
- List of Terms and Acronyms
- Executive Summary
  - Paragraph related to incentivizing could be reframed to focus on the desire to develop and deliver business models.
- Introduction
  - Reframing first paragraph as ensuring the AV safety remains paramount
  - 2nd paragraph seems to indicate that we have legislative needs - could be reframed.
- State Safety Standards and Policy Developments
  - Some of the state items are not current. Example PA is in PA 2.0. CA will be dated as well
  - NHTSA is initiating the beginnings of rulemakings by putting out NPRMs on various areas.
  - USDOT IG statement--relevant?
  - IN PA, AV developers can only TEST in PA and NOT deploy due to the state law requiring a driver.
  - in CA, sometimes developers seek disengagements as part of testing. Not a valuable metric.
  - In CA, developers need permissions from the PUC to carry passengers and that at this time, they may not charge for this.
  - Should there be a brief discussion about how standards are developed?
  - In CA, driverless is allowed both under DMS and now PUC decision.
  - Disengagement doesn't mean a vehicle was acting in an unsafe manner. Data is used to look at what the vehicle would have done and largely, it would have acted appropriately, and the driver disengaged due to their comfort level. Leads to validity of this as a metric.
  - Should we detail some of the testing that Texas has attracted.
  - Add international standards organizations into the discussion of this area.
  - Significant concern over including UL 4600 as a singular standard that is listed in this section. Should we include all known standards, or should we strike everything related to an individual standard
    - Currently it is seen as not being equal to all potential standards
    - Detail that safety standards will be developed at the Federal level not at the state level.
    - Look at NHTSA info on what they have for safety standards
  - Let's check on the user of the word waiver related to Nuro. and/or clearly indicate that this comes from NHTSA.
  - Check on usage of the word "Waiver" vs. "Exemption"
    - <https://www.nhtsa.gov/press-releases/nuro-exemption-low-speed-driverless-vehicle>
    - NHTSA Grants Nuro Exemption Petition for Low-Speed Driverless Vehicle
  - Look at line that states impacts related to regulatory approach - make it a more definitive positive and highlight.

- List all then innovators that have come to Texas because of this approach.
- Safety Case Development
  - If left in, Section must convey safety is done at the Federal level.
  - Concurrence from multiple members that this section should be struck from the paper
  - Rewrite section to focus on VSSA and how we achieve safety via those.
  - Data is a very sensitive topic and should also be struck.
  - NHTSA PARTS - developing sharing test for safety cases
  - Highlight that there is a federal structure for safety standards.
  - Text as written is 4600 centric.
  - Potentially add details on the 12 categories of safety data that is required now.
  - Concern is over framing it as a "safety case"--reframe - maybe as best practices?
  - This paper should highlight that as an industry, safety is considered paramount and that should come across to the legislature--not tied to any specific process or approach
- Case Studies
  - Page 15 - Accident reporting crash factors - there are basic things LEO needs to know
  - Use of the word "fault" as opposed to contributing factors. Maybe liability works well. Relevant crash causation factors is also good.
  - Don't use accident. Use crash.
  - Concern expressed over including AVS on CR-3. How are what we going to collect should come first.
    - This leads to data requests and if it is under/over represented, it leads to accuracy questions
  - Uber ATG case study should be struck (it's 4600)
  - Rename this section to a crash factor discussion.
    - Information may be provided by driver on-board now and in the future, the "system"
  - Some kind of a reference to the (smart)infrastructure aspect would be a good opportunity for this paper.
    - How does the vehicle interact with the environment such as RR crossing?
    - Ex: override on street lights for emergency vehicles
- Opportunities
  - Work with industry to determine what data and information to share and how
  - We don't have the answers right now and everyone is continuing to learn.
  - Concern over listing changes to CR-3 as a opportunity given that we don't know HOW the data will be collected.
  - Could it be phrased as "was a self-driving system involved in the crash"?
    - Concern over use when the autonomy wasn't involved
    - Feeling that at this time, it can NOT be reduced to a checkbox
    - Did not reach a consensus on this aspect of the discussion
  - Where we are in the testing and development stage--it's not that clear cut.
  - All these opportunities should be expressed as an intent for public/private sector to work together and agree.
  - Concern expressed over the use of the word "legislation"

- Structure of short-term and long-term legislation is concerning. Rewrite as opportunities to continue to work together
- Safety case database goes away as a parallel destruct from earlier cuts to the paper.
- We don't want the apparent recommendation that Texas should be examining safety use cases.
- Only survivor in current form is education
- Emphasize areas of collaboration between Texas and stakeholders. current (2017) legislation is working and shouldn't be changed.
- Take learnings from Texas and help to inform next steps as to how Texas can prepare
- References

**VI. Next Steps – Steven Rundell / Michael Walton / Zeke Reyna**

- Next Full Task Force meeting set for December 3<sup>rd</sup>
- Due to the significant edits necessary from the comments today, we will start modifying the document and work to solidify a new version.
- If you have additional comments, please email them so we can look them over as well.
- Once we prepare the next revision, it will be sent out to the committee, at which time we will decide if another meeting is needed, although we are on a limited time schedule
- There are two possible paths, based on what the subcommittee would like to do:
  - Send out revised version via email, subcommittee can review it, submit final thoughts, and accept it in the way in which it was written.
  - Or, if there are enough changes that warrant another meeting, a brief meeting can be scheduled
- Once it is agreed upon, it goes to the Chair who presents it to the Full Task Force.

**VII. Closing Remarks – Steven Rundell / Michael Walton / Zeke Reyna**

- That concludes our meeting
- Thanks to everyone who participated