



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:** July 12, 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:** Data, Connectivity, Cyber Security, and Privacy Subcommittee  
June 3, 2020 Meeting Notes

#### Attendees:

Andrea Chavez	Grace & McEwan Consulting, LLC
Anne O’Ryan	AAA Texas
Beverly West	TxDOT
Bobby Cottam	Burns and McDonnell
Brent Eastman	TxDOT (IMD)
Brent Skorup	Mercatus
Brian Steiner - CHAIR	Cisco
Donald Davidson	Volkswagen Group of America
Erik Simpson	SeatsX (SImpsX Technologies)
Gary Wallace	SiriusXM
Glenn Havinoviski	WGI
Jackie Erickson	Edge Case Research, Inc.
Jason JonMichael	City of Austin

Jeff DeCoux	ATRIUS Industries, Inc
Joseph Hunt	TxDOT
Julia Monso Bustio	Cintra
Kathleen Baireuther	Ford
Kellen Pucher	Panasonic
Kelly Curbow	AT&T
Leighton Yates	Alliance for Automotive Innovation
Mark Spilotro	SeatsX
Matthew Smith	Michael Baker International
Mohit Goyal	Loblolly
Monika Darwish	Embark
Rachelle Celebrezze	Cruise
Sam Dreiman	Argo AI
Scott Carlson	Iteris
Steve Pustelnyk	Central Texas Regional Mobility Authority
Steven Smith	McKinsey & Company
Sumeet Kishnani	Stantec
Thomas Bamonte	North Central Texas Council of Governments
Tom Black	Gartner
Tony Reinhart	Ford
Zeke Reyna	TxDOT
Ed Seymour	Texas A&M Transportation Institute
Bob Brydia	Texas A&M Transportation Institute

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

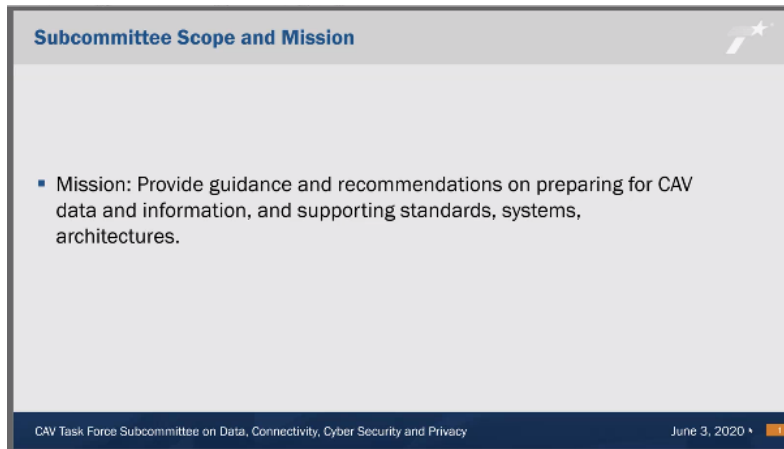
- Zeke welcomed the group and thanked them for participating in the meeting.
- Zeke took a roll call of all attendees.

**II. Chair Welcoming Statement – Brian Steiner, Cisco**

- Brian said thanks to everyone in attendance and that he was honored to lead the group.
- This subcommittee represents the most important factors related to data, which is a fundamental issue related to CAV.

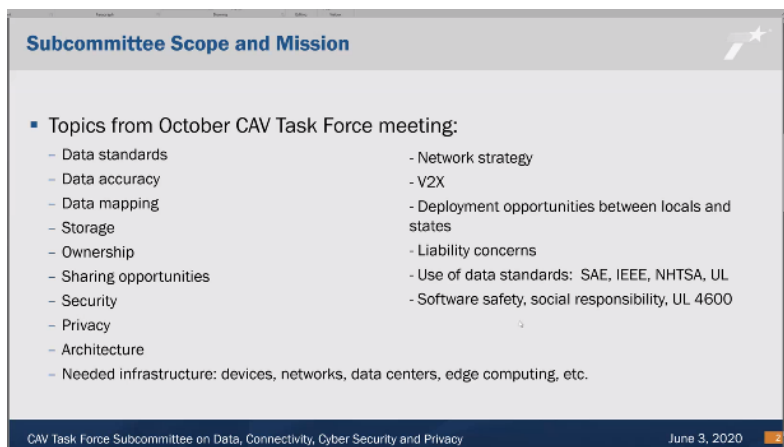
**III. Subcommittee Scope and Mission – Zeke Reyna, TxDOT**

- Zeke introduced the mission, which is captured in the slide below.



#### IV. What Topics are Important to the Members (Round Table Discussion) – Brian Steiner/Zeke Reyna

- Zeke reviewed the previous topics generated by the full task force during the October 2019 meeting. The initial topics are captured in the slide below.



The following additional topics were provided by the group that the subcommittee wanted to discuss:

- Interested in understanding what data people are willing to share, what isn't willing to be shared, and what's in the discussion range.
- Data accessibility and data use - you have connectivity.
- Differentiate the outcomes - some areas may be ready for standards.
- Some of these items can be monitored only (e.g., data standards; data accuracy; storage). Suggest focus on pain points--e.g., locational privacy for public; infrastructure requirements for public sector; and data sharing collaborations involving private sector data.
- Data & Connectivity. This lends itself to V2X technology.
  - Is Texas wanting to prepare itself for V2X data?
  - Need to understand V2X broadly to include data sharing collaborations between public/private sectors to optimize both vehicle and system

operations--e.g., CAVs share data about roadway condition issues; DOTs share road closure info. w/CAVs.

- Privacy constraints and PII and that could be taken in a couple of different tangents.
- Lack of a model for data security.
- Certificate authority.
- Recommendations to local officials - infrastructure and liability .
- Guiding principles or objectives.
- Solving revenue recognition of Transportation/Landing/Capacity/Assets to a city or the State.
- "Government to Government" & FTA DOT/FAA/TxDOT with Cities (Austin, Dallas, Houston) monetizing UAVs/V2X, Curb, Sidewalk, Parking, Landing Rights that include innovative novel revenue recognition in Drone landing rights as "bought/sold" in a CurbsX and ParkedX implementation.
- Focus instead of ownership, storage, etc. as a key issue to the state.
- How do we ensure that the public data is available, protected, and shareable.
- Focus on the data as it is the connectivity to downstream services.
- Need to define outcomes and be tech agnostic.
- Need to be cognizant of near-term decisions and impact on planning, but let's not pick one technology over another.
- How should the pub/private sector work to support CAV monetization and successful efforts?
- How we can start to collect massive amounts of data to help drive adoption?
- The willingness to do deployment and at scale is the only thing that will drive this forward. There's no path to commerce and data sharing amongst the partners.
- Focus on individual sets or streams useful to particular agencies or organizations.
- Jeff is referencing my white paper with Prof. Korok Ray about using funding and prioritizing passive roadside infrastructure:  
[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3487084](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3487084)
- Common foundation of public/private data sets to validate/capture inbound data for a city/State with respect to what the City, TxDOT, DOT, FAA wishes to capture to deliver.
- Accountability of revenue streams.

## V. **Selection of Top Priorities – Brian Steiner / Zeke Reyna**

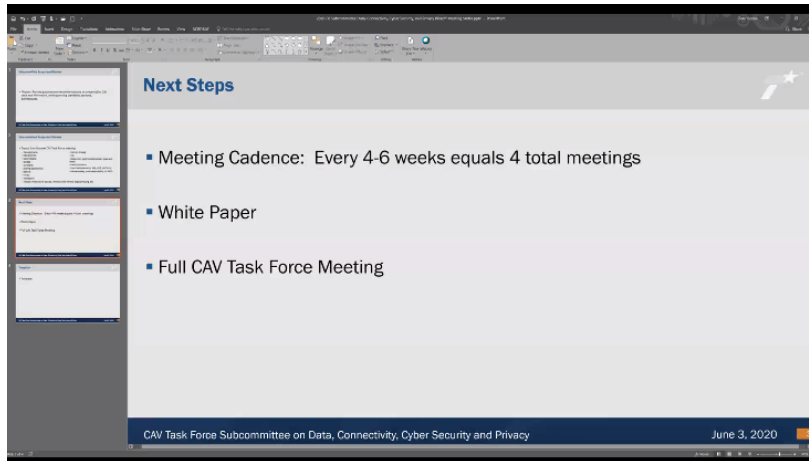
After further discussion with the group, the following topics were identified as top priorities for the subcommittee:

- Data – A data focus
- Relationships – What do Texas and communities need/want/need to do / guiding principles of how agencies could work together
- Architecture - What is the needed infrastructure. How architecture ties to the need for roadside infrastructure versus which features may not ultimately need it.
- Some information related to standards.
- We focus on what is needed, which might be fulfilled by multiple data elements and back into the standards.
- Voting for security.

- Privacy to security.

## VI. Next Steps (Schedule and White Paper) – Brian Steiner / Zeke Reyna

Zeke and Brian shared the next steps for the subcommittee and the Task Force, as illustrated in the slide below.



## VII. Closing Remarks – Brian Steiner

Brian thanked all for attending and that he is looking forward to future meetings of the group and the results of their work.