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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: Licensing and Registration
 October 2, 2020 Meeting Notes

Attendees:

Alison Pascale	Audi of America
Allan Rutter	Texas A&M Transportation Institute
Andrea Chacon	Texas A&M Transportation Institute
Anne O’Ryan	AAA Texas
Beverly Kuhn	Texas A&M Transportation Institute
Bob Brydia	Texas A&M Transportation Institute
Brian Moen	City of Frisco
Brittany Gick	Texas A&M Transportation Institute
Charlie Leal	Governor’s Office
Darran Anderson	TxDOT
Ed Seymour	Texas A&M Transportation Institute
Hannah Barron	Austin Transportation
Jeremiah Kuntz	Texas DMV

Jordan (Alex) Payson	Austin Transportation
Marcelle Jones	Stantec
Monika Darwish	Embark
Rachelle Celebrezze	Cruise
Rob Braziel	Texas Automobile Dealers Association
Sam Drieman	Argo AI
Shelly Mellott - CHAIR	Texas Department of Motor Vehicles
Stacey Bennett	EasyMile
Tammy Meehan Russell	Plum Catalyst LLC
Terry Martinez	TxDOT Government Affairs Division
Zeke Reyna	TxDOT

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

- Zeke welcomed the group to the 4th Licensing & Registration 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 Statement – Shelly Mellott, Texas DMV

- Hopeful for active meeting to fill in the gaps and get White Paper wrapped up

III. Review of Task Force Web Site – Zeke Reyna / Robert 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 Public Agency Roles and Responsibilities, 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

- Acknowledgements (p1)
- Disclaimer (p1)
 - Does all of this discussion / these regulations apply to connected vehicles like they do for automated vehicles?
- Texas CAV Task Force Charter (p1)
- List of Terms and Acronyms (p2)
 - make sure we define CAV
 - connected vs. automated; not necessarily the same; from the ITS side, the connectivity becomes important from the traffic management perspective
- Executive Summary (p3)
- Public Agency Roles and Responsibilities (p4)
 - NHTSA section (p4): “... *but in the case of a fully autonomous passenger vehicle, a driver would not need to be able to see the roadway and the need would be negated.*” If referencing this is fully autonomous vehicle, need to stop calling second part “a driver” because essentially there is no driver. Rather it should say, “a passenger,” because there is no driver, “may not be able to see.” (may not be definite to see)

- Could deepen this thought with example of describing a windowless type vehicle (Nuro) for less room for confusion
- Under TxDOT section, please note the CAV Task Force was created at the direction of Governor Greg Abbott
- Appreciate the White Paper's intent to highlight areas, discuss important information to know. not looking for the subcommittees to recommend more regulation
- Municipalities and Other Local Authorities (p5): might need to discuss PDDs and sidewalks - managing the entire public ROW (ped/bike trail, sidewalks, etc.); need clarification as far as their responsibilities; they are the enforcement wing as well; determining on which roads they can operate based on speed differentials and how that is called out in the law
- Assuming that levels of autonomous vehicles will be in this section
- Other Roles and Responsibilities (p6)
 - Under OEMs and AV developers (p6): last sentence related to compliance "*for the purposes of the subcommittee,*" No need to note the subcommittee (strike the lead-in).
 - PDD crash (Starship): should the PDD have left the scene? is there a need for a regulation for that?
 - look at the PDD law to see if it covers all traffic laws?
 - If law enforcement cannot determine who owns the vehicle (PDD), there is a problem with determining liability - property damage or worse
 - PDDs should cross at a crosswalk where they have enough time and are able to cross safely prior to a conflicting phase starts. Location has to have the green long enough or the ped phase on recall.
 - For PDDs, the other complaint I got from the public was the lack of visibility of the units. Especially when crossing a roadway. Day/Night wasn't issue, I believe a matter of the small size.
- Types of Automated and Connected Vehicles Active in Texas (p7)
 - Arlington, TX: the March 16, 2020 USDOT FTA IMI grant project "Arlington will receive \$1.7 million to integrate autonomous vehicles into its on-demand car-sharing service, including a wheelchair accessible vehicle and accommodating UT-Arlington students" (Tammy PLUM Catalyst)
- Regulation of Drivers and Operators (p8)
 - What are the Gaps (sub-head p. 10) "*The current authority for automated vehicles does not seem to extend to driverless vehicles operated by remote operators.*" Law does not extend to driverless vehicles being operated by remote operators (law is silent).
 - law might be broad enough to bring this in and is permissive?
 - what is meant by a remote operator? interpretation of the law?
 - might want to consider delete this sentence
 - Is this referring to remote tele-operator scenario? Is there a better way to say it without striking? Is this an issue?
 - Zeke and Darran will reach out the tele-operator companies to get clarity to see if this is an issue for them.

- FMCSA notation seems straightforward (following paragraph)
- Under AV 3.0 and NPRM, FMCSA as already indicated that it would not apply human-oriented regulations if it is a driverless commercial motor vehicle (would be through a proposed rule rather than a waiver); add a sentence before the example saying that regulation would be carried out by inspecting a driverless truck, observing hours of service, etc.
- Perhaps change this sentence to "Federal Motor Carrier Safety Administration (FMCSA) is already taking steps to adapt current commercial motor vehicles regulations to automated driving systems. In AV 3.0 the agency concluded in that L4 operation for commercial vehicles was allowable under existing trucking regulations and that human-centric regulations like drug testing and hours of service will not apply to driverless trucks. FMCSA will continue to adapt trucking regulations to AVs as issues arise and are already working with law enforcement and developers to address evolving issues like vehicle inspections."
- VIN does not currently have information related to AV or CV technology
- Regulation of Vehicles (p10)
 - What are Gaps (sub-head p 12) in Starship deployment (PDD's); nothing requires that the PDD be registered or checked; regulation says it has to have contact information visible. Crashes involved and only had a website. No one checking to ensure they meet the requirements before begin to operate
 - Depends on whether law enforcement wants to identify those vehicles (issuing a special plate); need to identify them up front? (Shelly); is that through the VIN? Don't collect that now? not sure what the legislature will ask for next
 - Collect a lot of information now about vehicles, might be for research purposes? example of alternative fuel vehicles
 - What is Expected of An Automated and Connected Vehicle in Texas (p11) – *“Automated vehicles requiring registration to operate on state highways may find the completion of mandatory safety inspections set out in Chapter 548 of the Texas Transportation Code (related to equipment standards in Chapter 547) a challenge given the unique design features of some ZOV delivery vehicles which are not necessarily exempted.”*
 - potentially PDDs?
 - Specifically built?
 - Needs to be fleshed out to be better understood / more clarification
 - might not be able to be inspected
 - More explanation on gaps related to vehicle res
 - complex dialogue that is already ongoing; be specific about what work has already taken place
 - What are Gaps in Vehicle Regulation Requirements (p12) – needs more explanation than just a short statement
 - Would DPS or DMV want to come into this next session and request to collect that information? How can that data be obtained if the legislature needs it or wants it? until the VIN number can be decoded to provide information within the DMV system, then it is unlikely they will have that. DMV strictly relies on the VIN to decode such information (alternative fuel, etc.)

- Other Regulations and Issues (p12)
 - information sharing: positives back and forth (as opposed to data sharing); concerns about protecting user consumer privacy and proprietary information of companies doing development; tends to be a lightning rod related to data sharing
 - Suggested re-write of first paragraph in that section: "Information sharing between the private and public sectors will be an integral factor for the success of CAVs in order to gain the necessary knowledge to provide safe vehicles and an environment in which they can operate. Information sharing on CAV testing activities by the private sector can help government officials and the general public to better understand the technology. Similarly, information sharing by the public sector about construction projects and other major roadway events can help CAV companies operate safely throughout the state. The challenge with any information sharing will be to ensure that sufficient information is provided in response to clearly defined regulatory objectives while allowing CAV companies to protect their intellectual property and the privacy of users. State governments should be proactive in engaging all stakeholders and promoting safe and secure data sharing."
 - Discrepancies with respect to what data is valuable and most useful for agencies; different across jurisdictions; what actually provides utility
 - Focus on what we know is helpful (term "data sharing" can be loaded)
 - Number of trips made; miles traveled, weighing these operations against others; building public trust to demonstrate that they are active, safe, value of goods moved, etc.
 - There is no way to collect the data about how many vehicles are on the roads; what is the value of that? from a policy standpoint, there needs to be a determination of the value and need for this information prior to making any policy changes
 - Is it worth collecting the information?
 - Why is data relevant to this topic of licensing and registration; try not to replicate what another paper needs to cover
 - Can add substance without getting into specific data points
- Training and Education Audiences (p13)
 - Point to the education subcommittee white paper and elaborate why it is important to the topics of this paper
- Case Studies Involving Licensing and Registration Requirements (p14)
 - In the Arizona section, note that Gov Ducey updated the EO in 2018
- Balancing Regulatory Posture and Economic Development (p16)
 - Seems a bit light; can use examples of economic growth or investment from industry that has taken place as a result of this; show the growth already
 - discussion related to regulation to not infringe on local agencies; don't want a different set of rules for each municipality; need consistency at the state level in terms of requirements; regulations vs. opportunity; don't want different operating rules

- See Mighty Middle report showing significant investment in TX for start-up: <https://about.crunchbase.com/mighty-middle-report-2020>
- Austin takes the top spot in seed funding in middle America.
- Aurora expands to Texas in bid to ramp up self-driving truck efforts (July 20, 2020)
- Tesla's new Texas investment in a 4 million sq foot factory (and \$60M in tax breaks) (July 22, 2020)
- Opportunities in Texas (p17)
 - Depending on the changes noted elsewhere, may need to revisit these: (3rd bullet related to remote operator); is it PDD specific? may need to revisit after the next draft
 - Add headings before specific bullet points to introduce the types/areas of cooperation; this is beyond the subcommittees but rather the industry
 - frame it as opportunities for further discussion within the subcommittees and the task force; conversations we will continue having; provide that clarity; need a lead-in to the reader
 - do we want to include opportunities for regulation and as topics to continue to discuss within the subcommittee and task force and not necessarily present the need for new regulation?
 - Are doing as much in the connected area as we are in the automated arena?
 - Work with developers to determine what connected information/data could be shared into the future? might have law enforcement needs?
- References (p18)

VI. Next Steps – Shelly Mellott / Zeke Reyna

- We will start modifying the document with these comments. We expect it to take another 3 weeks of writing.
- If you have additional comments, please email them so we can look them over as well.
- Once we prepare the next revision, there are two options, 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. We can then finalize it and get it into editorial review, 508 compliance production and give it to the Task Force
 - Or, if you feel that there are enough changes that warrant another meeting, even if it is brief, we can schedule that.
- Once it is agreed upon, it goes to the Chair who presents it to the Full Task Force.
- While we want the committee to all see the next draft and have input, cannot foresee another meeting.
- Committee considering options for either email vote, but several voiced a desire for a brief subcommittee meeting (30-60 min)

VII. Closing Remarks – Shelly Mellott

- Appreciate everyone's active participation
- Looking forward to near final draft

- Thanks to everyone on TTI Team for a great first draft and all their hard work
- Reminder to look at CAV Taskforce website and give feedback; our goal is to make this a great website not only for the public, but for the subcommittee stakeholders as well.