



MEETING SUMMARY

MEETING ATTENDEES

Attendee	Representing
Chris Blue	Town of Chapel Hill
Katie Brunk	Kimley-Horn and Associates
Reba Calvert	NC Division of Motor Vehicles
Chuck Church	NC Division of Motor Vehicles
Michael Clamann	UNC Highway Safety Research Center
John Congleton	NC Department of Justice
Eric Copeland	NC Division of Motor Vehicles
Cesar Diaz	Aurora Technologies
Amanda Good	Kimley-Horn and Associates
Steve Hairston	NC Division of Motor Vehicles
Jeff Jaeger	NC Department of Transportation
Dennis Jernigan	NC Turnpike Authority
Torre Jessup	NC Division of Motor Vehicles
Wendy Kelly	Focus Public Affairs, LLC on behalf of Toyota
Kevin Lacy	NC Department of Transportation
Joe Memory	NC State Highway Patrol
Thomas Moore	Cardinal Government Affairs on behalf of General Motors
Tim Peterson	NC State Highway Patrol
Robert Sawyer	NC Division of Motor Vehicles
Debbie Smith	City of Charlotte
John Torbett	NC House of Representatives
Skip Yeakel	Volvo Group North America

MEETING NOTES

Attendees were welcomed to the meeting. After a quick introduction of those in the room and on the phone, Amanda Good provided a brief outline of the meeting agenda and some of the current activities around the state. Cesar Diaz provided a presentation on the technologies that Aurora Technologies is testing and incorporating into vehicles. Kevin Lacy then facilitated topic discussions. Each topic discussion began with a posed question then proceeded with group insight and discussion.

Autonomous Vehicle Equipment Requirements

Question posed: **“would a NHTSA exemption override state law?”** From a legal perspective, most likely not. A fully autonomous vehicle does not need all the standard features as a typical



vehicle would but are required to operate on the road safely. As technology continues to evolve, it would be better to not say what IS required but rather a path of permissiveness.

It was determined that NC needs some form of authority to determine what is or isn't allowed in NC. The general thought is the nature of the vehicle will dictate where it falls. But the General Assembly will need to lead now until further changes can be made.

The current environment will have experimental policy/legislation as a middle ground. One consideration to include is if a vehicle receives a NHTSA exemption, then it would exempt the vehicle from NC's equipment requirements. *Draft language has been developed and will be available for review.*

Testing Regime

Question posed: **"does NC need to have a formalized testing regime?"** It was mentioned "testing" will be discussed during an upcoming AAMVA workshop at the end of February. NCDOT DMV reached out to AAMVA regarding their support and insight. NCDOT DMV won a grant which provides the opportunity for AAMVA representatives to come to NC and engage with stakeholders. Some of the workshop topics include: insight on roles between the state and federal government regarding autonomous vehicles, testing, and interaction with different jurisdictions (i.e., law enforcement).

The largest stress factor is ensuring the safety of everyone – the testers and everyone else. The actual mechanics of the how to test, what measures are needed for testing should be part of the upcoming AAMVA workshop. *More information will be provided at the next FAV meeting regarding the AAMVA workshop.*

Remote Operations

Question posed: **"should there be standards for remote operations (in NC)?"** The largest concern with remote operations is not necessarily the level of autonomy but rather the risk associated with someone operating a vehicle in a different location. There are at least 2-3 different companies that are researching/investigating the possibility of remote operations for autonomous vehicles.



If an AV has remote operations capability, who will the vehicle call and then what will that person do? Some believe remote operations should be treated as a specialty licensing that is designated on their license – providing limitations for operators. Others believe, if the operator has a license in their state, then their license is transferable, per reciprocity between states. Either way, there should be more discussion with other states on whether there should be a federal standard for remote operations – remote operations and cybersecurity still are national security questions. *A portion of proposed changes from the draft AAMVA document will be shared with the group for review and comments.*

Hybrid Vehicles

Question posed: “**who’s responsible if the vehicle is involved in an incident while in a level 3 operations?**” Hybrid vehicles are vehicles that can maneuver in an area without a driver, such as a parking garage in Tesla’s summons mode or Audi’s pilot driving mode. These functions are considered a level 3 by the Society of Automotive Engineers (SAE). One thought is it still would be considered a traditional vehicle and not a fully autonomous vehicle. If this was the case, the driver is responsible if the vehicle harms a person.

Unfortunately, the NC law can be misunderstood due to its interpretation in conjunction with the different types of technology available and their capabilities. NC does not want to have a law that subscribes liability, but rather a law that will maximize the safety of the people, be flexible to incorporate technology changes, and be reassuring to the public.

A short report identifying how other states handle the operations between a level 2 and level 3 to the group for review and input on how NC should address this topic.

Finally, Amanda Good and Kevin Lacy thanked the committee members for their time, and the meeting was adjourned.



NORTH CAROLINA

FULLY AUTONOMOUS VEHICLE COMMITTEE



2020 FAV Committee Meeting

February 6, 2020

www.ncav.org







AGENDA

- Activities in NC
- Aurora Presentation
- Discussion Session
 - Autonomous Vehicle Equipment Requirements
 - Testing Regime
 - Remote Operations
 - Hybrid Vehicles



Activity and Meeting Recap

12/4/2017	• Vehicle Technology Day
3/29/2018	• FAV Committee Kickoff
7/25/2018	• Research Working Group
7/27/2018	• Operations Working Group
7/28/2018	• Infrastructure Working Group
8/2/2018	• Legislative Working Group
8/3/2018	• Business Working Group
8/6/2018	• FAV Committee Meeting
1/10/2019	• FAV Committee Meeting



Around the State

Partnerships:

- **CASSI**
 - NCSU Centennial Campus
 - 6 month
 - Level 4 autonomous vehicle
 - Additional locations
- **Research Opportunities**
 - NC A&T
 - UNC-Chapel Hill HSRC
 - NCSU ITRE

Other Activities

- **AAMVA Grant**
 - Assist NC in DMV rules
 - Promote collaboration
- **Aerial Taxi**
 - Demonstrated Jan 6th



Aurora Presentation





Discussion Session





AUTONOMOUS VEHICLE EQUIPMENT REQUIREMENTS





TESTING REGIME



REMOTE OPERATIONS





HYBRID VEHICLES





SUMMARY OF WHAT WAS HEARD



NEXT STEPS & QUESTIONS





THANK YOU!

CONTACT US

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