



# MEETING SUMMARY

## MEETING ATTENDEES

Attendee	Representing
Sue Best	NC Department of Insurance
Charles Blackwood	Orange County Sheriff's Office
Chris Blue	Town of Chapel Hill
Chuck Church	NC Division of Motor Vehicles
Michael Clamann	UNC Highway Safety Research Center
Crystal Collins	NC Trucking Association
John Congleton	NC Department of Justice
Jeff Dale	Kimley-Horn and Associates
Mark Ezzell	NC Governor's Highway Safety Program
Anna Gallup	City of Charlotte
Amanda Good	Kimley-Horn and Associates
John Hardin	NC Department of Commerce
Dennis Jernigan	NC Turnpike Authority
Torre Jessup	NC Division of Motor Vehicles
Jamie Kath	NC Division of Motor Vehicles
Kristina King	Kimley-Horn and Associates
Kevin Lacy	NC Department of Transportation
Michael Langley	Pepsi Bottling Ventures
William Moore	NC State Highway Patrol
Thomas Moore	Cardinal Government Affairs on behalf of General Motors
Michelle Nance	Centralina Council of Governments
Phil Shepard	NC House of Representatives
Debbie Smith	City of Charlotte
Paul Steinman	HNTB
John Torbett	NC House of Representatives
Mark Tyler	NC Division of Motor Vehicles
Jason Wager	Centralina Council of Governments

## MEETING NOTES

Attendees were welcomed to the meeting and Amanda Good provided a brief outline of the meeting agenda and a recap of committee and working group activities to date.

After presenting the **Infrastructure Working Group's** comments and suggestions to the committee, conversation was held about the importance or lack thereof regarding an AASHTO decision on 5G vs DSRC technology. Kevin Lacy shared with the committee that indecision has been very costly to the state with direct impacts to safety. Thomas Moore shared with



committee members that the decision isn't stopping or hindering industry from coming to NC – several manufacturers are using 5G, DSRC, or both. Thomas stated that having an official decision promotes flexibility in the industry and does not preclude specific manufacturers. Thomas also shared that major communication companies are planning to implement 5G infrastructure in several major metropolitan areas across the US in 2019. Kevin shared concerns that it will take a long time for 5G to spread across the country, especially to more rural parts of NC, and that it may be possible to have a combination of technology depending on a variety of parameters. Kevin concluded by sharing whether we elect to choose one or both, we are continuing to stall opportunity and lifesaving technology. The Town of Cary has partnered with the NCDOT to implement a DSRC installation on NC 55 to support testing and grow the existing test bed currently in place on the adjacent toll facility. It was suggested that the Committee would sponsor a DSRC and 5G education session to help share current initiatives and opportunities of both communication solutions.

**Recommendation/Action Item: Provide informational content and webinars about 5G vs. DSRC.**

Following the discussion of DSRC vs. 5G, Amanda Good introduced the list of studies and projects recommended by the **Operations Working Group**. Both Kevin Lacy and Debbie Smith stressed the importance of the scenario planning and boundary exploration study to better understand the impacts of mobility improvements and CAV technology. Representative Torbett asked how the current statutes and changes have been received by the industry. Thomas Moore shared that NCDOT and the NCGA have been very helpful for both CAV testing and general testing (referencing testing on the Tail of the Dragon in western NC). Amanda shared with the committee that a full list of recommended operational projects and studies will be sent to the working group and a vote will be performed to determine the top 5 that should move forward.

**Recommendation/Action Item: Share list of projects and studies with Operations working group for voting. Report Top 5 items back to the full committee.**

Discussion was held about the recommendations from the **Business Working Group** to define liability limits and increase NC's attractiveness for testing CAV technology. Thomas Moore shared that the current limits on liability are serving General Motors well and he does not believe they require modification at this time. It was suggested that the Committee reach out to industry and ask what they need in order to promote vehicle testing in NC. Thomas shared that NC has been very amenable for testing CAV; however, there are many things that play into



being a good test site including: natural elements such as weather consistency and predictability. The southeast in general can be a challenging environment as most trips require a portion of freeway travel and current limitations cap the vehicle speed of AV at 35 mph.

**Recommendation/Action Item: Recruiting industry partners if that is the desired direction.**

The **Research Working Group** recommendation to maintain a central repository of all research and activities was well received by the committee. The UNC Highway Safety Research Center has offered to support getting the repository established within the NCAV.org web site. It was suggested that the committee reach out to the NCDOT unmanned systems group to share information regarding research and initiatives. Dennis Jernigan shared that in addition to the items listed in the presentation, it is very important that there be an official person or group within one of the departments that is solely responsible for serving as the repository for all CAV initiatives. Additionally, Dennis stated that NC should decide whether it will actively recruit CAV industry or if the state will continue to sit back and wait for CAV industry to come.

**Recommendation/Action Item: Work to create a central repository of research activity within the state as well as create a single person/group responsible for CAV initiatives.**

The **Legislative Working Group** stressed the importance of an official announcement stating that North Carolina is open for business be made by the governor and/or the general assembly. The recommendation was supported by the committee. It was suggested that this be the governor AND the NCGA to confirm the commitment level of the state.

**Recommendation/Action Item: The Governor AND the General Assembly should make a public statement sharing that without any uncertainty, North Carolina is open for testing and operations of CAV technology.**

Finally, Amanda Good concluded the meeting sharing that all working groups had a commonality: dedicated funding. The committee acknowledged this statement, and discussion was held about how to potentially secure some amount as part of the next state budget. Amanda and Kevin Lacy thanked the committee members for their time, and the meeting was adjourned.

**Recommendation/Action Item: Share final report with all recommendations to the NCGA.**



**NORTH CAROLINA**  
FULLY AUTONOMOUS VEHICLE COMMITTEE

# 2019 North Carolina Transportation Summit

January 9, 2019

[www.ncav.org](http://www.ncav.org)







# AGENDA

- Recap of previous meetings
- Working group recommendations
  - Legislative
  - Business
  - Infrastructure
  - Research
  - Operations



## 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



# WORKING GROUP UPDATES



LEGISLATIVE



BUSINESS



INFRASTRUCTURE



RESEARCH



OPERATIONS





# INFRASTRUCTURE WORKING GROUP

- Create guidelines and requirements for the installation of advance technology as a part of all new roadway projects.
  - Stress the importance of an AASHTO decision on DSRC vs. 5G
- Designate a set-aside funding source for communication technology projects similar to that of other statewide funding programs.



# OPERATIONS WORKING GROUP

Studies and projects to better understand:

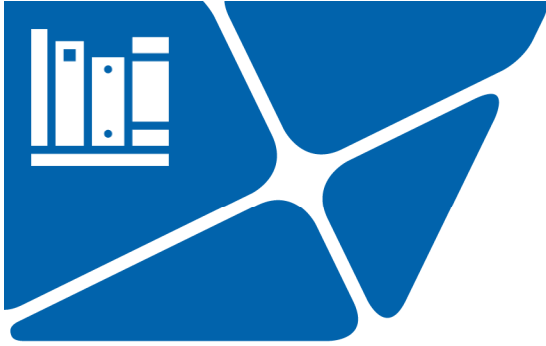
- Scenario planning of CAV impact and the sensitivity of various mobility improvements;
- Data – who, what, when, where;
- Review statutes to ensure seamless testing opportunities;
- Collaboration of statewide CAV experts;
- Curb space management policy guidance;
- Growth of eCommerce and commercial home delivery;
- Impacts to DMV operations;
- Digital theft and cybersecurity vulnerabilities;
- Interaction of autonomous vehicles and citizens;
- Community acceptance and buy-in.

And many, many more.



## BUSINESS WORKING GROUP

- Reach out to companies to find out what NC needs to do to be more attractive for CAV testing and industry.
- Remove the uncertainty of liability – create a liability limit, in case of an incident, for those compliantly testing CAV.



# RESEARCH WORKING GROUP

- Create a repository of all research and activities related to CAV that are being done in the state.
- To ensure North Carolina remains a competitive player in the CAV realm, there needs to be a dedicated source of research funding.
- Initiate a study to understand the financial advantages and disadvantages of moving too quickly or not quick enough with respect to leading in CAV technology.



## LEGISLATIVE WORKING GROUP

The Governor and/or the General Assembly should make a statement sharing that without any uncertainty, North Carolina is open for testing and operations of CAV technology.



# COMMONALITIES

All groups recognize the need for a dedicated funding source to support activities, research, projects, and education.





## NEXT STEPS & QUESTIONS





# THANK YOU!

## CONTACT US

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