

## **Workshop Results of the Northeast Autonomous Vehicle Summit**

### **Workshops**

Day 2 of the Summit featured comprehensive workgroups that were comprised of representatives from government, law enforcement, and private industry. The purpose of the workgroups was to document current progress, plans, vision, state concerns and challenges and to share experiences and best practices. A survey with questions regarding policy, technology and safety was created to guide the discussion. Questions were posed regarding licensing and registration of AVs; enacting and enforcing traffic laws and regulations; communicating with and educating the public about motor vehicle safety issues; training of law enforcement and first responders; infrastructure; vehicle testing; and, liability and insurance. Once the survey was completed, the groups were then asked to formulate potential action plans for states to use.

The workshop results are summarized below. The results can also be found on the CTSRC website <http://ctsrc.uconn.edu/> under NE Autonomous Vehicle Summit.

The lead agency in Connecticut is the Office of Policy and Management. There is proposed legislation under consideration to create a task force to study AV/pilot testing programs. Various levels of groups are involved in all states; most states are still in the process of forming lead groups.

In regard to vehicle/driver issues, the workgroup participants were divided on NHTSA's policy that SAE Levels 4 (an automated system can conduct the driving task and monitor the environment, and the human does not need to take back control; however, the automated system can only operate in certain environments and conditions) and level 5 (the automated system can perform all driving tasks under all conditions that a human driver could perform them) require a driver's license. Some felt that a license should be required for Level 4 but not 5. Others felt that a license should not be required for Level 4 or 5. The question of requiring a driving test or license for highly automated vehicles (HAV's) also sparked conversation and differing views. Some groups believe that states should not require a driving test or license for HAVs. However, even though no license would be required, there may need to be limitations on those who can be in the vehicle alone; it may be too soon to be determined. Discussion indicated that states should provide training to include emergency and safety procedures, as well as testing occupant ability and competence on operations of the vehicle. States in attendance currently do not have the ability to identify a vehicle as being enabled for autonomous use on its registration. CT would like to have an extra box on the registration forms for AV status, but not including SAE level. Maine would like to include that on the registration. The group was consistent in their opinion that there should be some sort of standardization across states so that officers or state DMVs could quickly recognize AVs by their registrations. If each state takes a different approach it could/would be difficult to enforce laws consistently across state lines. However, it was agreed that the regulations governing the labeling and identification of HAVs should be NHTSA's responsibility because they already regulate vehicle classes. Some states are looking to follow NHTSA guidance.

With respect to law enforcement issues, all agreed that law enforcement representatives need to be part of HAV committees. Although groups were unsure how law enforcement and first responders should be trained in the handling of HAV crashes/violations, it was mentioned that HAV Manufacturer's should have input on training requirements. The groups agreed that knowledge of how to disable the vehicle, emergency systems and a specific protocol were

imperative. This could lead to the need for an “emergency stop or shut off” for AVs, which vehicle manufactures may not already have in place. Groups discussed how States can work together to develop methodologies for enforcement to discourage risk taking behaviors and vehicle operation (i.e. distracted driving). Responses included the encouragement of national and regional forums to share information and develop regional solutions and also to restrict/not allow Level 3 vehicles, and to continue to improve coordination and communication.

It was agreed that law enforcement will face many challenges with regard to HAVs. Some challenges include determining responsibility in crashes; education and training of officers; whether warrants will be needed to get data from the vehicle; and identifying who the driver is and what the vehicle responsibility is. It was mentioned multiple times that manufacturers need to be involved in solutions to these problems. It was also agreed that the states should modify their crash report form in the future to specifically collect information about HAV ability and operation at the time of a crash. However, it was unclear how that data would be collected and if current vehicles would log that information in their crash data recorders. Another challenge law enforcement faces is identifying HAVs in a crash, during a traffic stop, or routine enforcement activity. Some suggestions discussed were special number plates or designation on registrations in accordance with NHTSA recommendations. Crash Data Recorder (CDR) readers (a device installed in a motor vehicle to record technical vehicle and occupant information for a brief period of time before, during, and after a crash) were mentioned as a way for law enforcement to know if HAV systems were engaged and in control at the time of a crash.

Concerning liability and insurance issues, no state present at the workshop has started reviewing or drafting rules for who is liable in the event of an HAV crash. In discussing how the officer will determine if the crash was caused by driver behavior or HAV malfunction, it was suggested that the Officer review the black box and/or interview human drivers. Challenges on this topic include who the liability resides with when there is no driver and determining who is at fault. It is imperative that the vehicle manufacturers create a way for third party review and access to data recorded at the time of the crash. Without this information law enforcement and insurance groups would rely on the statement of the driver, which would be seen as not a reliable source of information.

States have started discussions on whether HAVs will be required to carry motor vehicle insurance. Groups maintain some of the challenges with regard to insurance include answering who needs to maintain the insurance -- the driver/owner or the manufacturer. There was also a concern on what would be the limits of such insurance.

When infrastructure is concerned, it was asked how States can work together to standardize and maintain road infrastructure including signs, traffic signals and lights, and pavement markings. It was deliberated that the FHWA’s Manual of Uniform Traffic Control Devices (MUTCD) might be appropriate to address this responsibility, and to also work with AASHTO. There was a concern of how states would be able to meet new or emerging standards that AVs might require. States identified a potential need for more federal dollars for maintenance and repair of infrastructure in order to prevent liability to the State for failure of AV technology due to infrastructure limitations or failures. States should work with municipalities and national organizations to establish uniformity.