

2017 AUTOMATED VEHICLE SUMMIT



PENNSYLVANIA AUTONOMOUS VEHICLE TESTING POLICY TASKFORCE

1. SET MINIMUM APPROVAL CRITERIA:

- This minimum approval criteria will assist in assuring that only AV testers capable of setting up, managing and running a safe and successful testing operation are given permission to operate on PA highways.

- While most members of law enforcement will not have an active part in setting the minimum criteria for AV testers in PA, the list of approved testers must be made available to them.

- ◇ As testing becomes more widespread, there will undoubtedly be fly by night individuals/companies that will attempt to test their vehicles on public roadways without authorization. This is a definite safety concern and our local and state law enforcement officers are the ones that will come in contact with them first along the highway while conducting traffic enforcement, investigating a crash or by other means.

2. WHO IS THE DRIVER?

- How do you run a truly driverless car in a real world situation while simultaneously ensuring someone is still able to take control of the vehicle if necessary and also comply with existing statutory requirements placed on drivers in cases of crashes or emergencies?

- Policing is inherently a “people” business. When you take the person out of the car it may create some initial challenges for law enforcement.

- ◇ Who do you interview in a crash investigation? (Will the downloading of data from the vehicle become commonplace to ascertain the possible cause of the crash?)

- ◇ These are machines run by computers and occasionally they are going to malfunction in some way causing the vehicle to commit a traffic violation. Who gets the traffic citation?

- ◇ During a crash investigation how will the investigating officer know if the car or the human driver was in control if it is a category 3 or 4 autonomous vehicle?

3. VEHICLE CHARACTERISTICS, CAPABILITIES AND SECURITY

- Minimum technology requirements will have to be set for the safe testing of autonomous vehicles. The tester will also have to address cybersecurity issues.
- The obvious law enforcement concern here is the cybersecurity issue.
 - ◇ Technological advances on many levels and across many spectrums have made our lives better, safer, easier and certainly more interesting. However the criminal and indeed sometimes evil members of our society seem to keep up with every advancement in technology and use it for nefarious purposes.
 - ◇ How will law enforcement know if an autonomous vehicle has been hacked and is now being used for criminal or even terrorist activity?
 - ◇ One rather simple vehicle characteristic that will be important to law enforcement is identification. How will the officer know that the vehicle is part of AV testing. If three commercial vehicles are platooning down the highway 40 feet apart at 65 miles an hour how will the officer know that they are test vehicles and not under human control which would be very unsafe.

4. DATA COLLECTION

- In order to determine the success of the AV testing and the success of individual testers, data will have to be collected and analyzed.
- Since one of the main goals of autonomous vehicle testing is highway safety, the data that law enforcement collect on crash reports is going to be critical.
 - ◇ In an idealistic world all cars drive themselves and there are no crashes to investigate. All of the police officers can focus on criminal investigations.
 - ◇ Those that are heavily involved in the AV industry have said the number of highway crashes will most likely go up before they go down. This is solely because of the human vehicle operators interacting with the autonomous vehicles as they are integrated onto our highways.
 - ◇ It is during this time that law enforcement officials must continue to complete accurate and detailed crash investigations to determine if the fault lies with the human or with the AV. The data from these crash reports will be extremely valuable as government officials and the AV industry move forward.

**TWO OF THE MOST IMPORTANT ISSUES FACING LAW ENFORCEMENT
AS AV TESTING MOVES FORWARD ON PA HIGHWAYS:**

1. EDUCATION

◇ The AV industry is moving ahead at a very fast pace. For law enforcement to be prepared and continue to meet the demands that will be placed on it in an efficient and professional manner education has to play an important role.

2. COMMUNICATION

◇ Open communication between the AV industry, legislators, highway administrators and law enforcement is most important to the success of autonomous vehicle testing and integration.