

Automated vehicles – coming to a traffic stop near you?

By Michael Timms, RTSZero.com.au

It is the goal of Australia's National Transport Commission (NTC) to achieve "end-to-end regulation to support the safe commercial deployment and operation of automated vehicles at all levels of automation in Australia".

James Morris, writing for Forbes.com (21 March 2021) outlined in simple terms what the different levels of autonomous driving mean, as defined by the Society of Automotive Engineers: "They start at 0, which means no self-driving ability at all. Level 1 means there is some driver assistance, such as adaptive cruise control. Level 2 is where the car can do the steering and acceleration, but the driver must still be ready to take the wheel. Level 3 and above are fully autonomous, but with human override capability a possibility until you get to Level 5, which doesn't have to have this ability".

Mr Morris also said current Tesla vehicles, such as the one involved in a fiery double fatality crash in Texas on 18 April 2021, are considered to be at Level 2. Investigating police said neither of the two deceased occupants were found behind the wheel.

The Tesla Autopilot feature has been linked to high-speed crashes with stationary police vehicles conducting traffic stops or attending incidents.

Last year, with a view towards the introduction of vehicles Level 3 and higher that can perform the driving task without human input, the NTC released a discussion paper entitled National In-Service Safety Laws for Automated Vehicles (AV's).

The discussion paper recognises AV's operating on our roads will create challenges for agencies responsible for enforcing the road rules. There are issues that will affect police as AV's hit the roads beyond the question of whether a machine or a human is to blame in the event of a crash.

TRAFFIC STOPS ARE COMPLEX

In 2019, Rand Corporation, a public policy research organisation, held a workshop in Washington DC where operational police officers identified priority areas in regard to their interaction with AV's. The point was made that many seemingly simple interactions, such as traffic stops, are actually quite complex, and Law Enforcement will need a way to securely communicate with AV's. The consensus was law enforcement should begin proactive preparations to address longer-term challenges before being forced into reactive changes.

Just as is the case now, police will require Level 3, 4 and 5 AV's and their controllers/occupants to do certain things. This includes:

- Pull over to allow emergency vehicles to pass
- Pull over and stop for police
- Slow down, stop, change lanes or alter course

Police will require AV's, regardless of who is in control, to comply with directions given by hand, or by the activation of blue/red flashing warning lights.

The requirement to stop extends beyond traffic matters to criminal offences, drug, contraband and human trafficking interdiction, and instances where a vehicle is used as a weapon or to make good an escape.

The situation cannot be allowed to develop where AV's become the modus operandi for organised criminal enterprises such as outlaw motorcycle gangs. They will be watching this space if they aren't already.

TRAINING AND TACTICS

In 2018, California Highway Patrol observed a Tesla Model S on a freeway travelling at 70 MPH, with the driver asleep at the wheel. Police activated lights and sirens in an attempt to stop the vehicle (via a conventional traffic stop), but the vehicle continued. Police manoeuvred in front of the Tesla and began to reduce their speed, in the hope that the Tesla's automated systems would slowly bring it to a stop, which it eventually did, albeit in a running lane of the freeway (which presented another danger). Police were eventually able to wake the driver who was charged with driving under the influence.

Intercepting a vehicle in this manner is not something these police would have trained for and police forces will need to develop policy and procedure to deal with AV's in-service.

THE FALLBACK-READY DRIVER

AV development has invented the concept of the 'fallback-ready driver'. This is a person who is ready to take control of a vehicle should the situation become too complex for the automated system to handle. But is the concept of the fallback-ready driver fatally flawed?

The loss of 1,200 lives on Australian roads annually shows how drivers fail to cope when they are in control at all times, let alone if/when control is handed in an emergency to a driver whose situational awareness may be diminished.

The 2018 killing of a cyclist, hit by an Uber 'self-driving car' in Arizona, is slowly progressing through US Courts. The fallback-ready driver in that crash faces charges of negligent homicide. Prosecutors allege at the time of the crash the fallback-ready driver was streaming an episode of The Voice.

The NTC told *PANSW Police News* that only one Australian police force made a corporate (confidential) submission to the NTC's in-service safety laws paper. To their credit, NTC engaged with ANZPAA during the consultation period.

AV's have potential to reduce death and serious injury on our roads, however we cannot assume corporate submissions from policing or transport agencies will address all concerns. Vigilance is needed so that operational police in this country are not forced into the type of reactive changes feared by their US counterparts.

Author Note: Michael Timms retired from NSWPF in January 2020 following a 33-year career. He is a PANSW Associate Member and member of the Executive Committee, NSW Chapter, Australasian College of Road Safety.