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New South Wales Parliament

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### **Supplementary Questions Inquiry into Driverless Vehicles and Road Safety Tranter and Brady**

Very many thanks for the opportunity to provide responses to the supplementary questions.

SQ1

We believe our optimism is quite justified. The momentum behind automated vehicles is very high – especially given the investment being made in the technology by the vehicle manufacturers and the IT companies. There has developed intense competition between the traditional vehicle manufacturers and the IT companies in the race to commercialise and bring to market these technologies. This is leading to very rapid gains in automated vehicle technology.

The figure of 2035 is based on two assumptions

1. By 2025 only SAE level 4 and 5 vehicles will be on the Australian market
2. BY 2035 90% of the fleet will be comprised of these vehicles.

The first assumption is based on the rapidity that we have seen in the bringing of SAE level 2 vehicles to the market and strong claims by manufacturers of SAE level 3 and 4 available by 2020. It is also based on the very quick trickle down of recent automated vehicle enabling technology from prestige to mainstream vehicles (ie self-parking, lane change warning, adaptive cruise control).

The second assumption is based on future of the motor vehicle. There are two aspects. The vehicle manufacturers picture automotive vehicles as SAE level 4 – existing vehicles that have a fully competent robotic driver function. They see this as an additional feature on their current vehicles and do see these vehicles as still having dynamic controls for human driving.

The IT companies are more interested in SAE level 5 – driverless people pods – where the vehicle is part of an automated transport system that individual consumer purchase rides in. It is expected that by 2025 the IT companies will be looking at rolling out these systems in densely populated urban environments as a success to Uber type services.

We are assuming that by 2035 many Australians (especially in urban areas) will have dispensed with vehicle ownership as it is anticipated the cost of using a people pod system would be less than owning an maintaining a motor vehicle. We assume that these vehicles will be maintained and updated by the service providers to be the latest technology. Concerning what we see as the diminished number of privately owned vehicles we assume based on the trajectory of increased vehicle affordability in Australia over the past 20 years and that it might be potentially be the wealthier sectors of the community who wish to retain vehicle ownership that these vehicles will be

turned over quicker than presently. As such we think it is reasonable that within 10 years of mass market availability 90% of the private vehicle fleet will be SAE level 4.

#### SQ2.1

While the NTC has suggested using the SAE standard to discuss automated vehicles we believe that it would be a retrograde step to introduce such definitions to legislation at the moment for the following reasons:

- In the early stage whether a vehicle fits into a specific level or definition is difficult. A vehicle might have the capacity to be a level 3 but is limited by its software in the Australian market. Each manufacture at this stage also has a different product term for the automated driving system (autopilot, self-drive). Which vehicle meets which level would be a difficult question of fact to determine and result in excessive legal argument.
- There might be an argument for distinguishing between an automated vehicle capable of functioning on a road without a human occupant (ie SAE level 4 in automated mode and SAE level 5). This might be to allow vehicles to function without a human occupant or to prohibit such function. Both the South Australian amendments and the US amendments provide example of definitions that attempt to distinguish between a fully and quasi-automated vehicle.

#### SQ2.2

The international reform trajectory has been on adopting existing laws to automated vehicles. From this it can be seen that the approach has been to incorporate and adapt automated vehicles into existing motor vehicle law and regulations. The assumption seems to be that current frameworks regarding road rules, vehicle design, regulation of human doing with motor vehicles and risk and injury compensation are adaptable to increased vehicle automation. We are unaware of any jurisdiction proposing new schemes or frameworks.

However, there is clearly need for reform especially around the definitions of human-vehicle interface (ie 'driver') in the current road rules and CTP schemes. On the later please see our submission to the NTC at <http://ntc.gov.au/submissions/history/?rid=91793&pid=8247>

#### SQ 2.3

We suggest two mechanisms to assesses impacts.

1. Good Data – There is an essential need in assessing the impact of automated vehicle and any specific legislative reforms for clear data from NSWPS, Transport NSW, State Insurance Regulatory Authority (and the CTP providers) on incidents involving automated vehicles **and comparative** baseline data on human driven vehicles. Only in comparing to human driven vehicles do the successes and challenges of automated vehicles adoption become evident.
2. Stakeholder Input – In addition a three year review of changes that involves engagement with stakeholders from the NRMA, manufacturers, NSWPS, insurers and regulators, to get a whole perspective on the impact and challenges of any reforms.

SQ 3

IN our submission we focused on the Australian Road Rules which NSW has adopted. The success of the NTC and the Australian Road Rules in ensuring very high consistency regarding traffic law in Australia should not be undone in any adaption to automated vehicles. The NTC has taken a lead on this with its Discussion Paper <https://www.ntc.gov.au/current-projects/preparing-for-more-automated-road-and-rail-vehicles/> and we urge NSW to play an important role in ensuring appropriate reforms be recommended to the Australian Road Rules that are then uniformly adopted in each state. It would be retrograde in the extreme— especially given the high inter-state vehicle movement between NSW and Queensland to the north and Victoria to the south, that road rules regarding automated vehicles change on crossing those borders.

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