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Mr Marcus Burke
Project Director
Automated Vehicle Program
National Transport Commission
Level 3/600 Bourke Street
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Dear Mr Burke

## Re: Deloitte's response to the National Transport Commission's Discussion Paper on *Motor Accident Injury Insurance and Automated Vehicles*

Various models of Motor Accident Injury Insurance (MAII) schemes exist across Australia's states and territories and in many cases, being able to establish a liable party can impact the injured party's access to MAII recompense. Currently, there are a number of trials of higher-order automated vehicles and new vehicles are being rolled out with more advanced levels of automation. As it stands, there is insufficient clarity regarding the applicability of existing MAII schemes should a crash involve an automated driving system (ADS) that was in control of the dynamic driving task (DDT) at the time of the crash.

This is an important piece of work to progress the implementation of connected and automated vehicles and as such, Deloitte Touche Tohmatsu (Deloitte) is pleased to provide this submission to the National Transport Commission (NTC) in response to the discussion paper on *Motor Accident Injury Insurance and Automated Vehicles* (Discussion Paper).

### About Deloitte
Deloitte is the brand under which thousands of professionals collaborate across a network of offices in Australia to provide audit, economics, financial advisory, human capital, tax and technology services.

With a deep understanding of both the current and future themes and technologies disrupting the transport sector, Deloitte works across the industry enabling public and private clients to deliver a 21st century transport system for all Australians. We provide expertise across the full lifecycle of transport assets and service delivery to ensure clients get the most out of transport investments and help them to future proof our road, rail, air, and sea transport systems.

Options to address liability based MAII

The NTC states that the overarching principle relating to MAII reform should be that, "no person should be worse off… if they are injured by a vehicle whose ADS was engaged, than if they were injured by a vehicle controlled by a human driver." Based on this assumption, the only practicable outcome would be to recommend and support option 3, that is, to expand MAII schemes to cover injuries caused by an ADS. Under options 1 and 2, it is likely that the injured party would be worse off than if they were injured by a vehicle controlled by a human driver.

As for options 4, 5 and 6, a reliable conclusion may not be reached without further information but for now, these options are a good basis for further investigation and discussion. We would suggest undertaking a multi-criteria assessment underpinned by consultative workshops and scenario modelling, to evaluate these options then identify the best option for further consideration. The following response highlights opportunities which may be incorporated into the above process.

The potential benefits of automated vehicles

Automating vehicles could improve safety outcomes by reducing unpredictable behaviour on the roads and configuring vehicles to operate seamlessly in a safe manner. Further, by prioritising safety outcomes the gradual introduction of automated vehicles could significantly reduce road trauma and positively impact MAII schemes across Australia. Other benefits to the emergence of connected automated vehicles include better mobility, ease of travel and a cleaner environment due to lower emissions.

Seeking better and improved outcomes

By restricting the overarching principle to one of "not worse off", may limit the full potential of automated vehicles to deliver their road safety benefits for Australia. One of the reasons automated vehicles are being tested and deployed is in the hope that by automating the DDT, there will be fewer crashes resulting in deaths or serious injuries, which add to the national health burden and carry significant social and economic costs. While option 3 may be the most appropriate option for now regardless of whether injured parties are better or worse off, we would suggest that when further evaluating options 4, 5, and 6 it should be framed around which option delivers better outcomes for injured road users involved in a crash.

Information about the crash, crash location, type and damage to the vehicle, and details relating to the driver(s) are necessary when assessing MAII claims. Automated vehicles rely on a number of sensors and actuators to be autonomous and therefore collect and transmit a vast amount of data. For example, a typical new vehicle with vehicle electronics will have within its engine control unit a further 80 electronic components from engine control modules to brake control modules. In-car systems typically have smart phone links, vehicle telematics, and diagnostics. A single AV depends on a number of sensors that collect vast amounts of data from GPS, radar, LiDAR, cameras, and odometry for autonomous operation. Given a great deal of data will be available, it is important then, there is a regulatory requirement for automated driving system entities provide data under prescribed circumstances. More importantly, it should be a mandatory requirement that automated vehicles are fitted with transparent black boxes which can be validated, instead of 'unpredictable' black boxes. The NTC should also consider the impact on a MAII claim should the supporting infrastructure, such as a lag or loss of telecommunications signals, be the cause of a crash. This may be a criteria when evaluating the preferred option.

Pricing mechanisms currently consider a number of factors including the driving history of the operator as a predictor for future claims. Automated vehicles are far more predictable than human operators and are less likely to breach traffic or road rules. Therefore, pricing mechanisms for automated vehicles could be based on factors which promote safer outcomes, for example, the extent of vehicle safety features which improve crash avoidance and reduce injury severity and safe operational measures to reduce risky behaviour such as, overriding algorithms to reduce false negative object detection. Public and private insurers should be made aware of operational decision making algorithms so that they can consider programmed actions as a predictor of future crashes such as braking distance and speed, tolerance and variance relating to obstacle avoidance and passing distance.

It may also be the case that partial or conditional ADSs which require human operators to oversee or take back control, are considered riskier than a highly or fully automated vehicle, due to humans factors such as delayed or impaired reaction times. The complexity of the road environment could also be considered, particularly for limited highly automated vehicles and be based on the four cornerstones of the road safety principles, for example, higher operation speeds increase the risk of death or serious injury and therefore would attract a higher risk rating. These other factors will make it necessary for schemes to be developed with the liable party being dependent on the level or classification of vehicle automation.

While the Discussion Paper notes that current state-managed MAII schemes may add complexity to the viability of options 4, 5 and 6, it may be worthwhile to the discussion to outline why this may be, for example, the extent of funding, spending and profits derived from the MAII schemes. These factors should be included when evaluating the best option for MAII reform.

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There are also other opportunities to review and amend the funding model to incorporate the level of risk or number of operational vehicles, particularly as there will be additional liable parties, such as ADSEs. Ensuring that ADSEs and other parties responsible for the safe operation of the vehicle contribute to the overall funding pool, may assure public and private insurers about underwriting product failure within a MAII scheme, especially if they are publically underwritten.

The cost savings resulting from fewer crashes, the number of claims and lower utilisation of the health, transport, and enforcement sectors, should be considered when developing policies around the uptake of automated vehicles, particularly if these vehicles are fitted with evidence-based driver-assist technologies. Pricing principles and mechanisms should also be considered so that government regulators use fines and subsidies to drive safer outcomes and improved safety features.

As discussed, clarifying the applicability of the current MAII schemes and claims for crashes involving an automated vehicle is an important step for both consumers, insurers and to building consumer confidence in the technology.

We thank you again for the opportunity to respond to this Discussion Paper. Should you require further information regarding the above, please do not hesitate to contact Anna Sawyer, Associate Director at Ansawyer@deloitte.com.au.

Yours sincerely

**Liesbet Spanjaard**
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