GOVERNMENT OF WESTERN AUSTRALIA
Department of Transport
Main Roads Western Australia
Public Transport Authority

Our ref: 19991

Mr Paul Retter AM
Chief Executive and Commissioner
National Transport Commission
Level 3, 600 Bourke St
MELBOURNE VIC 3000

ATTENTION: Automated Vehicle Team

Dear Mr Retter

Safety Assurance for Automated Driving Systems - Consultation Regulation Impact Statement May 2018

Thank you for the opportunity to comment on the above National Transport Commission (NTC) Consultation Regulation Impact Statement (RIS) and to contribute on this issue.

The following response, on behalf of the Government of Western Australia, comprises input from the Department of Transport, Main Roads Western Australia, the Road Safety Commission, Western Australia Police Force and the Insurance Commission of Western Australia. The consolidated views have been included in the responses below.

Western Australia supports the broad approach to this work, and the strategic move toward a safety management systems-based approach, in line with other transport sectors such as aviation and rail safety.

There continues to be a range of critical regulatory design decisions that are linked to the safety assurance of automated driving systems that are unaddressed or out-of-scope of the RIS, including the nature and responsibilities of any regulator, and interactions with state based road transport safety regulators. I look forward to continued collaboration with the NTC to ensure comprehensive Australian regulation facilitates the safe deployment of automated vehicles on Australian roads in a timely manner.

Responses to the questions within the discussion paper are attached. If you require any further information please contact Mr Brett Hughes, Executive Director Transport Strategy and Reform at the Department of Transport on (08) 6551 6140.

Yours sincerely

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Director General
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Western Australia's overall position

Western Australia (WA) supports the analysis of the National Transport Commission (NTC) in *Safety Assurance for Automated Systems Consultation Regulation Impact Statement* (RIS) and agrees in principle to NTC's preferred option.

While the analysis in the RIS appears sound, the decision to implement the safety assurance system will require a number of additional significant regulatory design decisions to be made, including but not limited to:

- the role and responsibilities of the regulator responsible for the Safety Assurance System (SAS);
- state based powers to regulate automated driving systems under road law; and
- interactions between road legislation and the safety assurance system.

The items that are out-of-scope in the RIS (e.g. government agency roles in a SAS, detailed compliance and enforcement options, and how a SAS would affect existing vehicle registration and driver licensing regimes) may be critical for stakeholders to consider in order to properly assess the SAS options presented in the RIS. Feedback regarding these out-of-scope elements is provided under question 22.

While noting the importance of the RIS and the issues addressed therein, WA encourages NTC to consult with stakeholders on the comprehensive suite of legislative reforms proposed to assure the safety of automated vehicles, once appropriate policy decisions have been made.

WA responses to the discussion paper are as follows:

1. *To what extent has the consultation RIS fully and accurately described the problem to be addressed? Please provide detailed reasoning for your answer.*

In the main, the problem statement within the consultation RIS accurately describes the problem to be addressed.

The consultation RIS identifies several constraints. As automated vehicles (AVs) are a rapidly emerging technology, there is a lack of quantitative data and "…full monetisation of costs and benefits is not appropriate or possible in the case of emerging automated vehicle technology" (p.12). The work to implement the preferred safety assurance system option (detail supporting the issues broadly identified here) could identify previously unknown issues or highlight those considered supplementary during this phase of the consultation process.

The problem statement identifies that automated driving systems (ADS) may fail to deliver reasonable safety outcomes, however the range of safety parameters under consideration are not specified. The decision RIS should clarify the boundaries of the RIS.

We encourage NTC to describe the additional relevant policy and regulatory work that will need to be developed for, and concurrently with, the implementation of the SAS, so that decision makers can be assured that all relevant issues will be addressed (for example, environmental safety, terrorism, equity issues).

A gap may emerge between what an automated driving system entity (ADSE) believes is necessary to achieve operational safety (in terms of automation or vehicle design) and what the community may consider to be an acceptable standard of safety. This illustrates an inadequacy of a self-certification regime. The Statement of Compliance made under a SAS is essentially just a 'promise' made by an ADSE that it will deploy and maintain an ADS in a prescribed manner to perform safely, not necessarily according to the standards of the community in which the ADS will operate.

In view of this, governments should not be required under a self-certification SAS to protect ADSEs from the consequences of their actions, nor constrained from imposing supplementary regulatory requirements if needed to augment safety outcomes.

In relation to the first two points in the problem statement, a lack of consumer confidence may be justifiable and appropriate if ADS' do not represent superior risk outcomes to those of human drivers. That potential for lack of performance is the problem (first point in problem statement), not the consumer and their relative willingness to use these products. So, the second point of the problem statement could be viewed as a subset of the first point i.e. 'ADS' may fail to deliver reasonable safety outcomes', resulting in 'a lack of consumer confidence which may reduce or delay their uptake'.

The problem statement seems to assume that the whole AV market will be disadvantaged by some ADSEs with poor safety records. If costs of poor safety outcomes are incurred by the ADSEs causing them (e.g. by paying compensation and penalties), then they might be less likely to remain in the market, leaving ADSEs with good safety records to dominate. For this reason, it is important that compensation costs are not borne by governments, motor injury insurance schemes, motorists and the community.

The reference to 'consumer' may be somewhat limiting in the problem statement. The whole community will be exposed to the risks of vehicles controlled by ADS' over which they may not have made any sort of product or service purchase choice. Perhaps 'community confidence' may describe the issue more holistically.

2. What other factors should be considered in the problem statement?

The regulatory structure needs to take account that there may be inconsistencies between Australia's SAS and international regulatory approaches which could present an impediment to AV imports and uptake in Australia.

Under section 2.2 there is a discussion about risk and why an ADSE may not operate safely. One of the risks is the commercial pressure to launch a product and/or service to keep up with competitors if they are losing market share or market capitalisation. This may result in something that isn't quite as well tested as other products/services coming to market. The primary safety duty helps to address this risk.

There are potential problems with the concept that an ADS will be 'ready' for deployment at some discrete point in time. The adoption of new technologies more generally is a much more drawn out and nuanced process, covering multiple iterations and use cases. For example, an ADS could move from a low level of automation to a higher level of automation via 'over the air' software updates. Therefore, a SAS may need to consider how the adoption of this technology may be incremental and phased.

3. *Has the consultation RIS provided sufficient evidence to support the case for government intervention? What else should be considered and why?*

The consultation RIS provides sufficient evidence at a high level, as does previous work by the NTC and Austroads leading up to the release of this document. With the technologies associated with autonomous driving still evolving, a technology-neutral governance framework that provides for road safety while supporting innovation and providing confidence to the community, industry and government is preferred.

4. *To what extent have the community and industry expectations of a regulatory response been accurately covered?*

Expectations appear to be sufficiently covered given the limited scope of the RIS, though consultation on the full final scope of AV safety regulation should occur after the remaining key policy issues have been resolved. Stakeholders, including the WA Government, will need to be confident that Australian regulation adequately addresses the full range of safety risks related to ADS'.

WA anticipates that the RIS consultation process will help provide industry and the community with an opportunity to consider the relevant issues. To encourage community feedback, the NTC should provide condensed information in plain English and use suitable formats, such as fact sheets or short information papers.

5. *Are the four options clearly described? If not, please elaborate.*

The explanations for each option provide a broad overview and indicate clearly the overarching differences between them. However, the Primary Safety Duty should be defined or described more clearly, particularly given an ADSE will have other general duties imposed on them through other relevant legislation.

The NTC proposes that the primary safety duty should only cover ADSEs (the party seeking to bring the technology to market in Australia) because vehicle manufacturers, commercial operators and repairers are covered by existing legislation and registered operators/owners have limited ability to manage risks. The NTC should confirm whether the ADSE has the ability to transfer responsibility (for the primary safety duty) to another ADSE upon re-sale or modification. If we are going to take a safe systems approach, the RIS should express how to deal with risks associated with all participants in the chain. The NTC should investigate the need for a chain of responsibility that covers all participants (e.g. software modifiers, road operators, repairers, operators, etc) and provides the ability to transfer responsibility.

It is unclear whether the NTC considers the primary safety duty under Option 4 will assist insurers with risk-rating, compensation and recovery actions. It may take a long time for ADS safety regimes to build up to a level that may be considered proactive. Conditional automation and mixed fleet risks are likely to be dominating factors for some years.

6. *Are the proposed safety criteria and obligations on ADSEs (detailed in chapter 4 and Appendix C) sufficient, appropriate and proportionate to manage the safety risk?*

The safety assurance system should ensure the ADSE is the entity best able to control the risks, and this risk management principle should be applied wherever practical.

The 11 safety criteria under the SAS are supported in-principle, although whether they will actually be 'sufficient', 'appropriate' and 'proportionate' to manage ADS and ADSE risks cannot be ascertained from the consultation RIS. The adequacy of the safety criteria and obligations will be tested through interpretation of them by prospective ADSEs and the ability of the SAS regulator to determine if those criteria have been reasonably addressed in the Statement of Compliance. Practical application of the safety criteria (e.g. sufficient information for the decision maker) will be important.

The safety criteria should be written consistently as outcome statements, rather than general issues or processes to ensure outcomes. It may also be worth moving some of the definitions currently in the Glossary to this section to further clarify meaning (e.g. human machine interface, operating design domain). The NTC may also wish to consider whether weighting should be applied to particular criteria and obligations.

Another concern relates to the potentially different processes and standards employed by different ADSEs for managing the safety criteria. There may be inconsistencies in standards. For example, on-road behavioural competency for one ADSE might result in a vehicle shutting down to prevent collision with an object that has come onto the road (e.g. a kangaroo) however the proximity of the vehicle behind that is not automated will result in a run off-road or rear-end collision that may have greater impacts. How will the safety standard parameter be assessed as being appropriate? Will we just rely on the ADSE to tell us that a particular outcome is considered the best, when another ADSE presents something different?

An ADSE may not agree with the regulator's assessment (if an approval is not granted). What process is envisaged for re-submission or dispute resolution? There could be significant administrative burden attached to such processes.

In terms of the individual safety criteria and obligations in Appendix C, a number of specific comments have been raised:

- C.1.3 Human Machine Interface (HMI) – This criterion is overly prescriptive. It does not allow AVs for freight or for people without sufficient driving capability. There is the potential for AVs to offer a mode of transport accessible to the vision impaired or people with low cognitive capacity, etc, as passengers in level 3-5 AVs. HMI requirements should then be able to communicate in a number of ways including auditory and tactile (haptic) feedback mechanisms. This is also relevant for sensory impaired users outside the vehicle. While the intent of the SAS is to not be too prescriptive there are issues around accessibility and redundant communication that may need to be considered.
- C.1.4 Compliance with relevant road traffic laws - compliance is particularly relevant when regulation specifies that certain manoeuvrers must be conducted in a "safe" manner without providing a quantitative measure or clear parameters of what constitutes "safe". This may require additional clarification of a number of road rules in both the Act and Code to allow ADS' to be compliant.

- C.1.5 Interaction with enforcement and other emergency services – This criterion is too prescriptive and only covers the level of automation engaged. If C.1.3 HMI specifies an external indication that allows other road users to ascertain the 'state' of an AV (e.g. fully autonomous mode engaged), this would also allow law enforcement to determine the 'state' of the AV.
- C.1.6 Minimal risk condition – WA supports the inclusion of 'e-call' functionality in AV systems, which would require the ADS to communicate on behalf of a driver if they were incapacitated. Even in a non-AV fleet, such technology has the ability to reduce 'killed and seriously injured' by up to 10 per cent[1].
- C.1.8 Installation of system upgrade – noting the difficulty in accessing sufficient data network coverage in some areas of WA, this section should consider whether there is a timeframe for which an ADS can continue to operate until it comes within range of an update. This could also include consideration for how long an ADS is allowed to operate autonomously outside of data connectivity range. If this period of time was significant, the system may not be aware an update is available.
- C.1.10 Cybersecurity – This criterion is currently limited to design and development of the ADS and does not clearly include maintenance, import, modification, supply and all elements of ADS development. This criterion should be re-written as an outcome statement. For example "*the applicant must demonstrate the capacity, competency, systems and processes of the ADSE that minimise the risk of cyber intrusion*". There are a number of ISO standards that would be applicable to this section, and the NTC may wish to incorporate consideration from C.1.8 regarding validation of the ADS software. If the software detects some form of tampering or inconsistency it may stop the system from being engaged. This would need to be balanced against the ability of consumers to modify vehicles.
- C.1.11 Education and training – the outcome of this criterion is competency, so the NTC should re-write it as an outcome statement. Education and training alone may not be sufficient, and retraining, testing, performance review, etc should be enabled. This criterion must cover all relevant participants in the supply chain, including designers, manufacturers and suppliers of AV technologies. This will be particularly important post incidents, to create a learning loop or feedback mechanism to continuously improve safety outcomes and promote a safety culture within the AV industry. Education could be linked to C.3.1 on data sharing.
- C.3.1 Data recording and sharing - "Crash and near miss data" is too vague and requires further elaboration. It may be worth considering how C.4.1 Privacy (currently excluded as it is already covered by privacy protection regulations) could interact with data sharing, and the ability to make fully identified data available to specific organisations for specific purposes. It is also worth considering how data sharing links to C.1.11 (Education and Training). The 'relevant parties' who receive information about accidents and near-misses should be extended to include manufacturers, designers and suppliers (possibly from overseas). The data also needs to be shared with all relevant parties in a timely manner. Sharing data with the broader AV industry would create a learning loop or feedback mechanism from incidents to reduce future safety risks, continuously improve safety outcomes and promote a safety culture within the AV industry.

[1] European Commission. (2011). Decision of the European Parliament and of the Council on the Deployment of the interoperable EC-wide eCall. European Commission. http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=2252

- C.3.3 Minimum financial requirements – this criterion needs to be clearer and stronger. We need a higher burden of responsibility than just insolvency and liquidation. Further details are provided under question 7.

7. Are there any additional criteria or other obligations that should be included?

While the minimum financial requirements obligation in the RIS references an 'appropriate level of insurance to cover personal injury, death and property damage caused by an ADS', one safety assurance lever is not considered – the price signal. The type of insurance deemed to be appropriate is critical for incentivising ADSEs to operate safe systems. Risk-rated insurance products are more likely to deliver that essential price signal. ADSEs that are poor insurance risks should be discouraged from the Australian market to optimise public safety. When assessing the risk of a particular ADS and ADSE, an insurer may require more from the ADSE than just the SAS approval (e.g. detailed evidence of ADS risk management).

The community may be concerned that the ADSE, rather than the agency responsible for administering the SAS, will be responsible for any testing and validating the safety of the ADS. The role of the SAS agency appears to be more reactive than proactive i.e. it will investigate in-service safety-related incidents only. There may be benefit in considering some sort of targeted safety audit program as part of the SAS agency responsibilities to minimise the potential for having to investigate 'incidents'.

It would be useful to include an additional safety criterion on interoperability standards. An ADS is likely one component of an AV but there are other components that may be required to communicate with the ADS. For example, if drivers, despite the presence of an ADS, are still required to not be under the influence of drugs or alcohol, then that would indicate a need for devices such as alcohol interlocks. An alcohol interlock device would then need to be able to communicate with the ADS to ensure (as in the case of WA) that if a driver is detected above the legal limit during a journey then the vehicle can recognise that input and safely remove itself from the road environment.

The NTC needs to ensure the criteria address all reasonable risks in a hybrid world (with a mix of humans and non-drivers). Interactions with other drivers, vehicles, pedestrians and cyclists need to be considered, and the NTC should consider whether the proposed criteria are adequate.

Given the technology is still developing there may be additional criteria (or revisions to existing criteria) which are required as evidence emerges and technology matures. The safety criteria system should be designed with flexibility in mind, by focusing on safety outcomes.

8. Do you agree with the impact categories and assessment criteria? If not, what additional impact categories or assessment criteria should be included?

Yes.

9. *Has the consultation RIS captured the relevant individuals or groups who may be significantly affected by each of the options? Who else would you include and why?*

With regard to the road safety section category, the definition of vulnerable road users is an expansive term that can also include pedestrians, cyclists, people with a disability and potentially users of electric personal transport devices. Road safety outcomes (positive and negative) also impact on charitable and community organisations who are often a source of primary or supplementary support to crash victims and their families. The disability sector is also impacted as disability services are generally budgeted for or funded separately from health.

Other groups who may be significantly affected by the uptake of AVs (category 2) include general commercial industry and businesses, ancillary industries such as the electric vehicle industry. Mobility service providers should include AV trial proponents, mobility as a service providers and public transport operators. Non-users of AVs will also be impacted by the uptake of AVs, including public transport users, pedestrians and cyclists.

10. *Does our analysis accurately assess the road safety benefits for each reform option? Please provide any further information or data that may help to clearly describe or quantify the road safety benefits.*

Yes, the analysis appears to accurately assess the road safety benefits of each option. WA notes that a full cost benefit analysis is not reasonable or possible given the lack of available information, and supports the use of a qualitative assessment based on safety principles.

The Bureau of Infrastructure, Transport and Regional Economics' (BITRE) 2017 *Report 146: Costs and benefits of emerging road transport technologies* includes some indicative road safety benefit data. The report points out that while research indicates that AVs will improve road safety, the extent of the improvement is unclear. To accurately quantify the benefits, AV trials need to measure safety outcomes under real world conditions.

11. *What additional safety risks do you consider the primary safety duty in option 4 would address compared with option 3?*

The benefits of the primary safety duty in option 4 include the potential for a learning loop or feedback mechanism from incidents, the prevention of further safety risks and taking action immediately, and the promotion of a safety culture within the organisation. It also ensures the ongoing performance of components and the overall system are monitored. Safety management systems approaches have been demonstrated as effective at managing risks in other transport environments, including rail and aviation.

The primary safety duty should also encourage comprehensive testing of products and services coming to market and reduce safety risks associated with the commercial pressure to launch a product and/or service to keep up with competitors if they are losing market share or market capitalisation. The primary safety duty ensures that the in service elements of risk will be addressed. The assumption is that after-market modifications are catered for under the ADSE requirements within the primary safety duty.

The requirement under a primary safety duty requiring ADSEs be proactive (p.48 of the RIS) has particular relevance for an emerging technology in light of recent fatalities involving automated driving technologies.

To ensure the safe operation of an ADS, where there are still unknowns with how the technology will develop and how it will be deployed, necessitates the use of a primary safety duty or similar regulatory mechanism to ensure the ADSE maintains responsibility for controlling risks within its domain.

The NTC should also ensure the primary safety duty aligns with, and not interfere with, similar provisions in other transport legislation and other safety legislation (e.g. occupational safety and health law). The NTC should also consider how the primary safety duty can align with other general duties in transport regulation.

12. Does our analysis accurately assess the uptake benefits for each reform option? Please provide any further information or data that may help to clearly describe or quantify the uptake benefits.

In terms of the two criteria, the analysis does accurately assess the uptake benefits, given the significant constraints of the analysis. Given the level of uncertainty, uptake benefits are a best guess, though the RIS's assumptions appear reasonable and valid.

13. Does our analysis accurately assess the regulatory costs to industry for each reform option? Please provide any further information or data that may help to clearly describe or quantify the regulatory costs.

WA agrees with items b & c in table 9 (*Assessment of options against the regulatory costs to industry assessment criteria*), and it is assumed that in-service requirements would result in ongoing compliance costs. Other regulatory costs to industry are outlined in question 14 below.

Regarding the 'costs' of crashes and AVs, the current 'Willingness to Pay' approach used by most state road authorities and the federal government does not include some of the 'social costs' detailed on page 17 of the RIS. A different estimation of the cost of crashes (or any deleterious event) may need to be considered with regard to AVs. The current methodology has a qualitative foundation which, in it's original development, asked road users to make decisions about how much they would be willing to pay to avoid certain outcomes. This resulting amount can often be affected by various social and cultural factors (eg. in jurisdictions that have higher general rates of mortality, a 'life' is not valued as highly) and is not necessarily consistent over time or in different circumstances. In this case it might be necessary, in accounting for the safety costs that AVs may generate, to develop a specific way of measuring and valuing these crashes and incidents which is comparable to the current willingness to pay method.

14. Are there any specific regulatory costs to industry that we have not considered?

Other regulatory costs to industry include education and training costs, the cost of educating as new technology develops, maintenance costs (e.g. maintenance of the AV's "black box"), data sharing costs, the cost of investigations once an incident occurs, frictional costs from disputes over responsibility, and the general costs of doing business in a new system. There will also be impacts on fuel stations, repairers and other vehicle related businesses. It is likely that other unforeseen regulatory costs will present in practice.

15. *Does our analysis accurately assess the costs to government for each reform option? Please provide any further information or data that may help to clearly describe or quantify the costs to government.*

No, the costs are largely uncertain at this time. Likely costs to government include transitional and duplication costs (if there is a national regulator), costs of establishing complex legislation, and the ongoing regulatory costs of enforcing and educating the community and industry. There may also be costs associated with inequality to access to the technology. With regard to fines and enforcement activity, the RIS specifies (under option four) a system of enforcement that will provide for financial penalties for a breach of compliance, which includes ongoing safety. This being the case, in a scenario where an AV contravenes a road rule, for whatever reason, the enforcement action is only referenced as occurring at the federal level. If a driver cannot be held responsible for a breach of a road rule, then either the ADS, and by extension the ADSE could be responsible. However, if the ADSE can only have a penalty leveraged at a federal level, this removes a source of infringement income, which in the case of WA at least, is spent in the majority on road safety initiatives.

In the likely scenario of a mixed fleet, state road budgets are likely to face increasing pressure to ensure infrastructure is suitable for the increasing autonomy of vehicles. However, despite the presumably small number of infringements AVs are likely to incur, this would represent an income stream that would no longer be available to the states, and hence a cost.

However, the revenue collected by the federal government in enforcement of breaches of compliance could be hypothecated to initiatives that are designed to increase the safety and uptake of AVs nationally, rather than being returned to consolidated revenue. This could have the double benefit of discouraging unsafe ADS' and providing an additional source of income to improve road networks and increase adoption of safer AVs.

It is noted that "the overall government costs are largely uncertain at this time". It is not clear how the selected option may impact on the registration and licensing system work in terms of changes to systems and associated costs (e.g. administrative costs). In addition, the ongoing costs to state and territory road managers for the national advisory panel assessing statements of compliance may be underestimated in the RIS (page 104). If the advisory panel members are to exercise due diligence in their assessments, resourcing this work may not be as inconsequential as assumed. The uncertainty for stakeholders including government identified in footnote 36 suggests that while the cost areas may be identified broadly, estimates of the cost to government will be more difficulty to estimate, especially in the near-term.
The retention of a full cost recovery approach to administering a SAS is supported. It is important that the community doesn't bear the costs (through taxation) of manufacturers bringing their products to market.

Where the SAS doesn't deliver the desired safety outcomes, the consequential costs may be borne by the community through higher insurance premiums.

16. *Does our analysis accurately assess the flexibility and responsiveness for each reform option? Please provide any further information or data that may help to clearly describe or quantify the flexibility and responsiveness of the options.*

The analysis appears adequate. Providing sufficient flexibility to enable the regulatory framework and an overarching governance structure to cater for a range of technologies is essential. Given the technology will likely evolve over time, providing flexibility and the ability to cater for risks that emerge as a consequence of their deployment is a sound approach.

Certain aspects of the SAS should be revisited and reviewed from time to time, including the Safety Assessment Criteria, approval mechanisms and sanctions and penalties.

17. *Do you consider the relevant factors and conditions for government in choosing an option to be valid? Are there any factors and conditions you do not agree with?*

Yes. The factors appear relevant. An incremental approach to regulation could be a disincentive to manufacturers, with certainty likely being a more desirable state in which they operate.

18. *Do you agree with our view on the relevant factors and conditions for government in choosing an option?*

Yes.

Noting all self-certification references mean mandatory, in-service software updates are something that need to have some governance/oversight around them as the operating system controls the ADS functionality. We need to ensure in-service updates are rolled out promptly, but not until deemed safe to do so.

19. *Has the consultation RIS used an appropriate analytical method for assessing the benefits and costs of the options? What else should be considered?*

There are several weaknesses in this approach that need to be appreciated, which cannot be represented by a simple single tick or cross. For example:

- large scale positive and negative effects may cancel to zero, with both winners and losers;
- relativity between different factors. Does a tick in one box have the same impact as a tick in another box?
- the scale: is a small benefit (tick) the same as a large benefit (tick)? Within table 8, do all ticks indicate the same level of benefit?

The use of a high level multi-criteria analysis is still a suitable analytical method for the emerging AV technology, given the acknowledged constraints on data and the assumptions around “an unknown future”. The focus on road safety is supported as there are downstream cost savings from reduced KSIs for the community and government which do not have appeared to be captured in discussions around the safety assurance system options.

Additional costs that could be considered include the cost to the community, with less freedom to amend or modify own vehicles, and possibly costs associated with inequality to access to the technology.

20. On balance, do you agree that the preferred option best addresses the identified problem? If not, which option do you support?

Although all four options have been assessed in a highly uncertain environment, WA agrees that option 4 best addresses the problem. There is a need to have a primary safety duty and to cater for in-service updates. It is also desirable to have a governance framework that provides certainty to manufacturers, ADSEs, government and the community.

While a primary safety duty is supported in principle, it is important that the duty be designed in consideration of applicable general duties in other legislation, and with a view to aligning the duty with similar responsibilities in other transport legislation. Compliance penalties should be sufficient, and proportionate to the level of risk imposed on the community.

The Safety Assurance System is a component of a larger regulatory system that will need to be put in place to ensure automated vehicles can be deployed safely. Stakeholders should be given an opportunity to review the proposed regulatory system in its entirety once key policy decisions have been made.

21. How does your choice of option better address the problem than the preferred option?

Not Applicable

22. Additional feedback or comments

The following out of scope elements of the RIS need to be addressed at some point, and not forgotten.
(a) Impacts of a SAS on existing vehicle registration and driver licensing systems.

Separating the safety assurance work from registration and licensing (including insurance) reforms may result in incompatible decision-making between the streams of work.
(b) Governance arrangements for the SAS.

The powers and functions of any such entity or entities may influence how stakeholders might respond to the proposed SAS options if these factors were known.

The likely effectiveness/efficiency of the national advisory panel is not explored in the RIS. The extent of the role of panel members in assuring the safety of automated vehicles is unclear and the ability of states and territories to exercise any real control over ADS approvals in their jurisdictions where they may have safety concerns is not apparent in the RIS. Given that the proposed primary safety duty would only cover the ADSE, State and Territory laws may need to provide for duties on individuals. For example, any duties that may apply to occupants of a shuttle involved in a crash have the potential to lead to inconsistencies.

Currently, accountability and responsibility for road safety/road trauma costs (mostly) resides with the states and territories and they have a duty to manage road safety risks in their jurisdictions. They may not have a strong role under a nationally administered SAS to manage those risks. If safety decisions made by the SAS agency (remembering that states and territories only have an 'advisory' role) negatively impact road safety, funding the consequences of those decisions should not be left to the jurisdictions.

The ongoing relationship between the SAS agency and the ADSEs may be viewed as a conduit for achieving road charging efficiencies. Declining fuel excise tax revenue from improvements in fuel efficiency, an increasingly electrically powered fleet, and changing ownership models may result in the Commonwealth seeking to implement a direct charging model[2] based on consumption. Motor vehicle registration and licensing revenue would be removed under such reforms; the impact of which could be considerable in states and territories (e.g. road infrastructure funding mechanisms and collection of personal injury insurance premiums).

(c) Compliance and enforcement.

There is uncertainty around the ability of a national or Commonwealth SAS agency to monitor and enforce safety performance of ADSEs in all jurisdictions satisfactorily to achieve the desired safety outcomes. The states and territories would bear the consequences of inadequate compliance and enforcement without certainty of penalty income flowing to the jurisdiction where the non-compliances are occurring. It is essential that reform results in sufficient level of regulatory enforcement, and this has not yet been developed.

While the RIS provides that the states and territories will be responsible for providing event data to the SAS agency, it is not clear if the states and territories will continue to have the power to issue fines and penalties for non-compliance with the road rules.

Any delays in enforcement actions by a national SAS entity may result in social and economic costs being incurred by states and territories.

[2] https://www.pc.gov.au/inquiries/completed/productivity-review/report/productivity-review-supporting9.pdf
http://infrastructureaustralia.gov.au/policy-publications/publications/files/Australian_Infrastructure_Plan.pdf