



**HEAVY
VEHICLE**
INDUSTRY
AUSTRALIA

YOUR NATIONAL VOICE

Submission to: National Transport Commission

**Title: Safety Assurance For Autonomous
Driving Systems Consultation
Regulation Impact Statement.**

Date: 9 July 2018



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1.0 Introduction

The NTC has produced a Regulatory Impact Statement looking at options for a regulatory framework to manage safety assurance for Automated Driving Systems (ADS) in Australia. The feedback from this RIS will result in a recommendation to Transport and Infrastructure Ministers in November 2018. HVIA Thanks the NTC for the opportunity to provide comment on this important issue.

2.0 HVIA

Heavy Vehicle Industry Australia (HVIA) represents and advances the interests of the entire industry involved in the design, manufacture, importation, distribution, modification, sale service and repair of on-road vehicles with a gross vehicle mass or aggregate trailer mass over 3.5 tonnes as well as their components equipment and technology. This industry directly employs over 36,000 people and provides some of the world's most efficient, safe, innovative and technologically advanced vehicles. HVIA seeks to work with government and industry stakeholders to promote an innovative and prosperous industry that supports a safe and productive heavy vehicle fleet operating for the benefit of all Australians.

3.0 Questions & HVIA Response

3.1 General Comments

HVIA believes that the RIS does not make an adequate case for introducing a new legislative framework for managing Autonomous vehicles by 2020. HVIA would prefer that any decision on a legislative framework is deferred for 3 to 5 years.

In particular, HVIA would like to see the current legislative amendments to replace the Motor Vehicle Standards Act with the Road Vehicle Standards Act fully implemented before consideration is given to legislating for a safety framework for Automated Driving Systems. HVIA is of the view that the public concerns over safety are likely to mean that the take up rate of highly automated systems in Australia is likely to be low for some years and most of the areas where it will be taken up will be in specific constrained applications. For these constrained applications it is important that the operators of the vehicle take responsibility for ensuring that the environment in which the vehicle will operate is safe and the safety systems (both in vehicle and external to the vehicle) are appropriate for operation in this environment.

As a result, HVIA believes that current legislative framework will be adequate to manage the low volume of highly automated vehicles likely to be in the Australian market for the next few years using option 2 as outlined in the RIS. HVIA has a fundamental concern over any suggestion that Australia should lead the way and pass legislation in advance of Europe and America deciding on the approach they will use to manage Automated Driving Systems. Incompatibility, between Australian and international regulatory frameworks has the potential to be very costly to industry and is likely to delay rather than encourage uptake of these systems in Australia. By waiting until the Road Vehicle Standards Act is in place (in approximately 2020) and the regulatory approaches which will be used in Europe and America are clearer, Australia will be able to make more sensible decisions on an appropriate framework.

The uncertainties over how Automated Driving Systems will develop in Australia and overseas is reflected in the RIS. The many assumptions that have been made in the preparation of the RIS undermine confidence in the recommendations of the RIS. HVIA has serious concerns over the quality of the analysis in the RIS and does not



believe it provides an adequate basis to make decisions about the future regulatory framework for autonomous vehicles.

3.2 Responses to Questions

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

The RIS correctly identifies that there are potential safety risks associated with the introduction of Automated Driving Systems. The RIS makes assumptions that a regulatory environment to govern high level driving automation tasks (automation levels 3-5) is required by 2020.

HVIA is of the view that it is unlikely that these types of systems will be available for heavy vehicles due to the complexity of the operation of heavy vehicle and the safety concerns of the general public.

The complexity of the operating environment for heavy vehicles makes it very difficult/ almost impossible for vehicle manufacturers/developers of Automated Driving Systems to anticipate all of the operating parameters under which the systems in the vehicle will be operating. As a result, operators/drivers of heavy vehicles are likely to take responsibility for the safety of the vehicle and for combination vehicles in particular for the foreseeable future.

For example, correct configuration of a combination vehicle requires that the physical connection between the vehicle components is correctly configured and that all of the pneumatic and electrical systems of the vehicle are also correct. It also requires that the loads on the vehicle have been appropriately configured and restrained. A problem with any of these steps could have significant consequences for the operation of the vehicle. The level of training of the staff or the set up of any external systems that are responsible for ensuring these are correct is the responsibility of the vehicle operator.

The operator of the heavy vehicle needs to be ultimately responsible for the safety of the vehicle. The operators responsibility should include ensuring that the configuration and loading of the vehicle is such that the vehicle will continue to operate within the operating parameters for the ADS, that all persons involved in the management of the vehicle including the driver, anyone responsible for the configuration of the vehicle and anyone responsible for the loading of the vehicles understands the limitations of the functions of the ADS and is appropriately trained in the procedures for managing the vehicle if it does not behave as expected.

Systems which can automate all of these functions and remove the requirement for driver monitoring are likely to be a long time away for heavy vehicles.

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

The problem statement needs to recognise that the Motor Vehicle Standards Act is currently in the process of being rewritten and that there is significant international activity in the area of developing standards and frameworks for autonomous vehicles.

It is likely that in the longer term international standards and existing frameworks may be the appropriate mechanisms for managing ADSs.



The RIS needs to also recognise that in many cases the provider of the ADS may be the vehicle manufacturer and that there may be warranty and other issues that arise when third party ADSE retrofit systems to other company's vehicles.

The RIS needs to acknowledge that different regulatory approaches may be required for experimental or low volume ADSs provided for trial or niche application purposes and widespread commercial deployment of ADSs.

Where widespread commercial deployments are being considered it is likely that these deployments will want to consider both Australian and international application. If this is the case having a different set of regulations in Australia may be a disadvantage and may slow the deployment of ADSs.

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 does not provide sufficient evidence to support the case for further Government intervention at this time. The RIS does not adequately consider the potential downside of having an additional layer of regulatory bureaucracy and legislation in Australia this may increase the uncertainty/ inconsistency rather than reduce it.

The RIS speculates on a number of potential risks that may eventuate but does not provide any concrete evaluation of the magnitude of these risks or the potential downside of introducing unnecessary/inappropriate legislation.

The RIS assumes that the issues that have arisen in experimental and low volume applications are a reason for additional legislation to govern both short term/experimental/trial deployments and long term high volume situations. The RIS has not adequately considered how existing regulatory approaches can deal with these issues in the longer term.

It is HVIA's view that it is not clear at this time what the scope or structure of any eventual safety assurance framework for autonomous vehicle might work. It is also not clear whether Government should own or control the framework.

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

The RIS has correctly identified that the community has an expectation that ADSs need to be safe
The RIS makes unjustified assumptions that Government needs to put in additional legislation to ensure that this happens

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

The assumption that the existing regulatory system defined by option 1 will not be able to cope with the introduction of ADS products is based on two assumptions:

- Firstly, that there will be widespread adoption of systems with very high levels of automation by 2020, and
- Secondly, that the existing regulatory framework will not be able to deal with these vehicles in that time frame.

Given the issues which have arisen with the Tesla and Google trials it would seem unlikely that there will in fact be a high level of adoption of these systems by 2020. Also, the statement in the RIS that



vehicles with ADS systems would not meet the proposed ADR 90/01 and would therefore be considered non-compliant under the existing regulatory framework is largely because the draft ADR 90/01 has been designed to exclude these systems from its scope.

The RIS does not adequately consider whether future versions of ADR 90 or other ADRs might allow these vehicles to be compliant when they are eventually introduced in large numbers. Footnote 15 in the RIS raises a question over whether international standards will close the gap and states that a transition to international standards will need to be a consideration for all options in this consultation RIS. The RIS then goes on to ignore consideration of a transition to largely ignore a international standards in further discussion of the options.

In discussion of option 2 there is again an assumption in the body of the discussion that the vehicles would be non compliant but footnote 21 leaves open the possibility that the developing standards may be able to make these vehicles compliant

The RIS also does not recognise that the Motor Vehicle Standards Act is currently being replaced by the Road Vehicle Standards Act. Most of the detail on how the Road Vehicle Standards Act will operate is in the Rules associated with that Act and has yet to be finalised.

Discussion of option 3 describes the proposed legislative safety assurance system at a very high level and the creation of a new bureaucracy to support it. The only justification for the new approach in the RIS is the unsupported assertion that the proposed approach would “*simplify the registration process for states and territories and create certainty for ADS vehicle owners*” given that there are no details of how this would work in practice it is not clear that this assertion is correct. Also given the likely take up rate of these vehicles the benefit in the early years will be small. In the longer term development of international standards is likely to remove these advantages

Discussion of option 4 includes all of the features of option 3 but adds a primary safety duty relating to the provider of the ADS. The discussion suggests that the primary duty should apply to the provider of the ADS and not the manufacturer of the vehicle, the operator or the owner of the vehicle. The discussion on the primary duty does not acknowledge that in the majority of cases the manufacturer of the vehicle is likely to also be the provider of the ADS, and ignores the role that operators have in safely configuring heavy vehicles as outlined earlier.

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?

While the set of criteria is reasonable in the context of the assumptions elsewhere in the RIS, given that ADSs are still effectively in their experimental stage it is not clear whether this list of criteria is sufficient or not.

Given the level of detail provided in the RIS it is not possible to comment on whether the criteria are appropriate or proportionate.

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

No

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



Road Safety is an appropriate impact category. But the assessment criteria are not objective and have been clearly chosen to favour higher scores for options 3 and 4. It is also not clear how the scoring relates to the assessment criteria.

Using the uptake of automated vehicles as an impact category is not appropriate. The implicit assumption that increased uptake of automated vehicles will result in improved road safety, productivity etc is at best unproven.

The assessment criteria under this category also do not seem very relevant to the impact category. Assessment criteria 2a relates to road safety not uptake rate. The ratings against criteria 2B assume that options 3 and 4 which have the greatest risks of international inconsistency align better with international requirements. This does not make sense.

The regulatory cost to industry impact category is an appropriate impact category but the subjective nature of the assessment of costs makes the results almost meaningless. The assumptions made in the assessment clearly favour options 3 and 4.

Regulatory cost to Government of the options needs to be considered in the context of the cost to industry and the benefit to the community. There is insufficient detail to make a reasonable assessment of these costs. This is acknowledged in the RIS.

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?

There is insufficient information provided in the options to accurately identify the groups who will be significantly affected by the options.

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.

The biases and assumptions underpinning the criteria mean that the analysis does not accurately reflect the benefits of the options.

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

There is insufficient detail provided to make a valid assessment

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.

The biases and assumptions underpinning the criteria mean that the analysis does not accurately reflect the benefits of the options.

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.

The biases and assumptions underpinning the criteria mean that the analysis does not accurately reflect the benefits of the options.



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

The RIS does not adequately consider the regulatory costs of a ADS being required to meet multiple different regulatory environments, and in particular a regulatory environment in Australia that is different from the regulatory environment in the US and Europe.

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.

Given that there is very limited information provided on the detail of the options it is difficult to estimate the costs to Government of each of the options. However, given that options 3 and 4 involve creation of an additional entity to manage ADSs it is difficult to understand how these options could cost less than options 1 or 2. The RIS effectively discounts these costs by assuming they will be passed on to users. However the analysis of costs to industry does not take these costs into account.

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 overestimates the likelihood that options 3 and 4 can be implemented by 2020. The assumption that the guesses made in setting up options 3 and 4 will allow for a suitable transition in the future is not supported. The assessments of the flexibility of the options is not based on any discussion in the text. Footnotes 36 and 37 discuss the extent of the uncertainties but the analysis assumes that whatever legislation is put in place for options 3 and 4 will be able to cope with all of these factors. This does not make sense.

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?

The factors chosen are not valid. It would be more sensible to wait until the future market conditions in which these systems will operate are clearer before choosing the criteria. It is not necessary for Government to choose an option now and expect that option to be valid for the period 2020 to 2030. It would be far more sensible for the Government to decide to do nothing in the short term and revisit the appropriate regulatory framework as the technology develops and as the regulatory frameworks in Europe and America become clearer.

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

HVIA is of the view that scenarios 1 and 4 are for more likely to happen in the period out to at least 2025. Fatal accidents involving Autonomous vehicles appear to be dampening public expectations on the likely rollout of high levels of automation. <https://www.dmv.org/articles/bay-area-tires-of-self-driving-tech>. Even the McKinsey document quoted in Appendix H of the RIS suggests that take up rates of highly autonomous vehicles will be low in this timeframe. In these circumstances it is more sensible to do nothing until the appropriate regulatory response is clearer.

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

Because there is very little certainty on how the technology or market conditions for Autonomous vehicles will evolve the RIS has largely based its analysis on value judgements not on hard data. This is



not an appropriate basis to commit to writing legislation and building a bureaucracy which will operate for an estimated 10 years at minimum.

The RIS should have considered an option to persist with the current legislative framework for the next 5 years (at least) and revisit the question of designing an appropriate regulatory framework at that time when it will be clearer how the market for autonomous vehicles will develop.

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

Deciding on option 4 as the preferred option is premature. It would be more sensible to persist with the existing regulatory environment for the next 3- 5 years and revisit the regulatory options at that time.

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

HVIA's preferred approach reduces the risk of saddling industry with expensive and unhelpful costs and bureaucratic rules which will hamper the uptake of these technologies in the longer run. It is also more likely to result in a legislative framework which is more inline with the safety needs of the community in the longer term.

In the next 3 to 5 years the likely trajectory for the take up of autonomous vehicle will be clearer and the regulatory approaches to be used in the US and Europe will also become clearer. Revisiting the question of the appropriate regulatory framework for heavy vehicles at that time will allow a better system to be developed.

4.0 Conclusion

HVIA is of the view that Australia should not introduce specific legislation to manage Automated Driving Systems in advance of the US or Europe.

HVIA would prefer that the changes to the current regulatory regime involving the replacement of the Motor Vehicle Standards Act with the Road Vehicle Standards Act be fully implemented before consideration is given to legislating for Automated Driving Systems.

HVIA recommends that the framework for regulating Automated Driving Systems be reviewed when the regulatory approaches to be used in the US and Europe are better formed and when the likely take-up rate and technical and regulatory challenges related to these systems are better understood.

HVIA believes that to move beyond option 2 outlined in the RIS is undesirable until the above conditions are met.