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Friday, 23 August 2019

National Transport Commission
Level 3/600 Bourke St
Melbourne VIC 3000

Dear Sir/Madam

Re: In-Service Safety of Automated Vehicles – July 2019

Transurban is pleased to respond to NTC's consultation process for in-service safety of automated vehicles.

In our previous submissions on matters relating to automated vehicle operation, we have referred to our absolute priority on safe operation of our assets. We have referred to our road safety strategic framework, which is underpinned by the Safe System approach. As road managers and operators, we are acutely aware of the impact of the quality of design, construction and maintenance of our assets on overall road safety and we are keen to continue to work with the evolving automated vehicle industry to understand the ways in which these elements will impact future safety outcomes. We have been working with developers of both light and heavy vehicles to anticipate the challenges and opportunities afforded by AV operation on our assets.

In that light, we provide our response from two perspectives:

- That of a road manager and operator, and
- On behalf of a range of AV technology developers, many from offshore, with whom we have been exploring future operational concepts for our assets and surrounding networks.

We provide comments on three primary areas and follow with a question by question response.

1 Role of Road Managers and Operators

We support the NTC view that road managers and operators will have a 'moderate' influence on in-service safety, as described in Para 4.2.2, Page 43. The report notes that operators will not have direct access or control of AVs, but will influence safety through the quality of infrastructure and signage, the control of access and management of traffic. We also support the statement on Page 52 that existing regulation is likely to provide sufficient incentive to manage these elements appropriately.

There is one area that NTC has not mentioned and that relates to the interaction of road managers and operators with road-related data such as road design/alignment/condition (as reflected in digital maps), traffic conditions, incidents, closures, and changed speed limits.

As you will be aware, some AV operational models include a reliance on three-dimensional maps of road infrastructure and its surrounds. We recognise that day by day changes to the road, whether for repairs, minor upgrades or major changes, will affect the accuracy of maps.

Similarly, other data about road or traffic conditions may be helpful to safe AV operation.

We expect that as AV operation becomes commonplace, we will have industry processes in place to ensure effective communication of changes in the road environment to ADSEs and/or map providers. We have had some discussions already in this regard and consider that road managers in Australia will be willing to be part of such processes in the future.

This does not change the conclusion that existing regulation of operators is sufficient, but we make the comment to provide a more comprehensive picture of the role of road managers in an AV world.

In a similar vein, quality of and consistency of signage and line-marking is another area likely to be the subject of discussion between road and AV operators.

2 Regulating the Dynamic Driving Task

Section 7.9 defines four options with the advantages and disadvantages of each. Our response draws on both perspectives mentioned in our introduction:

- From a road management and operation perspective, we would prefer to see a set of rules integrated as much as possible with existing road rules. We expect AVs over time to be a substantial part of the vehicle population and, as NTC has noted, Option 3 would provide the best consolidation of rules for human and automated operation. As also noted, it may lead to improved consistency across states.
- From the perspective of our AV development partners, approaches which provide a single set of rules would be preferable, i.e options 1 and 4. However, we do not see Approach 4 as particularly promising, with the Act and body concerned too far removed from the operational world.

On balance, we consider that elements of Option 1 could be combined with Option 3. A systematic development of a code of operation, taking into account interaction with human users, could be established as a stand-alone AV instrument. However, rather than being regulated separately, it could be embedded in the Australian Road Rules for implementation under Option 3. There must be an opportunity here to work with state and territory jurisdictions to support consistent application in each area. This would minimise the need for ADSEs to track variations.

Option 2, with substantial compliance, may offer a short-term approach to allow development of a properly integrated regime.

3 Four Options for Regulatory Reform

We have considered the four options principally from our partner ADSE perspective, because the proposed regulation is not intended to cover road management or operation per se. In that light, our response has two components:

- We support the use of a Safety Duty rather than a prescriptive approach where possible. This will provide the best environment for continued evolution of technology solutions in ways that might not be imagined as yet. However, we do acknowledge that there are some areas, such as the management of remote and fall-back ready drivers, in which some prescription will be appropriate.
- We would prefer to see Option 3 or Option 4 in place, because they will both minimise the variations that would face an ADSE entrant to the country. The PwC analysis does not have enough granularity to differentiate the costs of implementation of each – they are given the same cost. In practice, Option 4 may be more cost-efficient, using a model akin to the Heavy Vehicle Regulator. It would require less new operational infrastructure than a standalone Commonwealth model. More detailed modelling would be required to properly differentiate between the two.

We now provide our responses to the individual consultation questions.

Responses to Individual Questions

1. **To what extent has the consultation RIS fully and accurately described the problem to be addressed, including the in-service safety risks? Please provide detailed reasoning for your answer.**

NTC has defined the problem well, although some of the examples used to illustrate selected risks seem a little simplistic. For example, based on the ways in which Level 1 systems operate, we expect that Level 4 systems will often have the capability to recognise an in-service problem. However, there is no doubt new risks will emerge.

2. **Have we correctly identified the parties with an influence on the in-service safety of automated vehicles and accurately described their role? If you identify additional parties, please explain what their role is.**

Yes – subject to comment under (3).

3. **Have we accurately assessed each party's influence on the in-service safety of automated vehicles? If not, please provide details.**

Please refer to our opening Item 1, in relation to the role of road managers and operators.

4. **Have we accurately described the regulation that already applies to relevant parties that would help ensure the in-service safety of automated vehicles?**

This is not core to Transurban expertise, but NTC presents a sound case.

5. **Do you think there are any new risks posed by second-hand ADS components, after-market modifications or the transfer of ownership of automated vehicles, which may not be adequately addressed by existing regulation designed for conventional vehicles?**

This is not core to Transurban expertise, but NTC presents a sound case.

6. **Do you think the parties with an influence on in-service safety are sufficiently covered by Australia's current legal frameworks?**

Again, NTC presents a sound case on the gaps.

7. **Do you think that a general safety duty to ensure the safe operation of the ADS 'so far as reasonably practicable' is appropriate to address the safety risks?**

NTC has presented a plausible case that a general safety duty is the best overall approach in that it will be less likely to stifle innovation than a prescriptive approach. Australia would also be at risk of exclusion from global technology developments if prescriptive rules did not anticipate particular directions. However, there are specific areas, such as those covered in Questions 11 and 12, in which a level of prescription will be required.

8. **If a general safety duty were introduced, which parties should it apply to?**

ADSEs and the chain of professional operators involved in the repair and maintenance of ADSs.

9. **If a general safety duty were introduced, should it apply on public and private land (such as residential driveways)?**

Yes

10. **Should people injured by breaches of the general safety duty have a cause of action, or should the ability to enforce a general safety duty be limited to a regulator?**

NTC presents a reasonable position that people injured should have a cause for action, as in consumer law.

11. **Do you think there should be specific driving rules for ADSs like the Australian Road Rules, or would it be sufficient to simply require them to 'drive safely'?**

We support a regime of integrated rules for human and automated drivers, as noted in our opening Item 2.

12. **What approach to regulating the dynamic driving task for ADSs most efficiently achieves safe outcomes? Please provide reasons.**

Please refer to our opening Item 2.

13. **What functions and powers does the regulator need to effectively manage in-service safety? Would these differ depending on whether the regulator is enforcing a general safety duty, or only prescriptive duties?**

Questions 13 through 18 lead up to examination of the overall options for regulatory reform. NTC has presented a sound analysis of the different approaches and Transurban will limit its response to the overall options.

14. **Have we accurately described the scope of the regulatory task? Please provide data and evidence where possible to support your answer.**

Refer 13

15. **Have we accurately captured the benefits of the regulator being:**
    a. **a government body or an independent body?**
    b. **a national body, or state and territory level bodies?**
    c. **an existing body or a new body?**

Refer 13

16. **What are your initial views on how the regulator should be funded?**

Refer 13

17. **Have we adequately and accurately captured the key legislative implementation models for in-service safety of automated vehicles?**

Refer 13

18. **Do you think there are any transitional or constitutional issues that could arise when Australia establishes a national law for automated vehicles? If so, please explain what the issues are, and if they differ depending on the legislative implementation model used.**

Refer 13

19. **Have we accurately described how each option could work, as well as the advantages and disadvantages of each option?**

NTC presents a sound assessment on the advantages and disadvantages of the various options as they stand today.

20. **Which option most effectively addresses the problem statement? Please consider your answer in conjunction with the PwC cost–benefit analysis.**

Please refer to our opening Item 3.

21. **Is there another option, or combination of options, which could more effectively address the problem statement? In particular, please consider whether there is a preferable combination of the elements of each option (governance arrangements, duties, legislative implementation)**

Please refer to our opening Item 3.

We hope these comments provide constructive feedback on a complex set of issues and help find a path to an appropriate regulatory regime.

Yours sincerely

Jeremy Nassau
Senior Manager Strategic Initiatives