



27th July, 2017

The Automated Vehicle Team
National Transport Commission
Level 15, 628 Bourke Street,
Melbourne, VIC, 3000
Submissions to: www.ntc.gov.au

Subject: TIC submission to the National Transport Commission's Regulatory Options to Assure Automated Vehicle Safety in Australia, Discussion Paper (June 2017)

The Truck Industry Council (TIC) is the peak industry body representing manufacturers and distributors of heavy commercial vehicles (that is, with Gross Vehicle Mass above 3,500 kg) or "trucks" in Australia. TIC members are responsible for producing or importing and distributing 17 brands of truck for the Australian market, totalling more than 30,000 new vehicle sales each year. In 2016 TIC members sold over ninety eight (98) percent of all new on-highway trucks above 4.5 tonne Gross Vehicle Mass (GVM) sold in Australia.

Further, TIC also comprises of two dedicated engine manufacture members and one dedicated driveline manufacture member who supply major engine and driveline systems for both on highway and off highway "truck" applications.

In this submission TIC will respond only to issues that relate to road transport vehicles and specifically heavy road transport vehicles (that is, with GVM above 3,500 kg and in particular those with a GVM over 4.5t), this being TIC's specific area of interest and expertise.

Question 1: Should government have a role in assessing the safety of automated vehicles or can industry and the existing regulatory framework manage this? What do you think the role of government should be in the safety assurance of automated vehicles?

TIC comment: *TIC believes that government in Australia has a leading role to play in assessing the safety of automated vehicles in conjunction with industry. The technologies that are being developed in the automated vehicle domain are vast, varied and changing rapidly, potentially too rapidly for the existing regulation development process to keep pace with. Specific government regulation to control automated vehicle technology may simply not be possible. TIC believes that governments must regulate the "required safety outcomes" and not regulate specific technologies, or technical solutions. Industry must then demonstrate that they meet the "required safety outcomes". This demonstrated conformance/compliance could be a self-certification process that could, or in some cases would be, audited by government. Government would also have the authority to prevent specific automated vehicle technologies, systems,*

functions, or providers, if they demonstrate that their use could lead to poor safety outcomes for Australia. TIC believes that it is also the role and responsibility of government to develop a definition for the “automated driving system entity”. It should also be the responsibility of government to regulate and approve, via some formal process, each “automated driving system entity”. Government’s role must also extend to regulations that will ensure C-ITS interoperability between vehicles in Australia, where a vehicle is fitted with such technology. TIC calls for these C-ITS interoperability regulations to be aligned with UN-ECE regulations/standards.

Question 2: Should governments be aiming for a safety outcome that is as safe as, or significantly safer than, conventional vehicles and drivers? If so, what metrics or approach should be used?

TIC comment: *TIC believes that safety outcomes of any automated vehicle system, or technology, must be no less safe than current safety outcomes. TIC does not believe that automated vehicle systems, or technologies must be significantly safer than conventional vehicles and drivers. This will evolve over time as these technologies mature and propagate through the Australian vehicle fleet. As a starting point existing road safety metrics could be used, deaths, serious, minor injuries, etc by accident type (vulnerable road user, light vehicle, heavy vehicle, etc) with a specific note of any automated vehicle system, or technology that may have contributed to, or helped prevent, or reduced the severity of the accident result being assessed and note during the accident investigation process. Over time this will build a significant data base that can be used to assess the safety effectiveness of different automated vehicle systems and/or technologies. Another useful metric would be a database that captures any automated vehicle system, or technology fitted to each new vehicle sold, hence building a safety feature profile of the Australian vehicle fleet. This information is being informally captured by some industry organisations, or specific vehicle manufacturers currently. A more formal process may be of value.*

Question 3: Should the onus be placed on the automated driving system entity to demonstrate the methods they have adopted to identify and mitigate safety risks?

TIC comment: *TIC believes that government must regulate the “required safety outcomes” and that industry, specifically the organisation claiming to be the “automated driving system entity”, must demonstrate the methods they have adopted to identify and mitigate safety risks and comply with the governments “required safety outcomes”. TIC calls upon government to regulate the definition and the responsibilities of the “automated driving system entity”, as well as develop regulation and process for the approval of each automated driving system entity”. Without an approved “automated driving system entity” a vehicle featuring an active automated driving system/feature at SAE Level 4? (to be determined), or above, could not be legally driven on Australian roads. This would apply to retrofitted systems and the sale of systems/technologies that could be retrofitted, such sellers or fitters would be required to be a registered “automated driving system entity”.*

Question 4: Are the proposed assessment criteria sufficient to decide on the best safety assurance option? If not, what other assessment criteria should be used for the design of the safety assurance system?

TIC comment: *TIC supports the NTC’s proposed assessment criteria, noting that the criteria should be reviewed from time-to-time to ensure that it continues to remain relevant and*

suitably aligned with the direction automated driving systems and technology is progressing as well as public expectations.

Question 5: Should governments adopt a transitional approach to the development of a safety assurance system? If so, how would this work?

TIC comment: *TIC believes that automated driving technology is likely to outstrip regulation in Australia and probably internationally, Australian government has potentially only three choices, these being:*

- A. Government makes no attempt to regulate automated driving systems and technology, or*
- B. Prohibit the introduction of automated driving systems and technology until a clear direction in known and government regulation is developed and put in place, or*
- C. adopt a transitional approach to the development of a safety assurance system and regulation*

TIC does not support (A) above as the potential safety risks are simply too great.

TIC does not support (B) above as delaying automated driving systems and technology will likely impede positive road safety outcomes and will considerably slow the take-up rate of potentially safer technologies.

TIC supports (C) above, a transitional approach to the development of a safety assurance system.

As detailed in TIC's responses to Questions 1-3 above, government should regulate the "required safety outcomes" as well as regulate and register each "automated driving system entity". Industry/individual organisation self-regulation would apply initially. Over a period of time Australian government would introduce regulations aligned with international standards, specifically UN-ECE regulations.

Question 6: Is continuing the current approach to regulating vehicle safety the best option for the safety assurance of automated vehicle functions? If so, why?

TIC comment: *TIC believes that in theory continuing the current approach to regulating vehicle safety is the best option for the safety assurance of automated vehicle functions, however given that, as detailed in TIC's response to Question 5 above, automated driving technology is likely to outstrip regulation in Australia and probably internationally, such an approach will delay the introduction of automated driving systems and technology. Likely impeding positive road safety outcomes that this technology could bring to our road network and this action will considerably slow the take-up rate of these potentially safer technologies across the Australian vehicle fleet. TIC therefore supports a "hybrid" approach where government initially regulates the "required safety outcomes" as well as regulates and registers each "automated driving system entity". Industry/individual organisation self-regulation would apply initially and over a period of time Australian government would introduce regulations aligned with international standards, specifically UN-ECE regulations.*

Question 7: Is self-certification the best approach to regulating automated vehicle safety? If so, should this approach be voluntary or mandatory? Should self-certification be supported by a primary safety duty to ensure automated vehicle safety?

TIC comment: *As outlined in TIC's responses to Questions 5 and 6 above, TIC supports a "hybrid" type approach where government initially regulates the "required safety outcomes" (or a*

“primary safety duty”) that would ensure a level of automated vehicle safety. As well, TIC calls for government regulation of each “automated driving system entity”. Industry/individual organisation self-regulation would apply initially and over a period of time Australian government would introduce regulations aligned with international standards, specifically UN-ECE regulations.

Question 8: Is pre-market approval the best approach to regulating automated vehicle safety? If so, what regulatory option would be the most effective to support pre-market approval?

TIC comment: *TIC believes that pre-market approval is the best long term approach to regulating automated vehicle safety. This type of approach has worked well for decades now in Australia (our Australian Design Rule, ADR, certification system) as well as similar successful systems in Europe, Japan and many other countries. However TIC believes that a “hybrid” approach, as detailed above in TIC’s responses to Questions 5 to 7 is the best short to mid-term approach. This approach would require a “higher” level of government regulation, accompanied with government regulation of each “automated driving system entity” and a level of self-certification by industry/individual organisations.*

Question 9: Is accreditation the best approach to regulating automated vehicle safety? If so, why?

TIC comment: *TIC does not support accreditation as the best approach to regulating automated vehicle safety. This approach may work well in the rail, shipping and aviation industries where the number of individual organisations (if you like “vehicle” suppliers and operators) is relatively small. TIC feels that such a system would not work in the road vehicle sector where there are a large number of “vehicle” suppliers and operators. An accreditation approach is not being taken for the regulation of automated vehicle safety in any other market in the world, which TIC is aware of. Finally, if the Australian government were to adopt an accreditation approach to regulating automated vehicle safety, it would be likely that Australia would not be able to use international regulations to regulate automated vehicle safety as such international regulations would not be developed to suit an accreditation systems approach.*

Question 10: Based on the option for safety assurance of automated vehicle functions, what institutional arrangements should support this option? Why?

TIC comment: *Please refer to TIC’s responses to Questions 1, 3 and 4 to 8. Additionally TIC believes that government must ensure uniform safety assurance standards are applied for automated vehicles and vehicle functions across all States and Territories in Australia.*

Question 11: How should governments manage access to the road network by automated vehicles? Do you agree with a national approach that does not require additional approval by a registration authority or road manager?

TIC comment: *TIC believes that once a suitable government safety assurance system has been developed and implemented there should be no special requirements for road network access by automated vehicles. TIC believes that it is essential to have a national approach that does not require additional approval by a registration authority or road manager. The automated*

vehicle and/or the “automated driving system entity” would determine when and where automated driving functions could/would be used/deployed. Until this point is reached, it is expected that individual registration authorities or road managers will allow automated vehicle trials to proceed on a case-by-case basis using the NTC’s Automated Vehicle Trial Guidelines document as the primary means of assessing and granting permission for an automated vehicle trial.

Question 12: How should governments ensure compliance with the safety assurance system?

TIC comment: *TIC believes that government should develop an auditing process similar to that used by the Department of Infrastructure and Regional Development (DIRD) for auditing Identification Plate Approval (IPA) holders and their ADR submissions. This audit process would be used to check the self-certification process that TIC is proposing for the initial phase of automated vehicle safety assurance. Such an audit regime should be based on potential safety risk to road users, with established vehicle manufacturers who have a demonstrated history of good business practice, ADR compliance, conformity to production, etc, to be considered of low risk. While “start-up” vehicle importers and retrofit automated vehicle system suppliers who have not demonstrated sufficient levels of understanding of vehicle safety, ADR compliance, conformity to production, etc, to be considered of higher risk. Organisations that have not shown that they have substantial financial resources/backing to sustain a continued and uninterrupted business presence in the Australian automotive market place to offer long term support for the motor vehicles that they import should also be considered of higher risk. It is likely that a vehicle that incorporates automated driving functions and systems will require more hardware and software support from the vehicle manufacturer/importer/distributor over the vehicles life to ensure continued safety compliance, when compared to a current conventional (non automated) vehicle.*

I trust that you find TIC’s submission acceptable and that the issues that have been raised in this document will be considered in the review and formulation regulations and road laws to support the safe implementation of higher levels of Automated Road Vehicles in Australia. Please contact the undersigned, on 0408 225212 or m.hammond@truck-industry-council.org for any questions about this submission.

Yours faithfully,



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