

# **Response to the NTC Consultation Paper**

# Automated vehicle safety reforms



June 2024



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## 1. About the Bus Industry Confederation

The Bus Industry Confederation (BIC) is the national peak body for the Australian Bus and Coach Industry. We represent bus and coach operators, body, chassis and complete bus manufacturers and suppliers, parts and service providers, professional services, and state bus associations on issues of national importance. Our membership is becoming increasingly diverse as key energy and infrastructure partners join as we transition the fleet to low and zero emissions.

Our vision is to enhance the sustainability and liveability of Australia's cities and regions by moving people using bus and coach transportation. We aim to achieve this by representing the collective interests of our members and assisting them in promoting the safety, efficiency and effectiveness of bus and coach transport in Australia.

### **1.1 Our Moving People Objectives**

- > Encourage investment in public transport infrastructure and services.
- > Promote policies and actions that are environmentally responsible.
- > Promote the development of a viable and improved bus and coach industry in Australia.
- > Foster and promote a viable Australian bus manufacturing industry.
- > Protect the business interests of operators, manufacturers and suppliers.
- > Promote public understanding of the contribution made by the bus and coach industry to Australia's economy, society and environment.
- > Ensure the accessibility and mobility needs of Australians are met, regardless of where they live or their circumstances.
- > Promote the use of public transport as a viable alternative to the car.
- > Coordinate and make more effective existing Federal, State and Local Government policies and programs that relate to passenger transport.
- > Ensure that buses and coaches operate safely and effectively.

### **1.2** About the Bus and Coach Industry

Buses and coaches in Australia travelled 12.3 billion passenger kilometres(bpkm) in 2021-22 down from a peak of 22.11 bpkm in 2018-19. This is significantly higher than rail at 8.85 bpkm in 2021-22 and 17.81 bpkm. There are 97,469 registered buses in Australia.

Over several decades, the bus and coach industry has consolidated, with a fundamental shift from generational family-based bus companies in our cities to national and multinational businesses (including two Australian companies now operating internationally), especially in metropolitan areas. With contract reform, many smaller players have shifted their focus to being sole providers of charter service, no longer continuing route (public transport) work.

The largest operators (in terms of fleet size and number of depots) are concentrated amongst metropolitan Australia. Five operators are now responsible for approximately 80% of public transport trips under contract to state and territory government. These organisations bring with them extensive experience and learnings on the transition to zero from their operations overseas.



In 2020, 88.9% of public transport passenger route service buses and 59.6% of school buses are manufactured in Australia, the majority built by Australian body manufacturers on a European or Asian chassis; the remainder being fully imported buses and coaches primarily from Asia, with some from Europe and South America.

The bus and coach industry are early adopters of new technologies. For example, in 2018-19 20% of all buses delivered were Euro VI despite this emission standard not being mandated until 1 November 2024 for newly approved heavy vehicle models and 1 November 2025 from 1 November 2025. Ther proportion of Euro VI buses in the fleet has continued to increase alongside the introduction of zero emission buses, both battery electric and hydrogen fuel cell.

Our industry, which includes bus operators, bus manufacturers and parts and service suppliers, employs more than 85,000 people nationally. Comprehensive data on the bus industry, the fleet, the suppliers, operators, and their passengers can be found on the bic.asn.au website.

### **1.3** The bus and coach industry suitability for autonomous buses<sup>1</sup>

The advent of autonomous vehicles has paved the way for ground-breaking innovations in the transportation sector. Among these advancements, autonomous buses hold immense potential to revolutionise the way we move people and goods. Not only do these self-driving buses promise to enhance efficiency, reduce congestion, and improve safety, but they will also have a profound impact on sustainability.

Reduced congestion: Autonomous buses can significantly enhance efficiency and reduce congestion on roadways. By using precise navigation and coordination, traffic flow is optimised and stop-and-go patterns are minimised. With the integration of smart traffic management systems, autonomous buses can communicate with each other and with infrastructure, ensuring seamless coordination and minimising unnecessary stops. This improved efficiency translates into reduced traffic congestion, shorter travel times, and decreased fuel consumption, resulting in lower carbon emissions and a more sustainable transportation system.

**Reductions in air pollution and greenhouse gas emissions:** Unlike traditional buses which are powered by internal combustion engines, autonomous buses can adopt electric or hybrid-electric propulsion systems, eliminating tailpipe emissions and reducing carbon footprint output. By introducing autonomous buses, cities can experience a substantial reduction in local air pollution, improving air quality and public health. Moreover, the integration of renewable energy sources into charging infrastructure can further enhance the sustainability of these vehicles, ensuring that their energy consumption comes from clean and renewable sources.

Optimised fleet management: Autonomous buses can enable optimised fleet management, resulting in more efficient resource utilisation. By using advanced algorithms and real-time data analysis, transportation companies can streamline bus routes, schedules and passenger distribution. This leads to reduced energy consumption, as buses are deployed based on demand patterns rather than fixed schedules. Additionally, autonomous buses can provide last-mile connectivity in combination with other modes of transport, such as trains or bicycles, reducing the need for private car ownership and promoting a more sustainable and multimodal transport ecosystem.

Advanced safety measures: Autonomous buses use advanced sensing technologies (such as lidar, radar and

<sup>&</sup>lt;sup>1</sup> Hill, G (2023) Autonomous buses: pioneering sustainability in the transportation sector. https://www.cundall.com/ideas/blog/autonomous-buses-pioneering-sustainability-in-the-transportation-sector



cameras) to detect and respond to their surroundings with exceptional precision and are able to anticipate and react to potential hazards faster than human drivers. By minimising accidents and associated traffic disruptions, autonomous buses contribute to a safer, more sustainable transport network with the environmental impact of vehicle collisions and congestion also being reduced.

Autonomous buses have the potential to reshape the future of sustainable transportation. By integrating advanced technologies and innovative concepts, these vehicles offer enhanced efficiency, reduced congestion, improved air quality, optimised resource utilisation, and increased safety. As cities around the world strive to create greener and more sustainable environments, the world of autonomous vehicles is becoming more widespread and therefore autonomous buses can play a crucial role in aiding these goals. Embracing this transformative technology and supporting the necessary infrastructure development can pave the way for a future where public transportation systems are not only efficient and convenient but also environmentally friendly and sustainable.

### **1.4** About this submission

The Bus Industry Confederation welcomes the opportunity to make a submission to the National Transport Commission's Autonomous Vehicles Safety Reform consultation. We would also like to acknowledge the exceptional engagement with industry and other stakeholders that the two organisations have undertaken to support this consultation.

We have responded to specific questions relevant to the bus and coach industry and the broader heavy vehicle industry. If you would like additional information or have any questions regarding our submission, please contact Dean Moule, National Technical Manager on <u>dean.moule@bic.asn.au</u> or (02) 6247 5990.

## 2. Response to Questions

### **Certification requirements**

#### 1. What are the benefits and drawbacks of different corporate presence requirements?

BIC feel that a corporate presence within Australia allows for better regulatory oversight, easier enforcement of compliance, and direct accountability. It can also enhance consumer confidence. For the design and then governance of the vehicles it is important that an entity is recognised at all stages. The more options provided for an entity to exist the more complex it becomes to enforce the regulations and for industry to understand.

In addition, it could increase operational costs for foreign companies wishing to enter the market, potentially limiting competition and innovation. Smaller companies may find it challenging to establish a corporate presence in Australia.

# **2.** How would a requirement for the corporation to be an Australian registered company impact business models of potential ADSEs?

There are many business models at play in the automotive sector and regardless of the model the ADSE would need to meet a defined set of requirements that may necessitate structural adjustments including compliance with Australian corporate law. This could lead to increased operational costs but may also facilitate smoother interactions with local regulatory bodies.



The key message here is to set the ground rules early while the technology is new. Impact will be clear once the rules are more mature and defined.

# **3.** How suitable are the matters we propose to include in an ADSE's safety management system? Should other matters be considered?

In relation to safety management systems, since most of the technology originates from international sources, the requirements for these Safety Management Systems should align with United Nations vehicle policies, consistent with the current Australian Government position of harmonising with these standards as much as possible.

The matters listed all are generally acceptable, noting there is constant reference to person, person responsible and executive officers. As an overarching statement a way to better frame this is a hierarchy of control within the organisations with job roles listed and what the role is accountable for ensuring the points referenced are all covered. This is easier for organisations to understand and implement.

Additional considerations could include cybersecurity measures, data privacy protections, and periodic safety audits to ensure ongoing compliance.

4. Are there are other matters that the law enforcement and emergency services interaction protocol should account for?

One item referred to in the certification requirements is Financial Capacity. The reference to in the future is not defined. This is ambiguous. For clarity it is recommended that this is defined with a time period: for example, 5 years.

Regarding insolvency or voluntary administration this is not fully defined. For example, if an Australian arm of an ADSE entity becomes insolvent (for example a vehicle importer), but the technology remains active on vehicles, does that mean the ADS must be deactivated until the insolvency or voluntary administration issue is resolved? Who performs this function if the ADSE has no paid staff remaining in Australia?

In addition, protocols should account for real-time data sharing capabilities, ensuring that emergency services can access necessary information quickly. It should also include training programs for emergency personnel on interacting with ADS-equipped vehicles and protocols for handling ADS-related incidents.

### Aftermarket installation of an ADS

5. Do the proposed certification procedures for aftermarket installations of an ADS adequately manage safety risks, or should other matters be considered?

BIC do not have any objections to the proposed procedures noting the comments above for an ADSE in question 4. One item of note is that ADS may be sold through third parties. This raises a question of who is responsible e.g. the retailer, the distributer or both? BIC would suggest this be clearly defined for an aftermarket installation and the parties involved.

### Specific requirements on ADSEs



# **6.** Are there other modifications that should be considered significant? Is there other information an ADSE should provide when seeking authorisation for a significant modification?

The proposed threshold for a 'significant' modification is one that changes how or when the ADS performs the dynamic driving task. BIC suggests that an additional example of a significant modification be listed against the explanation.

Examples listed of significant modification should include a change to the drivetrain power output. This provides additional clarity for ADSEs and modifiers prior to undertaking any modifications that such changes can possibly affect how the ADS performs the dynamic driving task.

Any significant modifications should be authorised prior to installation and be recorded for traceability purposes.

### Additional measures for repairers, maintainers and modifiers

7. What are your views on the proposed additional AVSL measures to manage the safety risks of repairs, maintenance and modifications? In your response, please consider:

# a. Are the risks arising from repairs to an ADS different enough to the risks arising from repairs to a conventional vehicle to require additional regulatory measures?

Whilst any repair incorrectly carried out can pose a risk to the vehicle occupants, other road users and the public, the risks associated with repairs to an ADS are a little different as the outcomes of a repair pose greater risk to other road users if not carried out correctly.

# b. Is express authorisation of repairers, maintainers and modifiers a suitable approach to manage the risks of unqualified parties working on an ADS?

Yes, and it would be consistent with practices in other countries. BIC draw your attention to the Institute of Motor Industry (UK) who have set up frameworks for this already.

https://tide.theimi.org.uk/sites/default/files/2023-07/IMI-TechSafe-CPD-Subject-Framework.pdf.

# c. What is an appropriate balance between the level of control or discretion an ADSE has over who it authorises to work on its ADSs, and the level of responsibility placed on either the ADSE or the repairer, maintainer or modifier doing that work?

The proposed requirements listed in the consultation document are already very prescriptive. Whilst both the ADSE and their authorised repairs operate within these requirements, the level of control should be determined by the ADSE to comply with their own internal policies set around the AVSL requirements.

The same applies for responsibility, if all the responsibility requirements set out in the AVSL are met, it falls between the ADSE and repairer.

Both control and responsibility should be identified as part of an ADSEs quality system control.

# d. Should the AVSL require that an ADSE not unreasonably withhold authorisation, and that it share necessary information? For what reasons should an ADSE reasonably be allowed to withhold authorisation?

This is a complex question like the technology it relates to. The simplest way to consider this is whilst competition should not be restricted, there could be a minimum set of requirements in the AVSL that



require the ADSE to script out the terms, conditions, and standards of becoming an authorised repairer. These terms, conditions and standards would be conforming to the ADSEs own quality, control, conformity, and repair standards. Allowing individuals outside the realm of authorised repairers would be difficult to control.

# e. Should the AVSL include safety duties for repairers, maintainers and modifiers of ADSs? If so, how suitable are the proposed elements of the safety duty on repairers, maintainers and modifiers?

Yes, the AVSL should include safety duties for repairs along the lines proposed in the consultation paper. These would require some additional detail for example precisely listing those safety duties which could include training programs for technicians and enhancing collaboration between ADSE's and repair networks.

# f. How may the proposed additional measures for repairs, maintenance and modifications impact business models for both ADSEs and repairers, maintainers and modifiers?

Business models will be both adjusted and formed around the introduction of ADS. Providing there is some alignment with requirements with overseas and specifically UN regulations/guidance, then the changes will be easier to implement, thus lessening the impact.

### Maintaining ADSE certification

8. Are there measures we should consider to manage the consumer impacts of an ADS being disabled due to suspension, cancellation or surrender of certification?

The BIC believe that measures should be put in place. Consumers (especially commercial consumers such as bus operators) need to be aware at a high level (i.e. safety risk, software, insolvent company etc) of the circumstances that can result in the ADS system being turned off by government. A clear but simple document should be available explaining this.

At a more detailed level additional information should be available explaining to the consumer what steps and criteria are required to turn the ADS back on.

### Information management

9. For how long should ADSEs be required to retain data? Should there be different periods for different types of information?

Different periods of time for data storage will introduce unnecessary complexities at a practical level. One standard period is much easier to apply and remember for all the key stakeholders involved. The time should be aligned as proposed in the consultation paper to 7 years consistent with current RVS legislation.

#### 10. Are there risks associated with information management that are not covered in these proposals?

The complexity of the legislation provides a risk from a stakeholder perspective. This can be mitigated in part through the provision of clear simple information management explanatory document.

Another risk relates to what insurers will request. Whilst consumer rights as per Privacy Act 1988 are intended to be followed as stated in the consultation paper, this is something that needs a simple



explanatory document supporting the legislation so that the consumer has a clear understanding as to what insurers can and cannot use the information for.

#### **Remote operation**

11. What are your views on the proposed additional AVSL measures to manage the safety risks of remote operation of a vehicle with an ADS? In your response, please consider:

a. How are companies using or planning to use remote operations as part of ADS deployment, and what business models are likely to be used? Which parties have an influence on the safety of remote operation?

At present in the bus industry there are no clear definite plans to utilise remote operations, however information in this response is based on any possible future possibilities.

All parties under the ADSE have a responsibility to ensure safe operation. Again, an overly simple way of looking at it is that when under remote operation the person in control of the vehicle' remote driver' should comply to the same laws and requirements as a person behind the wheel.

b. Do you agree with the proposed scope of remote operations to be managed under the AVSL, and if not, which forms of remote operation do you consider should be managed under the AVSL?

BIC agree with the proposed scope of remote operations as detailed in the consultation paper.

c. Should an ADSE have responsibility for the safety remote operation performed to support its ADS? Should we consider other models for allocation of safety responsibility for remote operation? And

d. What duties should be placed on an ADSE or on other entities for remote operations? It's important that the roles of the ADSE and vehicle owner / operator and 'remote driver' are considered individually.

#### In this circumstance the:

ADSE has responsibility to ensure safe functionality of the vehicle within the confines of its stated operating requirements. The actual driving when under remote operation should be the role of the remote driver.

'Remote driver' attains responsibility for the actual vehicle adhering to the road rules on which the vehicle is being driven at the time.

# e. Should remote operators be subject to a safety duty, or any other requirements, under the AVSL?

Yes, see answer to question 11d above.

#### f. What specific skills or proficiencies should be required of remote operators?

There are a few options to consider here: A & B. In every case though the 'remote driver' should hold a valid Australian Driver's license which should subject them to the same laws and regulations including consumption of alcohol, drugs etc. as if they were physically behind the wheel.



Option A: In addition to a general drivers license, the remote drivers should hold the equivalent license for the type of vehicle they are driving. This ensures they have the appropriate skills that would be present for that vehicle type (i.e.; bus) regardless of if they were physically behind the wheel or virtually.

An additional competency may be the ability to remotely control a vehicle. It requires different skills to operate remotely compared to behind the wheel as driving dynamics and driving perceptions will be different. Remote driving could be practiced to a level of proficiency prior to licensing.

Option B: A new specific competency to drive a vehicle remotely may be considered. Whilst a license would still be required/preferred, it is different skillset to operate a vehicle remotely vs behind the wheel, as driving dynamics and driving perceptions will be different. The various driving skills for each of the vehicle types (i.e.; bus, heavy vehicle) could be taught as an addition to the actual competency. This would require further detailed discussion to fine-tune.

# g. Should the AVSL require that remote operations centres be located in Australia? What are the advantages and disadvantages of this?

BIC believes that remote operation centres should be located in Australia consistent with the following reasons include in the consultation paper:

- i. Remote operation relies on a secure and stable connection with the vehicle.
- ii. As well as being appropriately skilled and licensed, remote operators will need to understand Australian driving rules and norms.
- iii. Inspection and enforcement of an entity's remote operations and remote operators will require law enforcement agencies and the regulator to use powers provided under Australian legislation. Not always enforceable when drivers are in other countries.

### **Consumer information**

**12.** Should an ADSE be required to ensure certain technical information is provided to consumers to inform purchasing decisions?

The technical information listed in the consultation paper tends to lean towards cars, but there will be a strong presence of AV technology in the heavy vehicle / bus sector due to the commercial benefits such technology could bring (those benefits being for a separate discussion and subject to the specific application).

Information for consumers (in our case commercial operators/owners) will assist them in ascertaining the most appropriate technology to suit their applications. The requirements on how to frame such information need to be simple but outline such items as was mentioned in the main consultation paper on page 33.

These include but are not limited to:

- i. What the system will and will not do (functionality outline).
- ii. Design life
- iii. Disabling of the ADS and when its needed (end of life, manufacturer closes etc..)
- iv. Role of the person behind the wheel or remote driver, pending circumstance.
- v. Modifications.
- vi. Design domain.

#### 13. Should the AVSL include offences in relation to misrepresenting vehicle capabilities?



This should be considered, but in the first instance has consumer law been assessed to determine if it already covers this issue? This may identify any gaps that are required to be addressed in the AVSL rather than doubling up on regulation which could lead to ambiguity or conflict.

#### 14. Are other measures needed to address consumer risks?

Nothing that has not already mentioned in the responses to this consultation paper.

### Establishing a regulator

15. What are your views on how we should approach laws for human user obligations in vehicles with highly and fully driving features? In your response, please consider:

a. Which types of vehicle control and seating configurations are being considered or developed by industry for vehicles with highly or fully automated driving features? Can vehicle control/seating design help to determine the obligations for users of these vehicles?

This question appears to be more aimed at the passenger car sector, but from a bus industry perspective there are emerging two distinct seating configurations for drivers and passengers.

- Smaller vehicles whereby there may be no obvious driver controls at all. These are typically used for last mile or low speed tourist services (eg around a park for example)
- Lager vehicles whereby there are traditional controls capable of controlling the vehicle when an ADS is not engaged. These are the normal city bus services taking people to their intended destination. In this case a driver is professionally engaged to be behind the wheel.

An important factor to consider in the use of ADs for public transport is vehicle control. Where there is no driver behind the wheel, then the driver controls would need to be suitably protected from the public to prevent unintended use i.e.; steering the vehicle into oncoming traffic or other vulnerable road users. This is one reason public transport buses are being equipped with driver enclosure barriers now. At the same time in the event of an issue on the vehicle there should be consideration for an on-board emergency stop button/feature to allow the vehicle to be brought safely to a stop.

b. In vehicles with higher levels of driving automation that are configured with manual driving controls, should there be specific requirements about seating position when the ADS is engaged? Do you support any of the options identified, or propose any other options?

BIC generally support the position in the consultation paper, however, that such requirements should align with UN requirements to avoid costly vehicle re-design in a commercial application.

c. How should licensing requirements apply to users of vehicles with highly and fully automated driving features with accessible manual controls? Do you support any of the options identified, a combination of options, or propose any other options?

Whilst BIC are generally supportive of the position in the consultation paper it is more relative to passenger cars. Commercial vehicles such as buses require a different line of thinking to address this matter.

If a suitably qualified bus driver was at the wheel, then this can follow the line of the consultation paper, however if there is no-one behind the wheel then as mentioned earlier, another risk mitigation measure(s) needs to be considered, such as the vehicle bringing itself to a stop.

This requires further consideration for public transport vehicles.

# d. How should drug and alcohol restrictions apply to users of vehicles with highly and fully automated driving features? Do you support any of the options identified, a combination of options, or propose any other options?

Across all sectors but especially important for the bus sector, the same drug and alcohol conditions should apply.

# e. Do you think there should be a requirement to always have a person capable of driving travelling in a vehicle with highly or fully automated features? Why or why not?

There isn't a black and white answer on this. Requiring a driver to be behind the wheel at all times may negate the commercial benefit and cost of having the technology in the vehicle to begin with.

For the bus industry, initially we believe that caution will take precedence and drivers will generally be behind the wheel. Over time as social licensing for the technology gains acceptance and the commercial benefits are further fine-tuned, there will be viable situations whereby a bus may drive automated section of their journey and then have drivers board the vehicle to take the vehicle on the remainder of the journey or in areas where ADS is not able to operate.

Where a vehicle is capable of navigating its commercial set journey with ADS on, then there may be no need for a driver to be behind the wheel at all especially where vehicles are limited to dedicated busways or roads. This has a commercial benefit in that the operator doesn't need a driver and the offset of this cost justifies the technology outlay.

In all cases above safety is at the forefront providing there are on-board measure to allow the vehicle to safely stop itself or be safely stopped by an on-board emergency stop button/feature as mentioned earlier.

#### f. Do you support permitting a person seated in the driving position in vehicles with highly or fully automated driving features to undertake secondary activities? Do you support any of the options identified, a combination of options, or propose any other options? And g. How should non-dynamic driving task obligations be assigned or shared in vehicles with highly

and fully automated driving features? Do you agree with our analysis? In the case of buses, the question has a strong commercial aspect as a bus is a place of work. As such the person sitting behind the wheel would be employed by the owner/operator to perform a primary function of driving and assisting those passengers that have onboard needs, i.e. boarding/disembarking in a wheelchair, assisting the elderly etc.

When ADS is engaged any secondary activities should not restrict the person behind the wheel from taking control of the vehicle easily and if safe to so.

The secondary activities should not interfere (i.e.; rest) with the vehicle controls.

### Law enforcement and first responders

16. Do you support third-party interference offences be included in both the AVSL and state and territory law?



Generally, yes BIC support the third-party interference consultation paper commentary on this. However, the comment below in the paper requires more definitive definition as the point is ambiguous.

#### 'interference with non-ADS components of an automated vehicle, if this affects ADS safety'.

How does a repairer know where the boundaries are of a non-ADS component and its possible but undefined impact on safety.

17. Do you support the proposed automated vehicle regulatory framework as a whole, and are there any barriers to its implementation?

In general, yes, it is well thought through, however, noting such frameworks should align with UN recommendations as this will mitigate the risk of having to re-design vehicles for the Australian market.

### Managing automated vehicle safety before the regulatory framework is in place

18. Are measures needed to prevent vehicles with an ADS from being provided to the market before the automated vehicle regulatory framework is in place?

Given the complex nature of the technology, risks and assumptions with using it, any pre-regulation highly functional ADS systems (i.e., level 4 or above) should be provided to market under a set of prescribed protocols via an approved trial. This is to ensure pre-regulation ADS systems are installed and functional within a set of defined control parameters that do not put the bus users (drivers, passengers) or public at risk.

This would equally apply to fully integrated (factory) systems and OEM systems.

# 19. Is it necessary to restrict aftermarket installation of an ADS, or restrict use of an ADS to approved trials only, before the automated vehicle regulatory framework is in place?

To further re-enforce our response to question 18 above, any installation factory or aftermarket installation should comply with a set of prescribed protocols via an approved trial.

20. What are the barriers to more complex and large-scale trials in Australia? How could trial arrangements be improved? Should there be provision in the AVSL for interim certification to support trials?

Barriers could be numerous but identified as part of a scope in the early stages of any trial. Bus Industry trials are still in the early stages of implementation, so it is too early to provide improvement suggestions on this point.

Interim certification of trials could be beneficial, but the issue is how much additional complexity does it add to the AVSL once released. This point is something that would require further detail discussion with relevant stakeholders.



### 3. Summary

The consultation paper was extremely well thought out and the questions brevity largely reflect that many answers to the proposed reforms are actually listed in some way already in the consultation paper.

Whilst the paper leans itself towards cars in the way it is structure, BIC would like to emphasize:

The importance of ensuring that Heavy vehicles and especially the special requirements of driver control protection in a Public Transport Vehicle are considered to prevent un-intended use.

Should the NTC wish, the BIC are willing to discuss this document and commentary in further detail.