



# TfNSW Vehicle Fire Safety TS 000013 parts 1 & 2 Submission

April 2026



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## About the Bus Industry

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### The Bus Industry Confederation

The Bus Industry Confederation (BIC) is the national independent peak body for the Australian Bus and Coach Industry. With a focus on decarbonisation, local jobs and workforce shortages BIC represent over 160 bus and coach operators, body, chassis and complete bus manufacturers and suppliers, parts and service providers, professional services, and state bus associations.

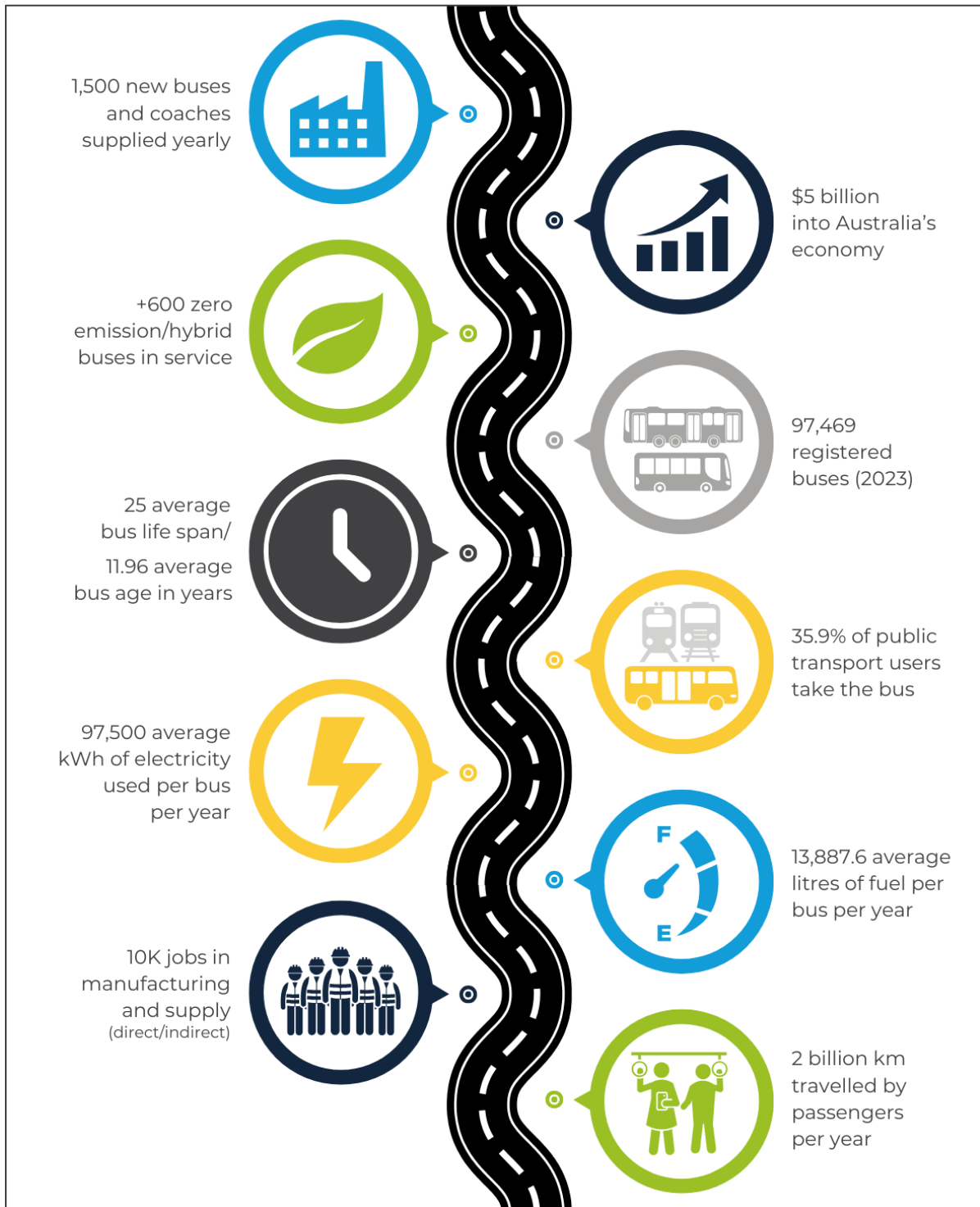
BIC supports sustainable operations, workforce capability, and long-term local employment across Australia. BIC advocates for its members to federal, state and territory governments and relevant agencies, working to ensure the safe and efficient transport of passengers and the development of safe, sustainable operations and supply chains that underpin the industry.

### BusNSW

As the peak industry body representing bus and coach operators in New South Wales, BusNSW was established in 1942 and represents a diverse and broad-based membership. This includes contracted operators delivering essential public transport services under Transport for NSW contracts across metropolitan, outer-metropolitan, and rural and regional areas. BusNSW also represents non-contracted operators in the long-distance, tourist and charter sectors, as well as associate members from the manufacturing, supply and service industries that support the bus and coach sector.

BusNSW's mission is to advocate for the efficient and sustainable growth of public transport in NSW and to promote bus and coach travel as a safe, reliable, and accessible means of connecting people and communities. The Association's governance framework is designed to ensure fair and balanced representation across the industry, encompassing small and large businesses, family-owned enterprises, private companies, and multinationals.

## Industry Snapshot



## Executive Summary

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### **BIC and BusNSW do not support the proposed TfNSW Technical Standard TS 00013 Parts 1 and 2.**

The Bus Industry Confederation (BIC) and BusNSW acknowledge the importance of bus fire safety and are fully committed to maintaining and improving safety outcomes for passengers, drivers, and the broader community. Despite the good intent of the document to improve safety, following a thorough review of the proposed standard and comprehensive consultation with members including operators, OEMs, component suppliers, and industry consultants we are unable to support the proposed standards in their current form.

Adopting the standard will result in higher purchase costs and reduced operating capacity for no net safety gain when compared to international best practice.

There are several concerns, with the central issue being the absence of an outcomes, performance, and best practice-based justification for the extent and nature of the proposed changes. There is no credible evidentiary basis demonstrating that the current Panel 3 and Panel 4 standards are ineffective or deficient. Accordingly, it is our view that, in the absence of such evidence, the case for wholesale reform through this technical standard, particularly given the scale and complexity of the proposed changes, has not been substantiated.

Cyber security is a totally separate topic and should not even be part of this proposal.

### Recommendations

The BIC and BusNSW remain strongly committed to safety and continuous improvement and accordingly make the following recommendations. These measures establish a more robust and consistent baseline for all buses operating in New South Wales, regardless of whether they are privately or government procured, and align with the recommendations of the Office of Transport Safety Investigations.

1. **Do not proceed with TS 00013 Parts 1 and 2.**

The proposed standard is not supported by sufficient evidence of the inadequacy of current Panel 3 and Panel 4 specifications, is not outcomes-based, and creates significant regulatory, financial, and operational burdens that are disproportionate to any demonstrated safety benefit.

2. **Adopt a staged approach to improved fire safety**

Stage 1 should see Panel 4 standards continue to apply, only with targeted refinements where supported by evidence.

Stage 2 should transition to UN ECE R118 as part an ADR implementation as the primary fire safety standard for buses, consistent with the federal ADR work program. This is international industry accepted best practice and also aligns with Federal government strategies and Transport for NSW own policy for Standards Management Framework.

3. **Align cyber security requirements with UN ECE R155 and R156.**

Cyber security requirements should align with international best practice being UN ECE R155 (Cyber Security Management System) and R156 (Software Update Management System). This would be done as part of ADR implementation. It is international industry accepted best practice and aligns with Federal government strategies.

4. **Clarify compliance responsibility.**

The requirement in Part 1, Section 21, which places responsibility for compliance verification on operators, should be removed. As the procurer of vehicles under contract, Transport for NSW is best placed to manage and assure compliance risk and, as such, bears the primary responsibility in this regard. Accordingly, compliance verification should sit with Transport for NSW, reflecting its role in specifying, procuring, and accepting vehicles into service. Transport for NSW should also review its own obligations under the National Heavy Vehicle Regulator Master Code, particularly in relation to chain of responsibility provisions, to ensure alignment with its duties as a service contracting and vehicle procuring authority.

An additional consideration is that the proposed standard does not address scenarios where buses built in other jurisdictions are subsequently purchased second-hand and brought into New South Wales. This creates a risk that such vehicles may not comply with the NSW-specific requirements, potentially restricting the second-hand bus and coach market over time to only those vehicles originally manufactured to NSW standards. Accordingly, Transport for NSW would need to carefully consider how the standard applies to vehicles entering the NSW fleet from interstate, to avoid unintended market constraints, reduced fleet flexibility, and inconsistencies with broader national vehicle movements.

5. **Conduct a full cost-benefit analysis.**

Prior to progressing any proposed standard, it is recommended that Transport for NSW commission a comprehensive cost-benefit analysis. This analysis should rigorously assess compliance costs, impacts on vehicle capacity, implications for overall fleet size, associated infrastructure requirements, and the comparative safety outcomes of UNECE Regulation No. 118 relative to the proposed standard.

Given the scale of the NSW Government's transition to zero-emission buses, encompassing the procurement of approximately 8,000 vehicles through to 2047, it is critical that the full financial implications for the Transport for NSW budget are clearly understood. Any changes to technical standards have the potential to materially influence capital costs, operating expenditure, and long-term asset and infrastructure planning. Accordingly, a robust evidence base is essential to ensure that safety objectives are achieved in a manner that is proportionate, cost-effective, and sustainable over the life of the program.

6. **Assess regulatory interactions of proposed standards**

This should include interactions with other vehicle regulatory requirements set out such as those by the National Heavy Vehicle Regulator (NHVR) and under the road Vehicles Standards Act particularly section 78.

7. **Become involved globally**

The intent of improving safety is a shared responsibility, and active involvement in the UNECE workshops is the best way to contribute. Contributing at a global level is not overly time intensive and links all experts to a common internationally accepted outcome. We would encourage dialogue with the Federal Department of Infrastructure, Transport, Regional Development, Communications, Sport, and the Arts (DITRDCSA) explore what is possible.

## Response

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The Bus Industry Confederation (BIC) and BusNSW welcome the opportunity to provide input to Transport for New South Wales (TfNSW) consultation on the proposed new Technical Standards (TS) 00013 parts 1 and 2 for vehicle fire safety.

The BIC and BusNSW acknowledge that Transport for NSW requested feedback be provided via a comments register. However, the issues raised through member consultation, together with the breadth and significance of the matters identified in our review, are such that they cannot be adequately captured within that format. Accordingly, the BIC and BusNSW respectfully request that Transport for NSW accept the following submission in an alternative format that more appropriately reflects the complexity and importance of the issues raised.

### 1. The Importance of Bus Safety

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The importance of safety in buses cannot be overstated. Both government and industry share a clear responsibility to ensure that all people who travel on buses whether as passengers, drivers, or support staff can reach their destinations safely.

Buses are a cornerstone of public transport systems carrying more than half of the NSW and Australian public further than any other mode.

The BIC and BusNSW are fully committed to safety at every level. Maintaining rigorous safety standards is essential not only for the protection of life, but also for sustaining public confidence and trust in the public transport network.



Stock image (BIC)

## 2. Fire Standards and Safety

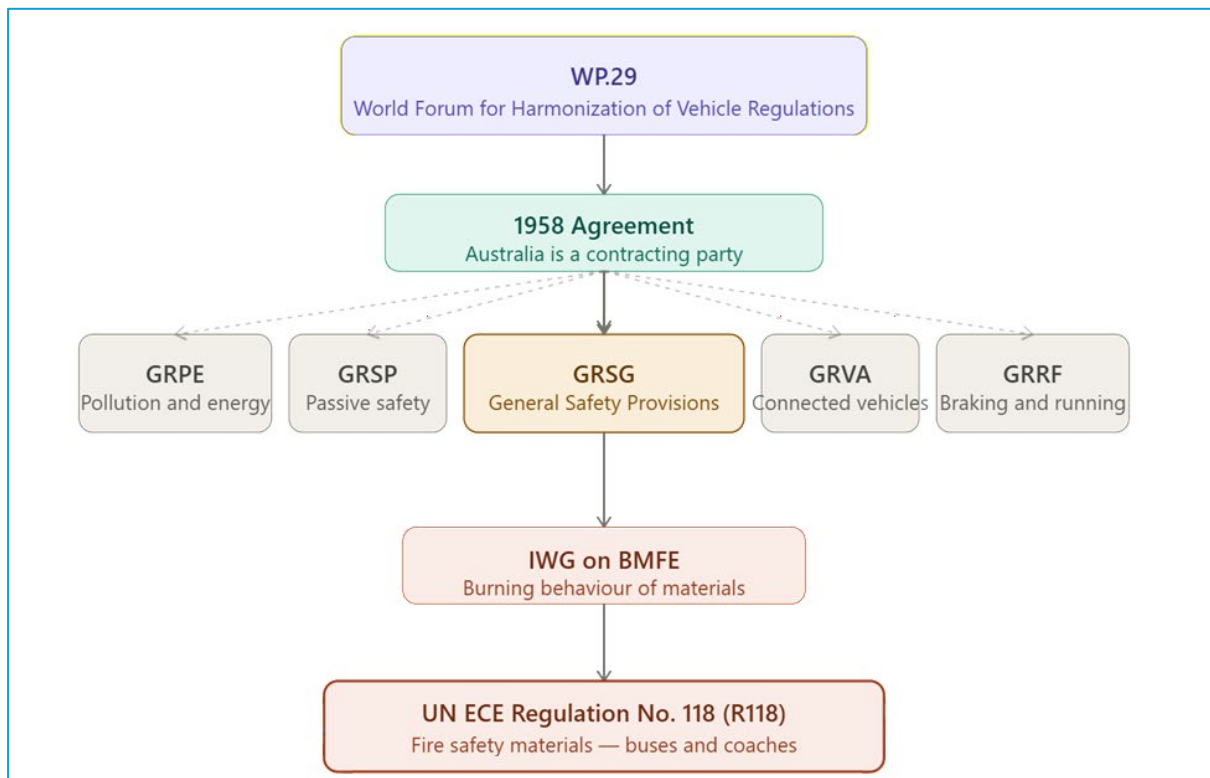
Below is an overview on the general status of fire safety prior to feedback on the standard.

### Globally

This focus on bus safety is not unique to Australia. Internationally, the risks associated with bus fires and passenger protection have been recognised for more than 20 years. In response, comprehensive and technically robust standards have been developed, most notably **United Nations Economic Commission for Europe (UNECE) No. 118** ‘Uniform technical prescriptions concerning the burning behaviour and/or the capability to repel fuel or lubricant of materials used in the construction of certain categories of motor vehicles.’ (R118). Put simply, R118 applies primarily to fire safety characteristics of materials used in vehicles such as buses.

This standard, along with others, was developed under the UNECE 1958 Agreement to establish uniform vehicle safety standards by **leveraging global industry expertise** and extensive robust consultation to first define then maintain and continually improve these best-practice regulatory requirements. This is the same format used to develop other UN ECE regulations that are applied in Australia such as but not limited to: braking requirements, emissions standards, lighting standards, vehicle rollover strength.

This collaborative, internationally informed approach, drawing on global expertise **to which Australia actively contributes**, continues to serve UNECE members well. It provides a robust, best-practice framework for safety, as developed and maintained by global industry experts responsible for the formulation and governance of these standards.



Overview of EN-ECE pathway for R118

## Australia

The lack of a current Australian Design Rule (ADR) for buses under the Road Vehicles Standards (RVSA) has led to an evolution of isolated standards to address the regulatory gap at a state jurisdictional level and vehicle procurement level. This is a combination, industry guidance, and bespoke technical standards based on requiring limited elements UN ECE R118, and other standards from buildings and rail such as but not limited to British Standard (BS) 476 and rail standard EN45545.

Like UN ECes and those countries who adopt them, adopting a fire safety regulation into an ADR would provide a strong harmonised baseline that would uniformly serve all buses, as opposed to a jurisdictional segment.

## *NSW*

For NSW, the revision of fire standards following the recommendations of the 2018 Office of Transport and Safety Investigations (OTSI) Bus fires report resulted in a significant revamp of TfNSW Bus Procurement Panel 3 standards. This marked a major step forward in addressing fire safety and passenger protection, even if at an isolated bespoke level. These principles were subsequently carried through and refined in Panel 4 standards which to date **indicate that Panel 3 and 4 standards have been effective.**

This is a commendable step forward in lieu of no national consistency to date.

## 3. Bus Regulations and Standards

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### Overview

The following is to provide an overview of existing regulations and standards for automotive vehicles, which are key to understanding the automotive landscape.

Like their European counterpart applied in Europe and elsewhere, ADRs provide a uniform safety and compliance framework for all road-going vehicles in Australia, whether a luxury car, heavy truck, or passenger bus. **To operate on public roads, vehicles must demonstrate compliance with relevant ADRs**, which protect road users, promote innovation, and align with international standards such as UNECE regulations. Compliance is mandatory for manufacturers and importers, ensuring consistency and avoiding bespoke requirements. ADRs set rigorous safety benchmarks for every vehicle, reinforcing public confidence and safeguarding all road users, especially critical for buses carrying large numbers of passengers. ADRs are governed by the Federal Department of Infrastructure, Transport, Regional Development, Communications, Sport, and the Arts (DITRDCA). [Australian Government ADR Overview link](#).

### Regulatory interactions

#### *RVSA Section 78*

Section 78 of the Road Vehicle Standards Act 2018 establishes that a road vehicle does not need to comply with individual state or territory vehicle standards, provided it meets the national standard. In practical terms, this means that if a vehicle meets the national (Commonwealth) standards and is listed on the Register of Approved Vehicles (RAV), it can be driven on public roads anywhere in Australia regardless of whether it meets individual state or territory standards, federal law takes precedence. This applies provided the vehicle is brand new when first supplied in Australia and has a connection to a corporation or interstate commerce.

#### *Gap analysis & Ongoing maintenance*

Where a state regulation does apply, it is important to understand where it sits relative to the RVSA, the relevant ADRs and whether any gaps or overlaps exist between the two. In this case a gap analysis would need to be undertaken to identify areas where the proposed standard goes beyond, or conflicts with, the RVSA, ADRs, and what additional compliance obligations this may create. This would need to include future work in discussion at the Road Vehicle Standards level.

Separate to the initial work, **ongoing regulatory maintenance would be required by TfNSW** to ensure continual alignment. Federal and State regulations change, and without a process to monitor and track those changes, it could result in regulatory conflict or failing to comply from a regulatory perspective without even realising it.

### Future regulation workplan

DITRDCA has a well-established ADR development workplan that is intended to guide future regulatory amendments in a considered and transparent manner, with a strong emphasis on international harmonisation. **This applies equally to motorbikes, cars, truck,**

**and buses as the same rules generally apply.** This approach recognises the benefits of aligning Australian Design Rules with established UN Regulations to ensure safety outcomes are met while minimising unnecessary regulatory burden on industry.

Consistent with this framework, and following recent stakeholder recommendations, it is highly likely that UNECE R118 (fire), R155 and R156 (cyber security) will be considered for inclusion on the future ADR workplan. Progressing these UN regulations through the workplan allow alignment with global vehicle development and approval processes.

Industry strongly supports the use of the ADR workplan as a nationally harmonised initiative and more broadly supports Australia's ongoing commitment to international best practice.

#### *Considerations under the current workplan*

At the time of writing, DITRDCA have made a recommendation to the Assistant transport minister to adopt the UNECE regulations below for bus and in some cases all vehicles into their formal work program for future adoption into ADRs.

- R118: Fire standards for buses
- R155: Cyber Security & Cyber Security Management System (CSMS). All vehicles.
- R156: Software updates & Software Update Management System (SUMS) All vehicles.

The primary reasons being to improve safety and security for the entire sectors affected. A stronger baseline.

## 4. Industry feedback

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BusNSW and BIC conducted a joint survey of our members. The survey received feedback from more than thirty-eight responses consisting primarily of bus operators, OEMs, component suppliers, and consultants.

This feedback has formed a large basis of the response complimented by general commentary following the TfNSW Industry briefing on how to ensure bus fire safety is best practically optimised.

Respondents were asked to assess the implication of the standards from a practical perspective including (in no particular order) timing, performance, best practice, risk mitigation, alignment, need, and responsibility.

### Outcomes based Performance

From reading the requirements of the standards and the briefing pack for those attended, the outcomes of impact to future buses were assessed. The feedback is broken down into three areas, weight, capacity, and cost This is based on a standard two axle city bus.

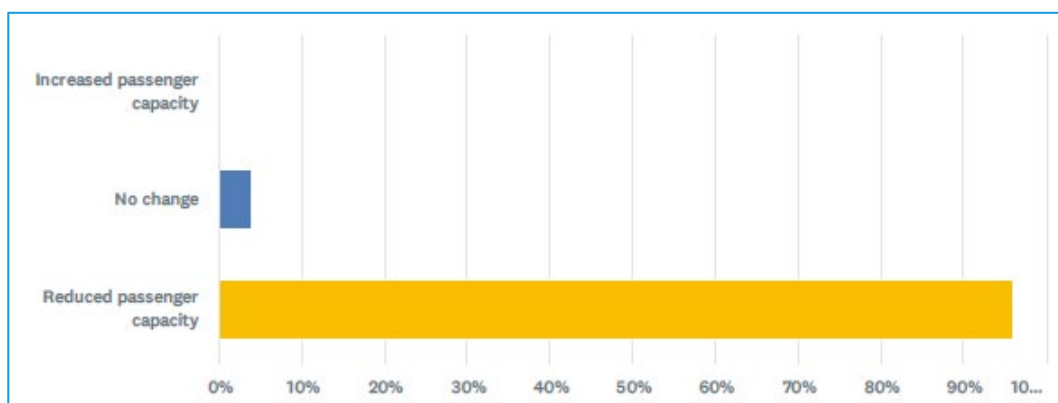
#### *Weight*

Ninety-six percent of respondents indicated the requirements of the new standard would increase weight of the current bus designs. The significance of which would result in an increase of between 400kg to 750kgs (estimations per design). This is due to the increased requirements of fire barriers on significantly greater proportion of the bus, including but not limited to barriers between battery modules (part 1 section 8.3) and HVAC unit and ducting (part 1 section 12.4).

- HVAC units would require a complete ground-up redesign or see rail units placed on buses.
- Battery barriers which are intended to provide more time to evacuate the bus in the event of a thermal event (good ideas in principle) has already been addressed by the 5-minute warning of a thermal event that is stipulated in ADR 109/01 - **Electric Power Train Safety Requirements**. This is aligned to UNECE R100.3. Again, demonstrating the importance of international best practice.

#### *Capacity*

The same respondents also indicated a reduction in passenger carrying capacity resultant of the weight increase. With passenger capacity already at its legal limits due to current vehicle mass laws in Australia and specifically NSW, the estimated capacity reduction was 6-10 people. Based on a current Zero Emission Bus (ZEB) passenger capacity of 65 people this would mean approximately a loss 9 - 15% loss in overall capacity.



Survey results for capacity

### *The ripple effects*

#### School buses

The effect of this on a school bus could see a combined reduction of a typical ZEB school bus reduce from 57 seated passengers to between 51 and 47 seated passengers.

Taking a wholistic view of other changes possible to occur in the bus sector over the next one to two years, such as a *Disability Standards review* and *bus safety reform*, there is a reasonable expectation that a requirement for *wheelchair lifters* and *laminated side windows* will be introduced. This would result in a further reduction in passenger capacity due to consequential weight increases.

#### Capacity shortfall

This capacity shortfall would require a detailed assessment by TfNSW to estimate the percentage of additional vehicles that would need to be added to the fleet.

**This increase in fleet size could very reasonably be in the order of 10 – 15% percent for city buses** and potentially higher for school buses when considering likely future reviews on disability and safety.

The consequential impacts on areas such as capital outlay for buses, charging infrastructure, drivers, depot space traffic congestion would again require a comprehensive and proper analysis.

### Cost

Respondents were asked to consider cost impacts of the proposed standards and whether there would be any changes and if these changes would be significant.

Seventy-eight percent of answers indicated a significant cost increase whilst another nineteen percent indicated a moderate cost increase. All these were premised with an 'unknown factor' on the final costing until full design analysis was conducted. This includes the need to conduct further testing on materials including in their end use position as listed in part 2 section 11. The cost is borne by the end customer being TfNSW and the NSW taxpayer.

### *Double compliance*

It should be noted separate to the survey, industry feedback was that **costing of re-complying** to meet the requirements per model could be in the vicinity of **\$1.1M**. This was the average amount advised to us. The additional need for re-compliance to the specific specifications means that in practice many manufacturers would need to test most vehicle body component parts twice. Once for the UNECE standard R118 and then a second time for TS00013.

### *Ongoing compliance*

Under the requirements of part 2, sections 12.4 and 12.5, re-testing is required every 5 years, even if nothing has changed. This will further drive-up costs and is mis-aligned with practical considerations under RVSA whereby re-certification is required every **seven years**, and they **will consider accepting old test reports** (past this time) if nothing has changed.

### *Conflict of standards*

There is also feedback this would also result in design changes as materials that meet R118 don't meet EN45545 or vice versa. Thus, resulting in different materials for NSW specified vehicles. This does not imply in any way that a material is less safe, but the requirements to attain the standard are different and lead to different constructions of those materials. This was previously indicated in responses to the 2022 consultation.

This also affects chassis as they would like the body to ensure their electronic components meet the cyber security requirements as listed in part 1 section 22. Cyber security will be further mentioned later.

## **Restriction of innovation**

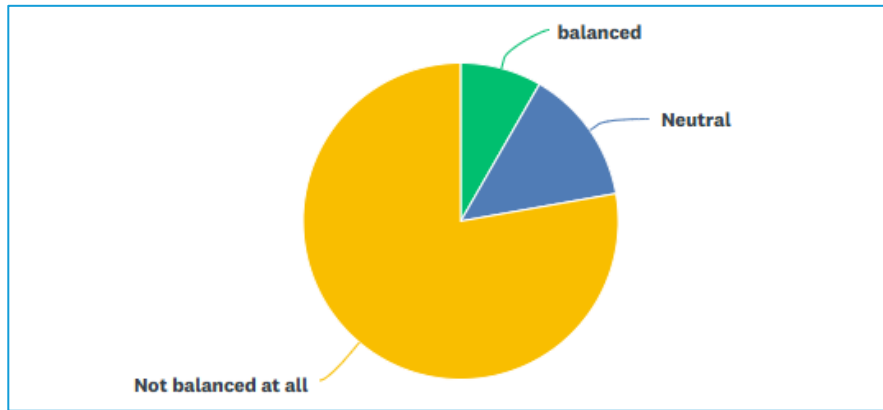
The industry briefing session implied the process was relatively straight-forward. Every supplier that contacted us indicated that the process and undertaking is extremely complex, requiring significant re-development of the areas where the EN45545 standards will apply. This will ultimately result in fewer supply offerings and even those offerings will be restricted on any innovation due to the cost of compliance, especially when potential/order volumes are unknown.

When resources are diverted to meet these compliance requirements (that would already meet existing or international best practices) investment that would otherwise drive technology and safety advancement is consumed by bespoke regulatory process.

At a time when industry is increasing its pace of technology and safety evolution the challenges faced by this really just end up limiting choice and drive-up cost for little if no perceived safety benefit when considering other current practices.

## **A balanced approach**

Respondents were asked to answer the balance of cost, risk, and performance for the proposed standard. Seventy-eight percent of respondents indicated the proposed standard did not believe it was an appropriate representation of cost, risk, and performance.



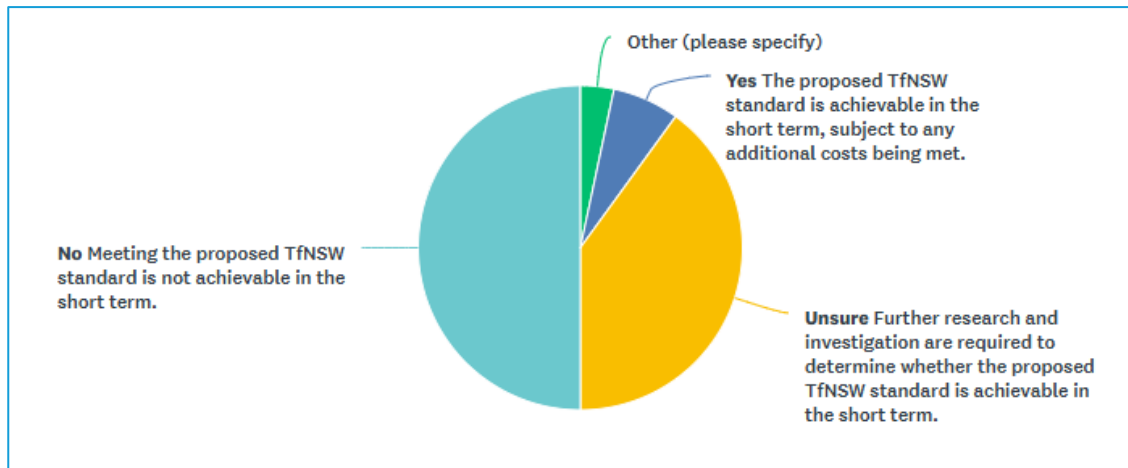
Cost, risk, and performance responses

### ***Cost Benefits Analysis***

It is unclear if a full cost benefits analysis has been conducted to assess the full cost to government for the proposals.

### **Timing**

Members were asked whether the implementation of the proposed TfNSW standard is achievable within the proposed two-year transition period, which includes design, testing, and completed vehicle supply. The results indicate that the vast majority (90%) of respondents are not confident about meeting this timeline. Half of those indicated that detailed further research taking many months would be required to analyse this.



These results highlight significant concerns among stakeholders regarding the feasibility of implementing the new standard within the proposed schedule should it be implemented. This feedback suggests that further consultation, planning, or flexibility in the transition period would be necessary to address industry concerns.

### **Best Practice**

Strong industry feedback during the general consultation period indicated that best practice addressing the safety risk was better achieved by a staged approach

- Stage 1: continue aligning with the current Panel 4 standards,
- Stage 2: introduce R118 as a longer-term solution upon it commencing as a regulatory requirement under ADRs.

### **Only three percent supported the introduction of TfNSW TS 00013.**

#### *Effectiveness of current standards (Panel 3 and 4)*

Respondents and additional general consultation were at pains to state that there was no indicative evidence to say that previous Panel 3 standards and current Panel 4 fire standards were in-effective (see also section *Previous Improvement Measures*). Until this is provided then it is difficult to justify the need for change at a risk and performance level. One extremely well considered respondent can be quoted as stating:

*'There has been no data presented indicating that the current status is ineffective. If there are short comings, they could be handled with directed adjustments to the existing specifications rather than arbitrary updating of the whole specification. Further diversification from the nation standards will have major implications on pricing and spare parts availability.'*

It should be noted that industry is supportive of change for safety improvements but for the right reasons and recognising best practice.

#### *The advantages of R118*

R118 is an internationally recognised framework for fire safety material requirements in vehicles, developed under the UNECE 1958 Agreement that Australia already participates in. Its adoption would bring **national consistency** that bespoke state level standards, despite good intent, cannot offer.

- **Outcomes Focused**  
R118 evolves alongside technology through ongoing international collaboration, keeping it relevant and effective. Suppliers designing to a global benchmark improve market access, drive competition, and keep costs in check. Deviation risks a less competitive supply base and adds regulatory maintenance burden.
- **Industry Accepted**  
Manufacturers across multiple markets already work to R118. A separate individualised standard creates duplication, adds cost, requires re-testing, and isolates Australian industry from the international supply base that underpins it.
- **Equivalent Safety Outcomes**  
R118 maintains best practice and delivers the same net safety benefit without the complexity of individualised requirements. NSW Panel 3 and 4 demonstrates this is achievable.
- **Federal Alignment**  
R118 adoption is directly consistent with federal harmonisation policy. Section 3(a) of the Road Vehicle Standards Act 2018 seeks nationally consistent performance-based standards, with Section 78 making state standards subordinate where a national standard exists. BIC and BusNSW support harmonisation where it represents best practice and R118 does exactly that.
- **Future work program**  
As stated earlier, R118 is already proposed in DITRDCS for their forthcoming work-program.

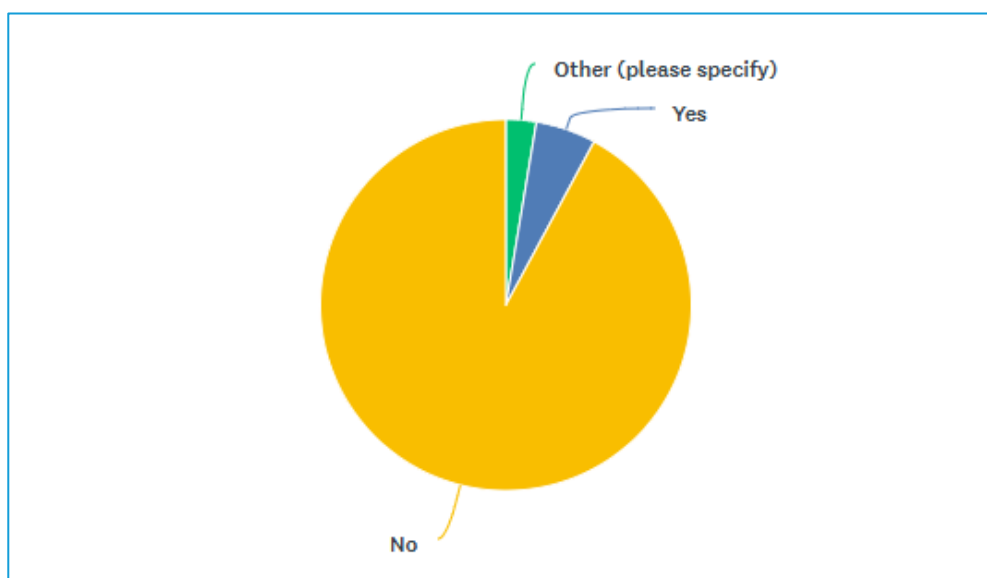
## Compliance responsibility

Part 1 section 21, Verification and Certification, requires the operator to work with the OEM to verify compliance. Members were asked to provide feedback on whether they support this.

**An overwhelming 92% did not support this** requirement. One respondent provided a truly relevant comment:

Why should an operator be responsible for quality of a product if they have no choice in what they operate?

If Transport for NSW determines the bus procurement panel specifications, sets eligibility criteria, and enters into a Deed of Standing Offer with the prime supplier, it is effectively the procurer of the vehicles. Accordingly, Transport for NSW should assume primary responsibility for ensuring compliance with all applicable technical and safety requirements, reflecting its control over procurement decisions and its position as the party best placed to manage associated risks.



### *NHVR Regulatory Interaction*

The NHVR Mastercode<sup>1</sup> has certain requirements under the chain of responsibility for procurers and operators. Specifically, section 18 lists procurement responsibilities. In the introductory section for this explicitly states:

These activities are relevant to any individual or business that **owns** or operates heavy vehicles, including vehicle hirers.

It is recommended that TfNSW investigate their responsibilities on compliance under the Mastercode to ensure there is no regulatory oversight or conflict, as it could be implied that TfNSW are also responsible as vehicle procurer.

## Cyber Security

While not referenced in the industry briefing, Part 1, Section 22 introduces a requirement to comply with specified cyber security provisions. While cyber security is of critical

<sup>1</sup> <https://www.nhvr.gov.au/files/media/document/836/ricp-master-code-2026.pdf>

importance—particularly in safeguarding safety, service continuity, and the public—there are already well-established, internationally recognised frameworks governing this area within the automotive sector.

The BIC and BusNSW are concerned that the proposed requirement does not align with current international best practice for vehicle cyber security. In particular, global standards such as UNECE Regulation No. 155 and UNECE Regulation No. 156 already provide a comprehensive and harmonised framework for managing cyber risks across the vehicle lifecycle.

Accordingly, it is recommended that Transport for NSW ensure alignment with these internationally recognised standards to avoid duplication, inconsistency, and unintended compliance burdens, while maintaining a robust and effective cyber security posture.

This is specifically:

- UN ECE R155: Cyber Security and Cyber Security Management System (CSMS)
- UN ECE R156: Software updates and Software Update Management System (SUMS)

#### *International Best Practice*

Aligning with UNECE R155 and R156 allows government and industry to ensure vehicles and the complex software and management systems they rely on meet internationally recognised best practice. These frameworks are already embedded across global vehicle development and approval processes and have proven effective in managing cyber security and software update risks across the vehicle lifecycle.

Introducing requirements that are not aligned with R155 and R156 would create unnecessary regulatory duplication, increase compliance costs, and risk isolating Australia from global vehicle supply chains, without delivering a clear improvement in cyber security outcomes.

#### *Costing*

Feedback from members is that testing to meet international standards is already expensive (approximately \$50k per system) and additional testing would simply double that cost on the proviso it could be aligned without further modification. There are on average 18-25 systems per bus model. It is a very complex frame to meet two requirements and it is questionable whether a supplier would invest in multiple compliances.

#### *Interactions with broader Australian cyber reforms*

Australia's **Cyber Security Strategy 2023-2030** sets economy-wide measures, smart device security standards and while not vehicle specific in detail it does state under 'shield 2'

Australians should be able to trust their digital products and software.  
*and*  
'Adopt international security standards for digital technologies'<sup>2</sup>.

Aligning ADRs with R155/R156 complements, rather than duplicates, these reforms.

#### **Future work program**

As stated earlier, R155 and R156 are already proposed in DITRDCS for their forthcoming work-program.

<sup>2</sup> <https://www.homeaffairs.gov.au/cyber-security-subsite/files/2023-cyber-security-strategy.pdf>

## Survey final comments

Survey respondents consistently questioned the necessity of the proposed bus fire standard, with a strong preference for harmonisation with existing national and international frameworks. There was widespread concern that the proposed requirements would introduce increased costs, constrain innovation, and add complexity to compliance and supply arrangements without a clearly demonstrated safety benefit.

Respondents also highlighted the potential for unintended consequences, including impacts on vehicle capacity and reduced supplier participation, which may in turn affect market competitiveness and delivery capability.

Overall, the feedback was notably cautious, with a clear and consistent call for alignment with established standards and for a more rigorous assessment of the necessity, proportionality, and whole-of-life impacts of the proposed measures prior to any implementation.

## Additional Feedback and comments

Creates a future minefield of regulatory complexity maintenance

### **Proposed Standards Focus**

The proposed standard is intended to address fire safety; however, it extends into a range of unrelated areas, including cyber security (as noted earlier), heating and ventilation (Part 1, Section 13), and luggage racks (Part 1, Section 9.4). This broadening of scope creates unnecessary complexity and makes it difficult, even for experienced practitioners, to clearly understand the full extent of the requirements.

It is recommended that the standard be more tightly focused on its primary objective, with other subject areas addressed separately or through cross-referenced standards, to improve clarity, usability, and regulatory coherence.

### **Previous Improvement Measures**

It is noted from the TS 00013 industry briefing that the proposed increase in stringency is informed by the outcomes of a 2018 report by the Office of Transport Safety Investigations into bus fires. The recommendations arising from that report were substantially addressed through the introduction of enhanced fire safety requirements under Transport for NSW Panel 3 specifications in 2019, with further refinements incorporated into Panel 4.

As noted earlier, these measures represented a significant and commendable advancement in fire safety at the time, particularly in the absence of a national standard.

### **Data analysis**

Upon re-reviewing the other OTSI fire reports mentioned in the proposed standard, specifically the 2021<sup>3</sup>, and the ten-year report in 2023<sup>4</sup>, reveals **a clear lack of evidential data regarding the specification level of fire affected vehicles relative to the measures introduced.**

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<sup>3</sup> [Bus Safety Report - Bus fires in NSW in 2021](#)

<sup>4</sup> [Bus Fire Safety Report 2013-2022](#)

BIC have previously been on record in response to the OTSI ten-year report in 2023 stating that: *'the effectiveness of the panel 3 specifications must require further analysis and assessment prior any further changes on vehicle standards already in place. This is especially important considering the extensive changes made to Panel 3 fire mitigation requirements'*.

It is premature to propose further fundamental changes to Transport for NSW fire safety specifications, given that the current standards have not been comprehensively evaluated and there is no evidence demonstrating that they are ineffective.

### **Commentary / Opinion**

Further concern is raised regarding comments in part 1 section 9.5. which states:

*Note: due to the low fire performance of materials used inside the bus, fires from other sources have been known to spread through the bus interior. For further information refer to the OTSI Bus Fire Safety Reports.*

Firstly, commentary of this nature is not appropriate for inclusion within a technical standard. Its inclusion may also imply that the existing Panel 3 and Panel 4 specifications are inadequate, without any supporting evidence as to their effectiveness.

Such assertions, if unsubstantiated, risk exposing Transport for NSW to potential legal challenge. Any statements regarding deficiencies in current standards should be supported by a robust evidentiary basis, rather than relying on broad or generalised references to Office of Transport Safety Investigations bus fire reports.

### **OTSIs own recommendations**

The Office of Transport Safety Investigations ten-year report also made a clear recommendation that the Australian Design Rules be reviewed.

The BIC and BusNSW support this recommendation and consider that it should be prioritised. A review at the national level would deliver a broader, harmonised framework, providing consistency across jurisdictions.

The benefit to the New South Wales public is a more uniform safety standard applying to all buses operating within the state, including those travelling through NSW, not solely those procured by Transport for NSW for contracted services.

### **Testing**

#### **Local resource capability**

Many respondents and general feedback noted that there are currently no test facilities available in Australia to test to EN 45545. This means local suppliers having to test overseas which sets an un-equal playing field.

#### **Testing requirements**

Part 2 section 11.1 states *Items shall be tested in their end use condition, position, orientation, including coatings as applicable to their intended use.* This is further supported by the context of part 1 section 12. Does this imply they must be tested in an assembled position as part of a complete vehicle, or at a component assembly level as typically required in R118.

Further clarification is required.

## Enforcement

Of the two standards, UN ECE R118 is the more stringently regulated framework compared to UN 45545.

- **R118** carries mandatory type approval obligations backed by government authorities, requires independent third-party verification, issues formal E-mark certification, and mandates periodic production conformity audits.
- **EN 45545**, while technically rigorous in its test requirements, operates without an equivalent government oversight structure with its enforceability is reliant on how and whether it is referenced in national regulation or procurement contracts such as TfNSW standards. This distinction is relevant when assessing the robustness of any proposed changes to TfNSW fire specifications that seek to place greater reliance on EN 45545 compliance.

## Material availability and compatibility

The briefing indicated the ease of availability of materials. The reality is that many materials are not readily available for the bus space, and that extensive research and further testing would be required to attain materials for buses specifically to meet the additional requirements. What was also omitted is the significant re-design of the vehicles to meet the further updated requirements.

There are also a range of components that could not comply to both the ECE EU regulations as well as EN 45545 simultaneously. This is not because they are less safe in any way, but the performance requirements are simply different, and the composition of the material is therefore different to meet the need.

## Standards segmentation

A notable inconsistency exists within the proposed compliance framework that warrants consideration. Part 1 section 2 and part 2 section 7, describes requirements in an overview for the different bus categories.

- Small buses (up to 29 seats)
  - May use UNECE R118 (and similar international standards) if a complete off-the-self-commercial vehicles (COTS).
  - If consisting of separate chassis and body are treated in the same manner as a large bus.
- Large buses (29 seats or more)
  - Chassis and driveline of large buses are required to meet UN ECE R118.
  - Body components though are held to primarily different standards, particularly EN 45545.

This creates a peculiar imbalance. It is difficult to reconcile why a small bus carrying up to 29 passengers is considered adequately protected under R118, yet a large bus body requires a rail standard. The fire risk profile of a passenger (and the materials surrounding them) does not change so dramatically based on the overall size of the vehicle to justify the application of an entirely different regulatory framework to one part of the vehicle but not another.

This piecemeal approach to compliance where different parts of the same vehicle and different vehicle categories are held to different standards without clear evidential justification undermines the cohesive nature of the overall specification.

### Risk Management

Part 1, Section 6.7 seeks to ensure that the fire risk of a vehicle is contained within that vehicle, such that it does not spread to adjacent vehicles or surrounding infrastructure. However, such risk management measures are already addressed through operators' existing safety and risk management systems.

This requirement also raises important practical considerations, including whether such assessments would need to be repeated each time a vehicle changes depots, and how the provision aligns with requirements or expectations of other New South Wales agencies, such as Fire and Rescue NSW.

### Emergency response provision

A large proportion of what is requested in part 1, section 18 of this proposed standard is already covered in ISO standard 17840-2. This information which is available through the ANCAP rescue APP (available from I-Store or Google Store) provides this information remotely which is more practical than labelling a bus in its entirety. It's a more robust solution that requires less maintenance. Also labelling requirements in ADR 109/01 for HV components supplements this.

### Alarms, sensors, and communications

Part 1 section 14 lists requirements for sensors and alarms. Most of the requirements are already listed in other TfNSW standards, ADRs or the Panel 4 specification itself. While in concept it is good to list, there is overlap which requires further clarity to avoid the duplicity.

Part 1 section 14.5 states the *driver's dashboard shall have an area dedicated to fire and thermal events.*

There is a requirement to have a dedicated area means an even more crowded dashboard and in cases where the functionality for these sensors is integrated in the warning display area for the vehicle itself (central display) a re-design of the electronic system for the driver. Its is better achieved to allow for the warning systems to remain as -is and provide driver training on how to identify them. Having a separate area is redundant.

### Running capability requirements

Part 1 section 16 proposes a requirement that: *'Bus systems essential for running and stopping shall be protected from the most likely fire scenarios identified by the risk analysis to provide at least five minutes of running time from the initiation of the alarm'.*

This may conflict with existing ADR 109/01 requirement provisions, which prioritises hazard mitigation and occupant evacuation rather than continued vehicle operation following a fire event. Further analysis is necessary to confirm regulatory alignment and avoid inconsistency. Where applicable, ADR requirements take precedence.

## Contact

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