



HVIA Submission

To the ADR Harmonisation
Review 2024-2025

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Heavy Vehicle Industry Australia
Represents and advances the interests of manufacturers
and suppliers of heavy vehicles and their components,
equipment and technology.



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What is Heavy Vehicle Industry Australia?

Heavy Vehicle Industry Australia (HVIA) is the peak industry association for Australian manufacturers of trucks and trailers (collectively referred to as heavy vehicles), as well as the dealerships, repairers, suppliers, and service providers that support the entire industry. We represent almost every major truck manufacturer/importer, all of Australia's major trailer manufacturers, and an ever-growing list of their component, equipment and technology providers.

HVIA's 300-plus corporate members collectively employ a local workforce of over 70,000 staff. Our member's interests cover an extensive range of vehicles, starting with 3.5-tonne light commercial trucks, and extending all the way up to Australia's unique 50-metre long, 100-tonne road trains.

The industry provides some of the world's most efficient, safe, innovative, and technologically advanced vehicles. HVIA seeks to work with government and industry stakeholders to promote an innovative and prosperous industry that supports a safe and productive heavy vehicle fleet operating for the benefit of all Australians.

Summary of HVIA's response to the ADR Harmonisation Review

The Australian regulations covering 'first supply' of heavy vehicles to market (i.e. the Australian Design Rules, or ADRs) are complex, and their on-going development and revision is often protracted and delayed.

Some of those problems are due to inherent characteristics of Australia's heavy vehicle industry – it produces vehicles locally and imports others from three international markets, and Australia's size and weight regulations allow globally unique combinations. Those characteristics have allowed harmonisation in some key areas but resulted in necessary deviation in others.

Other problems are caused by the ADR processes themselves, which has led to a 'reactive' regulatory system that lags technology development, hinders innovation, reduces choice, and increases cost. In addition, there are many examples of outdated or unnecessary rules, as well as contrasting instances where harmonisation is needed, and others where it hasn't worked.

At present, there are several opportunities for improvement, which are summarised below, and explored in detail in this submission:

- Review the ADR revision and approval process from end-to-end to streamline it and reduce its resource intensiveness.
- Redevelop the current Vehicle Standards Consultative Forum (VSCF) to meet quarterly, prioritise issues for the industry, and commit to defined targets and actions.
- Publicise key information related to ADR review and harmonisation activities and provide a mechanism for industry members to publicly record issues with ADRs or specific clauses.
- Recognise the inherent drawbacks in the ADR system and minimise those by avoiding the regulation of items that do not need to be regulated.
- Consider further ways in which the ADR system can be improved or revised to allow the introduction of decarbonised trailers.
- Explore options to exempt complying imported vehicles from elements of the type approval process, introduce manufacturer self-certification, and better implement the 'worst casing' provisions from the UN ECE 1958 Agreement.
- Consider opportunities to outsource aspects of the type approval system to industry to minimise the Department's workload.

Introduction

This document is HVIA’s response to the Federal Department of Infrastructure, Transport, Regional Development, Communication and the Arts (DoITRDCA) ADR Harmonisation Review 2024-25.

It outlines the importance of a viable and strong heavy vehicle industry to the Australian economy. It summarises the historical management of vehicle standards in Australia and explains Australia’s international obligations as a signatory to the United Nations Economic Commission for Europe (UNECE) 1958 Agreement.

It covers the current processes for developing and reviewing ADRs and suggests improvements to those systems and process that will benefit the industry, the community, and regulators at all levels, whilst maintaining appropriate safety and environmental standards. It also provides comments on specific ADRs that are relevant to the review’s aims.

To inform this submission, HVIA ran a targeted member survey, and held an online member forum. Both received strong engagement from members. Information and insights from those activities is provided throughout this submission, where relevant.

Australia’s road freight transport industry

Australia’s domestic road freight task is continually growing and projected to grow faster than other freight modes over the next 25 years. Between 2020 – 2050, road freight is projected to grow by 77%, whereas rail, air, and shipping are unlikely to grow. The total freight task is predicted to reach 964 billion tonne-kilometres (btkm) by 2050 from its current level of 765 btkm.

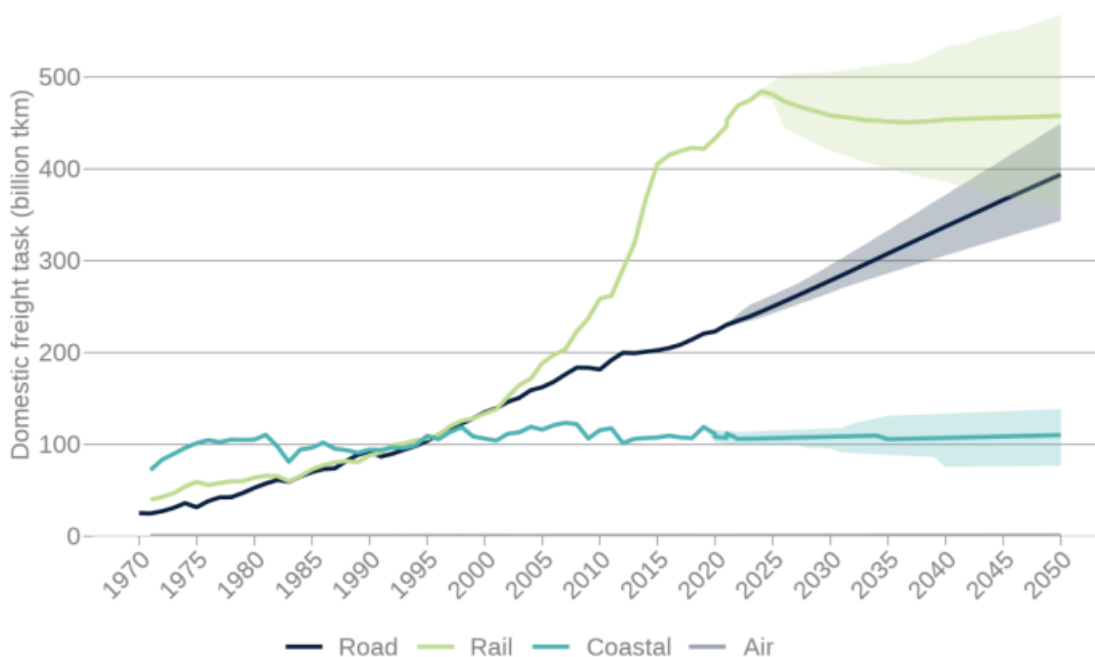


Figure 1: Actual and projected future freight task by major transport mode (source: BITRE, 2020¹)

In meeting that demand, heavy vehicle sales volumes in Australia have broken records in 2022, 2023 and 2024. Spanning all heavy vehicle classes from 3.5 tonnes Gross Vehicle Mass (GMV) and above, the 2024 calendar year saw a total of around 48,000 new trucks and 17,500 new trailers added to the Australian fleet. The overwhelming majority of those trailers, and many of the trucks, are engineered and manufactured

¹ https://www.bitre.gov.au/sites/default/files/documents/bitre_rr154_summary_report.pdf

within Australia, and feature many examples of Australian-sourced equipment and components. As such, support for and acknowledgement of the role of the heavy vehicles to Australia's economy is vital.

Background to the management of vehicle standards in Australia

The UNECE established an Agreement in 1958 to harmonise technical United Nations Regulations, with the overall aim of reducing barriers to international trade with regards to wheeled vehicles (and their components relating to safety, environment, energy and anti-theft requirements)².

Australia is a signatory to that Agreement. The Agreement outlines the use of 'type approvals' as a mechanism of validating compliance with the UNECE standards. The major advantage of type approvals is they allow vehicles produced in one jurisdiction to be accepted in another jurisdiction as compliant without requiring a separate approval process.

The mechanism used by Australia for managing compliance with the agreement is the *Road Vehicle Standards Act 2018* (RVSA), which enables DoITRDCA to administer the ADRs, which specify the requirements covering 'first supply' of heavy vehicles to the market.

Status of the ADRs

The ADRs represent Australian versions of the international standards, are designed to suit the Australian market, and are broadly supported by industry. They have aimed to improve road safety and reduce environmental impacts since first legislated in 1969.

Australia sources heavy vehicles from Europe, the US, and Japan. As a result, some ADRs allow compliance with the American Federal Motor Vehicle Safety Standards (FMVSS) or the Japanese Automotive Standards Organisation (JASO) standards as alternatives to the UNECE standards, which is permitted under the 1958 Agreement.

There are currently over one hundred active ADRs. Not all active ADRs apply to every vehicle; each ADR contains an applicability table which lists the vehicle categories to which it applies. For the heavy vehicle industry, there are five applicable ADR categories, as follows:

- NB1 – medium goods vehicle with Gross Vehicle Mass (GVM) between 3.5 and 4.5 tonnes
- NB2 – medium goods vehicle with GVM between 4.5 and 12.0 tonnes
- NC – heavy goods vehicle with GVM above 12.0 tonnes
- TC – medium trailer with Gross Trailer mass (GTM) between 3.5 and 10.0 tonnes
- TD – heavy trailer with a GTM above 10.0 tonnes.

About thirty of the active ADRs apply to NB1, NB2, and NC vehicles, and ten apply to TC and TD vehicles, meaning that approximately forty of the active ADRs apply to the heavy vehicle industry.

HVIA's member survey asked members to list the ADRs they are principally impacted by. The responses varied greatly. Some respondents indicated only one or two ADRs, but most listed between six and eight and some respondents listed over fifteen ADRs. The most common responses were:

- ADR 13 — Installation of Lighting and Light-signalling Devices
- ADR 35 — Commercial Vehicle Brake Systems
- ADR 38 — Trailer Brake Systems
- ADR 42 — General Safety Requirements
- ADR 43 — Vehicle Configuration & Dimensions

² <https://unece.org/trans/main/wp29/wp29regs>

- ADR 62 — Mechanical Connections between Vehicles
- ADR 63 — Trailers Designed for Use in Road Trains
- ADR 64 — Heavy Goods Vehicles Designed for Use in Road Trains & B-Doubles

ADR development and revision process

Australia's local size and weight regulations allow globally unique combinations, which means that the ADRs must occasionally differ from their international equivalents. Separately, the adoption of an international regulation may not be prudent, nor deemed required for the Australian market, and existing ADRs require on-going periodic review. Hence, the ADR package requires a development and revision process to support it.

A previous version of that process was described in a 2011 Regulatory Impact Statement (RIS) investigating options for Harmonising the ADRs³. The process spanned eight steps and included consultation with and approval from eight government and industry stakeholders. It was noted specifically as being lengthy and resource intensive, yet the review did not investigate options to improve it.

The current process is led by the DoITRDCA. In its present form, it comprises essentially the same steps but with two new stakeholder groups replacing the previous Technical Liaison Group (TLG). Those groups are the separate Vehicle Standards Consultative Forum (VSCF), and the Vehicle Regulators Forum (VRF). Accordingly, the current process suffers the same drawbacks reported in 2011.

The VSCF members include representatives from the vehicle industry associations, national regulators, as well as vehicle standards representatives from the bodies managing roads and transport in each state and territory. The VRF members include only the regulators and vehicle standards representatives.

HVIA cannot comment on the effectiveness of the VRF, as it is not a member of it. However, HVIA does not consider the VSCF to be an effective tool to support the ADR development and revision process. HVIA's main concerns are:

- the group only meets twice per year, which profoundly hinders its rate of progress on any issue
- regulatory issues are not prioritised, leading to sub-optimal outcomes
- the current Terms of Reference (ToR) lacks governance principles
 - there are no measurable targets, nor KPIs
 - there are no timeframes for monitoring and reporting on progress/actions, which not only leads to unnecessary delays, but limits any robust assessment of its effectiveness.
- little to no feedback is provided regarding decisions made by the Department following industry submissions.

HVIA raised these issues in October 2023 when invited to provide comments on the ToR. HVIA's recommendations on changes to the ToR were ultimately not adopted.

HVIA recommends the ADR harmonisation review addresses these issues by streamlining the ADR development and revision process to reduce its resource intensiveness, and re-develop the VSCF to meet quarterly, prioritise issues for the industry, and commit to defined targets and actions. Doing so will significantly accelerate and improve the ADR development and revision process. An expanded set of Commonwealth-based resources, including dedicated staff, will likely be required.

HVIA considers that the visibility of the ADR review and development process must be improved. The current system is opaque and unnecessarily excludes individual industry members from understanding critical items such as:

³ <https://oia.pmc.gov.au/sites/default/files/posts/2012/03/03-Harmonisation-of-the-ADRs-RIS.pdf>

- when an ADR was last reviewed, or if it is presently under review
- the extent to which an ADR is harmonised with an international standard (or the reasons why harmonisation was considered, but deemed inappropriate)
- the issues/concerns that other industry members have raised with an ADR, or specific clauses

HVIA recommends the publication of the above key information, and provision of a mechanism (e.g. website) for industry members to publicly record concerns or issues with ADRs or specific clauses. Such a capability would aid efficiency and improve decision making and prioritisation of ADR review, development, and harmonisation efforts.

Impacts of regulatory controls on innovation, choice, and cost

The Australian approach to regulating products at ‘first supply’ to market has historically lagged the development and market adoption of the technologies that they regulate. Two prominent recent local examples are the ‘Euro VI’ emission and Autonomous Emergency Braking (AEB) regulations. Both were regulated in Australia almost a decade after being regulated in Europe. More recently, provisions related to Fully Automated Coupling Systems (FACS) have been added to ECE regulations R13 and R55 but have not yet been recognised in Australian Design Rules, 35, 38 and 62. Some of the delays are caused by the ineffective VSCF/VRF processes, and the equivalent processes that followed before them.

Regardless of the cause, the result is that the ADRs cannot be considered effective at fostering innovation. Their key achievements are the standardization of a base level of safety/environmental functions in the small subset of vehicles/products sold in Australia that may not have otherwise complied. Non-complying products are sometimes withdrawn from the market, rather than improved to a complying level. This means that in some cases, the ADRs result in reduced choice for consumers, albeit for arguably more beneficial overall outcomes to society.

It has also been suggested that if technologies are not recognised in the ADRs, Original Equipment Manufacturers (OEMs) may be wary of adopting new technologies due to perceived compliance risks. This in turn results in the uptake of new technologies being slower. It may also result in them being implemented as after supply modifications under the National Heavy Vehicle Modification code (VSB6) rather than as standard manufacturer option delivered through the type approval system.

HVIA recommends that the ADR harmonization review recognise the inherent drawbacks in the ADR system and minimise those by avoiding the regulation of items that do not need to be regulated. A reduced set of ADRs that are strategic and practical will give the industry its best chance to innovate, and simultaneously improve outcomes for consumers, whilst maintaining safety and environmental outcomes.

Old or outdated ADRs

HVIA’s member survey asked which ADRs are old/outdated, or otherwise not needed. The responses included:

- ADR 13 – the feedback identified multiple areas for improvement.
- ADRs 35&38 –These ADR are not up to date with the latest Electronic Brake System (EBS) technology regulations in Europe.
- ADR 42 –There were multiple areas of feedback including:
 - Tyre placards are unique to Australia and considered them defunct as the information is given in the owner’s manual.
 - The requirements on exhaust outlets results in unique parts provided specifically for the Australian market, that were also not needed.
 - Wiring requirements are considered unworkable for larger Australian combinations

- ADR 45 – Most requirements are now covered by ADR 13.
- ADR 59 and 62 – there are questions as to why there are requirement to perform physical testing for safety chain attachments, when it is not required for other components.
- ADR 62 and 63 – There is significant cross-over between the two, in relation to requirements for road trains.
- ADR 63 and 64 – Some merging of the requirements is needed.

Instances where ADRs are Stifling Innovation

HVIA's member survey asked for specific examples where ADRs have stifled innovation. For example, ADRs 43, 62 and 63, which specify various requirements on vehicle configuration and dimensions as heavy vehicle productivity can often be greatly improved by designing vehicles slightly outside the requirements of those ADRs, without sacrificing safety.

To circumvent those restrictions, Australian regulators took a unique path. They developed a separate legislative package now known as the Performance Based Standards (PBS) system and currently implemented by the National Heavy Vehicle Regulator (NHVR). Since its inception in 2006, approximately 20,000 innovative heavy vehicle combinations have been allowed to breach some (or all) of the requirements of ADR 43, 62 and 63, yet the ADRs themselves remain unchanged.

Other responses related to stifling of innovation included:

- ADR 43 – the requirements for transition mass of retractable axles are too conservative.
- ADR 43 – difficulty in obtaining exemptions for low-volume special purpose vehicles.
- ADR 43 – prohibition on the use of vehicle speed to trigger lift axle controls.
- ADR 35 and 38 – some of the clauses are not well-aligned with the latest advanced braking systems technologies. It requires full-vehicle tests to validate performance of component-level changes (e.g. brake friction compound).
- ADR 95 – the cold inflation pressure limit of 825 kPa limits tyres options for next-generation low and zero emissions heavy vehicles with higher steer axle loads.
- ADR 109 – limitations on the standards for approved batteries (i.e. only ECE R100 compliance is permitted). Lack of local test facilities stifles local research and development opportunities.
- ADR 110 – vehicles are limited to ECE R134, and not the previously accepted European ECE 79.

Instances where harmonisation is needed

HVIA's member survey asked for specific examples where members consider that harmonisation is needed.

The responses included:

- Vehicle definitions – some exemptions are given to 'off road vehicles', however the definitions are specific to each ADR, and they vary. In that sense, harmonisation within ADRs is needed.
- ADR 35 and 38 – again, some of its clauses are not well-aligned with the latest advanced braking systems technologies.
- ADR 43 – again, the requirements for transition mass of retractable axles are too conservative and should be aligned with ECE R13.
- ADR 65 – the allowed tolerances for speed limiters are lower than ECE R89, which causes confusion.
- ADR 99 – requirements for Australian-specific lane markings should be included.

Instances where harmonisation has not worked

HVIA members identified several instances where harmonisation has not worked, or where partial harmonisation has caused problems. Member feedback identified a range of situations that generally fall into one of the following types:

- Situations where international regulations are not suitable for Australian conditions or vehicles (particularly where longer road trains are involved).
- Situations where the ADR has closely followed the international regulation but has slightly different standards or testing requirements that place an unnecessary additional regulatory burden.
- Situations where harmonisation or potential harmonisation has resulted in inconsistencies between individual ADRs.
- Situations where the 'worst casing' philosophy has not been properly implemented, and Australian manufacturers are required to undertake additional testing for no safety benefit.

One of the most prominent examples of a harmonisation failure impacting the heavy vehicle industry arose from the vehicle-to-trailer and trailer-to-trailer wiring connection requirements specified under ADR 42. Prior to 1 July 2019, ADR 42/04 listed three possible wiring standards, but did not prohibit any others. In an attempt to harmonise it with international trailer wiring standards, ADR 42/05 was implemented from 1 July 2019 onwards. It included four wiring standards, and crucially, prohibited all others.

The change left local trailer manufacturers with a new set of design requirements that didn't match the majority of the existing vehicle fleet and also weren't suitable for the Australian market for technical reasons. As a result, the wiring connection requirements of ADR 42/05 are not delivering any of the intended benefits (harmonisation, safety, vehicle interoperability), and is simply adding additional cost and confusion to the industry. This is an active advocacy area for HVIA.

Influence of the ADRs on the net zero transition

In-line with the above, the ADR system in its current form is unlikely to foster innovation in decarbonization. The greatest opportunities for the new heavy vehicle fleet to decarbonise lie in trucks with alternative drivetrains, including hybrid, battery electric, hydrogen fuel cell, and other forms of decarbonised gaseous and liquid fuels. Further opportunities lie in the decarbonization of trailers, fitted with innovative e-axles.

Decarbonised truck innovations will be developed in overseas markets completely independently of the ADR process. A small number of truck innovations may arise locally; however, a greater number of trailer innovations is expected. There are two active ADRs covering decarbonised truck drivetrains, but currently no ADRs covering the fitment of e-axles and associated technology (e.g. batteries) to trailers, and no clear regulatory pathway to the provision of trailers with e-axles to the market. This is another example of the current ADR system limiting innovation and choice.

The Australian heavy vehicle industry needs a regulatory framework that does not inhibit the local development of decarbonised trailer technologies. This is an active advocacy area for HVIA, and discussions within the VSCF are expected to lead to the addition of regulatory review package to the NTC's work program.

HVIA recommends that the ADR harmonization review expressly consider further ways in which the ADR system can be improved or revised to allow the introduction of decarbonised trailers.

Potential for improvements to the ADR approval and administrative processes

The processes by which ADR compliance is managed are an ongoing source of frustration for the industry. This has been a particular problem since the introduction of the RVSA and the implementation of ROVER, its administration system. ROVER is DoITRDCA's online portal for applications and approvals under the RVSA legislation. HVIA's main concerns are:

- imported vehicles deemed compliant with a recognised international regulation are still required to complete a full type approval application. This unnecessarily adds to the approval process, causes delays, and increases costs for industry.
- The current approach to vehicle approval does not appropriately apply the 'worst casing' provisions of the 1958 agreement. Worst casing is designed to minimise the amount of testing required when there are multiple vehicle variants. The principle is that only the worst-case example related to performance against a given standard is required to be tested.

To address the first issue, a procedure should be developed to identify and recognise overseas vehicles that comply with recognised international regulations and exempt them from elements of the type approval process. Introducing appropriately controlled manufacturer **self-certification** would support that change.

Article 1 of the 1958 Agreement states that alongside type approvals, there are other administrative procedures relevant for validating compliance, including self-certification, which is applied in ECE member states. Self-certification entails the manufacturer certifying that each product put on the market conforms to the applicable international regulation. Authorities may verify by random sampling that the self-certified products comply.

HVIA recommends that the ADR harmonization review explore options to exempt complying vehicles from the type approval process, introduce manufacturer self-certification, and better implement the 'worst casing' provisions from the 1958 Agreement. Doing so will support industry productivity and innovation, improve choice and lower price outcomes for customers.

HVIA is also aware that the Department has an on-going issue in recruiting staff with sufficient experience and knowledge to run the approvals system effectively, which has led to unnecessary delays to industry, and increased costs.

HVIA recommends that the harmonization review consider opportunities to outsource aspects of the type approval system to industry to minimise the Department's workload.

Conclusion

HVIA has made several suggestions for areas for potential improvement to the ADR system. However, HVIA recognises that these are complicated issues and detailed consideration of these issues requires cooperation between industry and regulators to find workable solutions. HVIA remains willing to assist the review in testing ideas and providing industry knowledge and expertise.