



**BICYCLE  
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**AUSTRALIAN DESIGN  
RULE DEVELOPMENT  
PROGRAM**

RESPONSE TO DISCUSSION PAPER

JUNE 2021



## Introduction

### The Australian Design Rules Development Program

The *Motor Vehicle Standards Act 1989* (soon to be replaced by the *Road Vehicle Standards Act 2018*) stipulates that all new road vehicles must satisfy national vehicle standards (Australian Design Rules – ADR) before they enter the Australian market. These ADRs, developed in conjunction with international vehicle regulations, set out the mandatory requirements for safety, environmental performance and theft protection. Once new vehicles fulfill these federal requirements, responsibility is handed down to states and territories to ensure continued compliance.

The [Australian Design Rules Development Program](#) is managed by the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC), and aims to amend and develop existing ADRs and introduce new ADRs where necessary. Several existing ADRs for freight vehicles are currently under review to ensure that they remain fit for purpose, which forms the basis of this submission.

### Discussion Paper - Safer Freight Vehicles

Recently, a [Discussion Paper](#) was prepared outlining possible changes to existing ADRs for facilitating increased take up of safer and more efficient freight vehicles in Australia. The DITRDC has invited feedback on the proposed changes.

The ADR changes outlined in the paper will assist the DITRDC in achieving the objectives set out in ‘Other Critical Action L’ of the [National Road Safety Strategy 2018-2020](#) (Investigate the introduction of safer, cleaner heavy freight vehicles by minimising regulatory barriers); and ‘Action 1’ in the [National Heavy Vehicle Regulator’s Vehicle Safety and Environmental Technology Uptake Plan](#) (Vehicle SETUP).

## Improving the safety of drivers and vulnerable road users

Many of our capital cities are developing initiatives and infrastructural solutions to extend road network access for freight vehicles, including better access to local roads<sup>1</sup>. At the same time, transport policies and strategies aim to increase bike-based commuting, which will see more people riding bikes on our roads<sup>2</sup>. This raises concerns that the risks of death and serious injury to people riding bikes as a result of heavy vehicle collisions may be even higher into the future.

In Australia, 23 per cent of bike rider fatalities in an average year involve a heavy vehicle, a statistic that has not changed for 20 years<sup>3</sup>. In many cases, a collision occurs where bike riders are travelling through an intersection and are struck by turning heavy vehicles<sup>4,5</sup>. Nine riders have been killed by a left-turning driver between 2000 and 2018, eight of which involved a freight vehicle.

The common occurrence of these collision scenarios highlight that drivers of freight vehicles remain susceptible to blind spots. Their consistency over the long term highlights that we have not solved the problem.

A necessary step towards safer freight vehicles is the compulsory fitting of enhanced devices for indirect vision and monitoring/detecting other road users (hereafter collectively referred to 'additive safety devices'). These include:

- devices for indirect vision (ADR 14/03; UN Regulation No 46)
- lane departure warning systems (ADR 99/00; UN Regulation No 130)
- blind spot information systems (ADR 105/00, UN Regulation No 151)
- lateral protection devices (e.g. side underrun protection) (ADR 106/00; UN Regulation No 73)
- audible warning devices (UN Regulation No 28)
- conspicuity markings (UN Regulation No 104)

It will become increasingly important to harmonise our national heavy vehicle safety standards with those regulated by the United Nations if we are to simultaneously grow the freight and active transport sectors. This harmonisation should include a stronger commitment to additive safety devices.

The changes to freight vehicle ADRs proposed in the DITRDC's Discussion Paper are not the large-scale changes that will protect people riding bikes in Australia. However, we acknowledge that they provide the first steps toward a more robust national framework.

In this submission, we have provided direct feedback on the ADR changes proposed by DITRDC in their Discussion Paper. We then provide broader feedback on future directions for increasing the safety of freight vehicles and protecting people riding bikes.

## Amendments to existing ADRs

### Regulatory package for vehicles with enhanced devices for indirect vision and/or monitoring devices to detect other road users

The first amendment raised in the Discussion Paper is to exclude the following additive safety devices from the width and length measurements of new vehicles to a maximum of 100 mm and 250 mm, respectively:

- devices for indirect vision (ADR 14/03; UN Regulation No 46)
- devices that help the driver to see objects in an area adjacent to the vehicle
- monitoring devices fitted as part of an automated driving system and/or a system to inform the driver of the presence of other road users (e.g. vehicles, bicyclists, pedestrians) in an area in close-proximity (within 2 m) to the vehicle body (subject to a total protrusion limit below)

Bicycle Network supports the exclusion of these devices from the measurement of vehicle width and length.

### Regulatory package for safer wider heavy freight vehicles

The second amendment proposed in the Discussion Paper proposes an increase in the width limit of goods vehicles and trailers. Four options are provided for feedback:

- Option 1a: Increase the width limit to 2.55 m for goods vehicles and trailers over 4.5 tonnes
- Option 1b: Increase the width limit to 2.55 m for goods vehicles over 4.5 tonnes only
- Option 2a: Increase the width limit to 2.6 m for goods vehicles and trailers over 4.5 tonnes
- Option 2b: Increase the width limit to 2.6 m for goods vehicles over 4.5 tonnes only

Bicycle Network supports Option 1a, to align with the width standards in the European Union, United Kingdom and New Zealand. However, this position is made with consideration that freight vehicles exceeding the width limit must be fitted with the following:

- blind spot information system (ADR 105/00)
- devices for indirect vision (ADR 14/03)
- commercial vehicle brake systems (ADR 35/07)
- advanced emergency braking (ADR 97/100)
- lane departure warning systems (ADR 99/00)
- side underrun protection (ADR 106/00)

We take this position as the marginal width increase will provide additional space to better fit EU mandated safety technologies, such as those listed above, and environmental technologies, such as Euro VI emission control systems.

## Considerations for the future

### Compulsory fitting of additive safety devices

In order to further protect people riding bikes on roads, Bicycle Network will continue to advocate for the compulsory fitting of the aforementioned additive safety devices for new goods vehicles (NB, NC) and trailers (TC, TD) over 4.5 tonnes gross vehicle mass (GVM).

Bike crashes involving heavy vehicles result in higher severity injuries compared to other motor vehicles<sup>6,7</sup>, and are disproportionately represented in Australia's annual bike fatality records<sup>3</sup>.

According to the Discussion Paper, it is anticipated that a new ADR for blind spot information systems will be mandated for new heavy goods vehicles over 8 tonnes GVM and exceeding the regulated vehicle width limit.

However, the dimensions and mass of the vehicle are likely to be irrelevant. Additive safety devices do not make safer freight vehicles, they make safer drivers. They allow potential hazards to be properly communicated to the driver and factored into their driving decisions. In some cases, they also alert nearby riders of potential risks (e.g. an audible left turn signal). A driver's level of heavy vehicle experience has little impact on their strategies when interacting with bike riders<sup>8</sup>.

Bicycle Network takes the position that drivers of freight vehicles are equally impaired when recognising riders in blind spots. The compulsory fitting of blind spot information systems, and other additive safety devices, aims to overcome this impairment and should form the basis of future discussions.

### Consideration of a direct vision standard (DVS) effectiveness trial for heavy vehicles over 12 tonnes

In 2020, Transport for London introduced a world-first 'direct vision standard' (DVS), an objective measure of a driver's direct view through the windows of their freight vehicle<sup>9</sup>. The scheme was implemented to reduce the disproportionate number of vulnerable road user collisions in London involving freight vehicles.

The DVS scheme is a necessary push towards reducing collisions where blind spots are a common determinant, and improving overall road conditions for bike riders. Participating drivers reported significant visibility improvements and increased awareness of vulnerable road users<sup>10</sup>.

Bicycle Network will support an effectiveness trial in Australia for enhancing direct vision in heavy vehicles.

## Who we are

With nearly 50,000 members, [Bicycle Network](#) is one of the top five member-based bike riding organisations in the world. We are committed to improving the health and wellbeing of all Australians by making it easier for people to ride a bike.

Operating nationally, we have a measurable, successful and large-scale impact in community participation and the promotion of healthy lifestyles through bike riding.

We achieve this through:

- improving the bike riding environment by working with government at all levels to provide better infrastructure, legislation, data, policies and regulations;
- delivering successful, large-scale behaviour change programs such as Ride2School and Ride2Work;
- providing services and insurance that support bike riders through nationwide membership;
- running mass participation bike riding events such as the Great Vic Bike Ride; and
- being a key national spokesperson on issues related to cycling and physical activity.

Bicycle Network is committed to improving the safety of heavy vehicles in Australia. Our 'Swapping Seats' campaign, commissioned by Rail Projects Victoria and supported by the Metro Tunnel Project, offers free public activations for people riding bikes to increase their safety knowledge about riding with heavy vehicles.

## References

- <sup>1</sup> Transport for Victoria. Delivering The Goods: Victorian Freight Plan. (Victorian Government, Melbourne, Australia, 2018).
- <sup>2</sup> Transport for Victoria. Victorian Cycling Strategy 2018-2028. (Victoria State Government, Melbourne, Australia, 2017).
- <sup>3</sup> Bicycle Network. Bike Rider Fatality Report 2001-2020. (Bicycle Network, Melbourne, Australia, 2021).
- <sup>4</sup> Pokorny, P., Drescher, J., Pitera, K. & Jonsson, T. Accidents between freight vehicles and bicycles, with a focus on urban areas. in Transportation Research Procedia (2017).
- <sup>5</sup> Johannsen, H., Otte, D. & Urban, M. Pre-crash analysis of accidents involving turning trucks and bicyclists, in 2015 IRCOBI Conference Proceedings - International Research Council on the Biomechanics of Injury (2015).
- <sup>6</sup> Kaplan, S., Vavatsoulas, K. & Prato, C. G. Aggravating and mitigating factors associated with cyclist injury severity in Denmark. Journal of Safety Research 50, 75-82, doi:<https://doi.org/10.1016/j.jsr.2014.03.012> (2014).
- <sup>7</sup> Ming, M., Yanjun, M., Limei, L. & Liangqing, S. Severity Analysis of Motor Vehicle-Bicycle Crashes, in 14th COTA International Conference of Transportation Professionals (2014).
- <sup>8</sup> Kircher, K. & Ahlström, C. Truck drivers' interaction with cyclists in right-turn situations. Accident Analysis and Prevention 142, doi:10.1016/j.aap.2020.105515 (2020).
- <sup>9</sup> Transport for London. HGV safety permit guidance. (Transport for London, London, United Kingdom, 2020).
- <sup>10</sup> Knight, I., Dodd, M., Robinson, B. & Ainge, M. HGV Safety Permit for London. (Transport for London, London, United Kingdom, 2018).



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