

**BICYCLE  
NETWORK®**

# **A New Safety Standard for Heavy Vehicles to Protect Vulnerable Road Users**

**Bicycle Network submission to the  
National Transport Commission**

**August 2019**



## 1. Executive Summary

With the growth of our cities and recent boom of major infrastructure projects, heavy vehicles (HGV) and vulnerable road users (VRUs) are coming into contact and conflict more frequently with catastrophic results. About a third of cyclist fatalities since January involved either a heavy rigid truck or an articulated truck [1].

Currently, the primary purpose of the Heavy Vehicle National Law (HVNL) is to ensure a safe and efficient heavy vehicle journey. Bicycle Network argues that because appropriate truck safety measures are not mandated, HVNL does not meet the requirements of the National Road Safety Strategy and protect people who ride and walk.

As a result, it has fallen to major metropolitan infrastructure projects such as the Melbourne Metro Tunnel Project to drive industry change by setting minimum safety standards for all HGVs contracted to their worksites.

To compliment the implementation of minimum truck safety standards, Bicycle Network and Rail Projects Victoria also delivered an initiative called *Swapping Seats* which helped build awareness around truck driver visibility spots.

While some independent action is being taken to improve fields of vision, there must be a national approach and established standard to reduce the risk that heavy vehicles pose to our most vulnerable road users.

Bicycle Network's submission to the National Transport Commission calls for the following inclusions to the HVNL:

1. All heavy vehicles to be fitted with class V mirrors, and reversing/blind spot cameras, giving the driver a better view of road users around their vehicles
2. All heavy vehicles to be fitted with side underrun protection to protect bike riders from being dragged under the wheels in the event of a crash
3. All heavy vehicles to be fitted with audible left turn warning and reverse squawker alert systems to communicate heavy vehicle movements to all road users
4. Require that state and federal government projects only employ trucking companies who comply with the above safety improvements
5. Incentivise a movement towards low-cab and direct vision heavy vehicles over the next 10 years.



## 2. About Bicycle Network

Bicycle Network is the country's largest cycling advocacy body, and with nearly 50,000 members, one of the top five member-based bike riding organisations in the world. We have measurable 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, data, policies, legislation and regulations
- Acting as a key national spokesperson on issues related to bike riding and physical activity.
- Delivering successful, large-scale and measurable behaviour-change programs such as Ride2School and Ride2Work
- Providing services that support bike riders through membership
- Running successful and world-renowned bike riding events such as Around the Bay, Peaks Challenge Falls Creek, the Great Vic Bike Ride, Gravel Grit and the Newcrest Orange Challenge.

Bike riders, pedestrians and motorcyclists are considered 'vulnerable' road users as a result of their exposure in the traffic environment. Bicycle Network understands the extra risks faced by these vulnerable road users, and that road safety systems are weighted towards motor vehicles.

Bicycles Network's mission is to make cycling accessible and safer for all. We make the following submissions to mitigate the extra risk that heavy vehicles pose to people who ride bikes in Australia.

Submission prepared by:

Anthea Hargreaves  
General Manager — Public Affairs &  
Marketing  
Bicycle Network  
[antheah@bicyclenetwork.com.au](mailto:antheah@bicyclenetwork.com.au)

Edmund Kron  
Public Affairs Co-ordinator  
Bicycle Network  
[edmundk@bicyclenetwork.com.au](mailto:edmundk@bicyclenetwork.com.au)

### 3. Background

In 2015, Bicycle Network made a submission to the *Inquiry into Aspects of Road Safety in Australia* calling for the federal government to actively pursue technologies that improve the safety of VRUs and called for funding for a national awareness campaign. Sadly, none of these were adopted and Australia has fallen behind our European counterparts in mandating for higher truck safety standards.

Throughout 2018 and early 2019, Rail Projects Victoria and Bicycle Network's *Swapping Seats* program engaged roughly 6,000 individuals to gauge an understanding about how the other road users perceive them. The goal of the intervention was to build a shared understanding of how much the driver of a truck can or can't see.



Figure 1: Swapping Seats activation

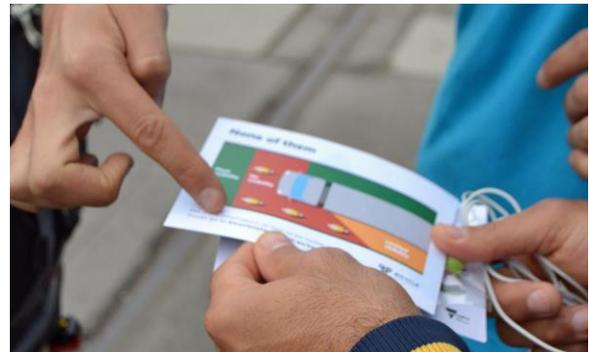


Figure 2: Swapping Seats postcards

The intended outcome was to get people who ride and walk to anticipate and understand a HGVs movement on the road, and ride defensively as a result. The results of this program were that most other road users were totally unaware of the trucks blind spots.

Rail Projects Victoria and Transurban are leading industry change by enforcing a higher safety standard than the current HVNL. Most of the extra standards required by two large operators are recommendations put forward by Bicycle Network in this submission.

It is clear there is an appetite for safe usage of HGVs. We call on the National Transport Commission to ensure that all worksites and business are working to this standard by taking on the recommendations in this submission.

Many different organisations including Transport for NSW [2], Bicycle Network [3] The Amy Gillet Foundation [4] have all run campaigns to inform road users about the risks of operating around HGVs.

However, if we're going to fully address the risk posed by heavy vehicles across our national road network, we will need more than an education campaign.



It is essential that law makers adopt a multi-faceted approach which considers all elements of processing information and the external environment — software (education) and hardware (infrastructure and intervention technologies).

Software such as an education campaign or enforcement program won't work in isolation where attitudes and expectations around behaviour are entrenched. Any software programs must be supported by structural and technological interventions as well as the capacity to behaviour and motivations.

As identified by consultation with industry and regulators, the Heavy Vehicle National Law faces barriers in improving safety technology for HGVs. However, administrative and cost barriers cannot be put ahead of saving lives.

To help overcome the barriers faced by operators of heavy vehicle fleets, Bicycle Network has campaigned the Federal Government to offer rebates to owner-operators to help subsidise the cost of safety upgrades.

## 4. Recommendations

The following are Bicycle Network's list of recommended changes to the Heavy Vehicle National Law that will reduce the risk that heavy vehicles pose to vulnerable road users.

### 4.1 Require class V mirrors and blind spot cameras

Due to truck design, there are regions of the road around trucks and large vehicles that the driver cannot see by looking directly or using a mirror.

The drivers of heavy vehicles are professionals and are adept at piloting their huge transporters in traffic and through intersections. However, for all their driving prowess, they simply cannot see what their mirrors don't show them.

Proximity exterior mirrors or Class V mirrors enable drivers to see a flat horizontal portion of the road alongside the vehicle. Currently Class V external mirrors are only required on the passenger side window in trucks greater than 7,5 t, and optional on the driver's side window [5].

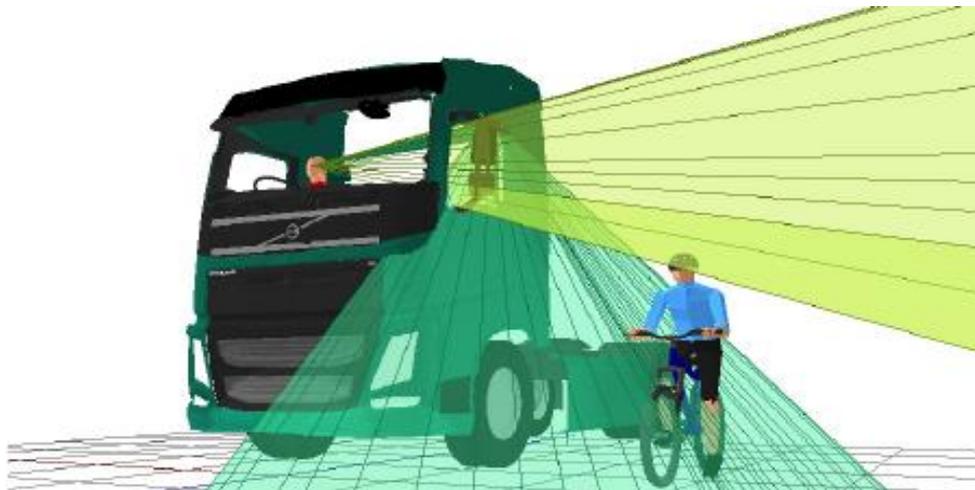


Figure 3 The Vision Range of a Class V Mirror. Image: Russell Marshall

International evidence shows that the HGVs pose the greatest threat to cyclists, when the HGV turn left in front of the path of the bike rider. In fact, a crash caused by a left turning HGV accounts for 55 per cent of serious injuries [6].

More must be done to ensure that HGV drivers have a clear line of sight on the inside of their vehicles. Of the bike rider fatalities in Australian in the last 18 months, more occurred involving a Heavy Rigid Truck greater than 4,5 t, than an Articulated Truck.

Bicycle Network is advocating for all HGVs to be fitted with Class V mirrors to improve field of vision and ensure that all vulnerable road users can be seen to prevent further fatalities.



Complimenting Class V mirrors, blind spot cameras or blind spot detection technology is another tool that can greatly improve the field of vision and road space awareness for operators of HGVs.

Recently, the Belgian government offered subsidies for trucking companies to make their new trucks safer and more ecological. The results were that the most common requested grants were for safety technology such as blind spot cameras and automatic braking systems, rather than environmental improvements [7].

Bicycle Network encourages the Commonwealth Government incentivise or encourage these safety systems in Australian HGVs.

**Recommendation 1: All heavy vehicles to be fitted with class V mirrors, and reversing/blind spot cameras, giving the driver a better view of road users around their vehicles.**

#### **4.2 Side underrun protection to protect bike riders**

Side under-run protection rails are another key tool to help mitigate the risks that HGVs pose to people who ride bikes on the road. Side under-run protection help prevent VRUs from being dragged under the wheels of a HGV in the event of a crash by blocking access to the wheel space. They are particularly effective in reducing the risk of riders going under the wheels of left turning vehicles.

The Australian Trucking Association (ATA) recommends that members fit side underrun protection to their vehicles and has developed a technical advisory procedure to comply with the UN ECE standard [8]. The Federal Government has the authority to ensure the measures a compulsory.

**Recommendation 2: All heavy vehicles to be fitted with side underrun protection to protect bike riders from being dragged under the wheels in the event of a crash.**

#### **4.3 Audible left turn warning and reverse squawker alert systems to communicate heavy vehicle movements to all road users**

Bicycle Network understands that HGV operators are extremely skilled and operate their vehicles with the best intentions and to a high standard. A widespread lack of awareness about the vision limitations of HGV drivers as well as their movements by other road users can often lead to tragedy. Tragedies which are avoidable.



While the community has a part to play in educating road users about the limitations of HGV drivers' vision and their operational movements (similar to the *Swapping Seats* initiative), Bicycle Network recommends that audible warning systems are mandated across the heavy vehicle industry. These warning systems will help to broadcast the intentions of the driver to other road users.

**Recommendation 3: All heavy vehicles to be fitted with audible left turn warning and reverse squawker alert systems to communicate heavy vehicle movements to all road users.**

#### **4.4 Require that all State and Federal Government projects employ trucking companies who comply with the safety improvements**

To protect VRUs, heavy vehicle safety standards, need to be implemented and enforced urgently.

A key issue with the HVNL is that detecting unsafe and non-complaint vehicles is not an easy process and that safety upgrades can take time to spread across an industry.

As a major employer of HGV moving transport or soil, Federal and State governments should dictate as part of the tender process that all subcontractors must adhere to all new subsequent changes to the law.

Currently, operators can demonstrate that their HGVs are compliant with the national law by either participating in maintenance modules or through inspections by authorised officers.

Bicycle Network is advocating that all federally and state-funded infrastructure projects mandate that all HGV operators have recently completed proactive maintenance modules and inspections prior to being employed on site.

**Recommendation 4: Require that state and federal government projects only employ trucking companies who comply with the above safety improvements.**

#### **4.5 Incentivise a movement towards low cab and direct vision vehicles as standard over the next 10 years**

As of July 2019, the available data shows that of all the bike rider fatalities involving HGVs in Australia, 60% occur in the major cities of Australia [1].

Bicycle Network understands that the heavy vehicle industry covers many different styles vehicles and jurisdictions, however people who ride bikes are disproportionately killed by heavy vehicles in urban areas.



Bicycle Network proposes a movement towards low cab, direct vision heavy vehicles that operate predominately in our cities, such as the waste removal and construction industry.

Low entry cabs sit lower to the ground and improve vision substantially and can virtually eliminate blind spots. These low cabs can have more mirrors on passenger side of the cabin, allowing the driver to directly see cyclists on the inside of the vehicle.

When combined with other safety features these vehicles become much safer for vulnerable road users than conventional HGVs. In Europe, low cab trucks are already in widespread use for multiple tasks in dense urban areas because of their safety advantages. There are several councils and private operators who are already using these HGVs in Australia, which have been well received by the community, and the operators.

Most recently, the City of Melbourne's waste collection operator, Citywide introduced custom made, low-cabin trucks. The trucks are also fitted with 360-degree cameras and a reverse gear braking system.



*Figure 4: Custom built, Citywide low cab waste collection trucks*

Bicycle Network understands the economic burden of buying a new fleet of trucks for owner-operators. It is essential that both state and federal governments offer rebates and subsidies to accelerate an industry wide movement towards low cab and direct visibility vehicles, particularly in urban areas. Bicycle Network proposes a staggered timeframe to introduce these new vehicles as standard, over a period of 10 years.



*Figure 5 The View from a Low Entry Vehicle. Image: Mercedes-Benz*

**Recommendation 5: Incentivise a movement towards low-cab and direct vision heavy vehicles over the next 10 years.**

## 5. Conclusion and final comments

Bicycle Network understands that the HGV industry faces several challenges in adhering to the HGVL, and that operators face several costs and barriers in making their vehicles compliant. The above recommended safety improvements (*4.5 excluded*) can be fitted to trucks retrospectively, greatly reducing the financial burden.

It is crucial that Australia stay at the forefront of heavy vehicle safety as it has done in many other facets of road safety.

The Heavy Vehicle National Law is to ensure that heavy vehicles complete safe and efficient journeys. It's clear that the current relationship between heavy vehicles and vulnerable road users is not being adequately addressed by the law.

Bicycle Network strongly believes that the suggestions in this submission will be a pivotal step in reducing road trauma of vulnerable road users.



## References

- [1] Bureau of Infrastructure, Transport and Regional Economics (BITRE), "Australian Road Deaths Database," July 2019. [Online]. Available: [https://www.bitre.gov.au/statistics/safety/fatal\\_road\\_crash\\_database.aspx](https://www.bitre.gov.au/statistics/safety/fatal_road_crash_database.aspx). [Accessed 2019].
- [2] Transport for NSW, "Be Truck Aware," May 2018. [Online]. Available: <https://roadsafety.transport.nsw.gov.au/campaigns/be-truck-aware/index.html>. [Accessed 2019].
- [3] Bicycle Network, "Swapping Seats," 2018. [Online]. Available: <https://www.bicyclenetwork.com.au/our-campaigns/swapping-seats/>. [Accessed 2019].
- [4] Amy Gillett Foundation, "Vulnerable Road User Awareness Training," 2018. [Online]. Available: <http://www.amygillett.org.au/programs-resources/driver-training>. [Accessed 2019].
- [5] Federal Register of Legislation, "Vehicle Standard (Australian Design Rule 14/02 - Rear Vision Mirrors)," 2006. [Online]. Available: <https://www.legislation.gov.au/Details/F2006L02663>. [Accessed 2019].
- [6] The Royal Society for the Prevention of Accidents, "HGVs and Vulnerable Road Users," [Online]. Available: <https://www.rospa.com/rospaweb/docs/advice-services/road-safety/cyclists/hgvs-and-vulnerable-road-users.pdf>. [Accessed 2019].
- [7] G. Verhoeven, "Limited interest in Flemish subsidies to make trucks safer and greener," 13 August 2018. [Online]. Available: <https://newmobility.news/2018/08/13/limited-interest-in-flemish-subsidies-to-make-trucks-safer-and-greener/>. [Accessed 2019].
- [8] Australian Trucking Association, "Industry Technical Council Advisory Procedure," 2012. [Online]. Available: [https://www.truck.net.au/system/files/industry-resources/Side%20underrun%20protection%20TAP%20NOV%202012\\_0.pdf](https://www.truck.net.au/system/files/industry-resources/Side%20underrun%20protection%20TAP%20NOV%202012_0.pdf). [Accessed 2019].
- [9] Australian Bicycle Council, "Australian Cycling Participation 2017," AusRoads, 2017.
- [10] United Nations Environment Program, "Global Outlook on Walking and Cycling - Policies and realities from around the world," United Nations, 2016.
- [11] Transport for London, "Draft Mayor's Transport Strategy," 2017. [Online]. Available: <https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/the-mayors-transport-strategy>. [Accessed 11 December 2017].
- [12] Australian Bureau of Statistics (ABS), "Australian Health Survey: Physical Activity 2011-12," Australian Bureau of Statistics, Canberra, 2013.
- [13] Bureau of Infrastructure, Transport and Regional Economics, "Heavy Truck Safety: Crash Analysis and Trends," 2016. [Online]. Available: [https://www.bitre.gov.au/publications/2016/files/is\\_078.pdf](https://www.bitre.gov.au/publications/2016/files/is_078.pdf). [Accessed 2019].