

Heavy Vehicle Speeding - Regulatory Review

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Heavy vehicle speeding above posted limits is recognised by governments, the trucking industry and the community as a serious issue in Australia. The National Transport Commission and Australia Trucking Association convened a *Summit to Combat Speeding Heavy Trucks* in Canberra in March 2004 and where there was universal agreement that the issue needed to be addressed as a matter of high priority.

The National Heavy Vehicle Safety Strategy (NHVSS) 2003-2010 has 'better speed management' as one of its strategic objectives to help reduce the number of fatalities and serious injuries resulting from crashes where heavy vehicles are involved. As part of the Strategy, the NTC is currently undertaking a regulatory review of heavy vehicle speeding. The aim of this project is increased compliance by heavy vehicles with speed limits that will contribute to better road safety outcomes. This paper provides an overview of the extent and nature of the problem of speeding heavy vehicles in Australia, a summary of the issues and challenges, and an update on the progress of the regulatory review of the project to date.

Keywords: heavy vehicles, speed, safety.

1. Introduction

Heavy vehicle speeding has been a significant issue in the road transport industry for many years, primarily from a safety perspective. Since the 1990s, a range of regulatory and speed detection tools have been introduced by governments to help address speeding and ensure compliance with speed limits.

Available data shows a high proportion of heavy vehicles exceed speed limits on both open and urban roads. It is estimated that if all heavy vehicles complied with speed limits, there would be a 29% reduction in crashes (Brooks 2002) involving them.

The Australian Transport Council (ATC) has endorsed the National Heavy Vehicle Safety Strategy (NHVSS) 2003-2010 which aims to achieve a significant reduction in the number of fatal and serious injuries resulting from heavy vehicle crashes. The Strategy and its associated Action Plan focus on areas where available research and industry advice suggest that maximum road safety outcomes can be achieved nationally in the period to 2010. One of the strategic objectives in the Strategy is *More Effective Speed Management*.

In 2004, the National Transport Commission (NTC) and the Australian Trucking Association (ATA) convened a *Summit to Combat Speeding Heavy Trucks* in Canberra. The Summit was attended by ninety senior road transport industry operators and drivers, together with senior police and transport authorities from Australia and New Zealand. A communiqué was issued outlining a proposed set of initiatives for all governments and the road transport industry.

There was universal agreement at the Summit that speeding by heavy vehicles needed to be addressed as a matter of high priority.

Both the NHVSS and *Summit to Combat Speeding Heavy Trucks* recognise that there is a shared responsibility by the road transport industry and governments to address heavy vehicle speeding. As part of its responsibility to address the issue, the NTC is undertaking a review of regulatory approaches for heavy vehicle speeding. The aim is to identify areas in a national regulatory framework or in national approaches which can improve compliance of heavy vehicles with speed limits.

This paper provides information from the *Heavy Vehicle Speeding: Review of Regulatory Approaches* report (see www.ntc.gov.au). The report reviews background issues and proposes a range of potential policy options to deal with heavy vehicle speeding. Selected background issues from the report are presented in this paper along with the potential policy options. The NTC is seeking stakeholder feedback on the report that will assist in developing a draft policy proposal. This will contain selected policy options that have been assessed as being able to achieve the most effective outcomes for compliance with speed limits on a national basis. The release of the draft policy proposal will be the next public consultation phase. The final policy proposal will be presented to the ATC for consideration.

2. Background information

2.1 Heavy Vehicle Fatalities

Fatalities from crashes where an articulated vehicle, rigid truck or bus is involved have decreased over time for Australia as shown in Figure 1. Fatality data from crashes where a rigid truck is involved is not as complete as for the other classes of heavy vehicles.

Figure 1 shows that there was a large drop in deaths during 1990 to 1991 for articulated trucks, after which the trend for the period of 1991 to 2003 has been relatively flat. In 2004, the lowest number of fatalities was recorded for crashes where an articulated truck was involved. Figure 2 shows the fatal crashes involving articulated trucks and the speed limit in which crashes occurred. This figure shows that more fatalities occur on roads where the speed limit is 100 km/h or greater.

In crashes where a heavy vehicle is involved, a high proportion is primarily caused by the fault of a light vehicle driver or other road user. Most of the people killed or seriously injured are not occupants of heavy vehicles. Because of the mass and momentum of heavy vehicles travelling at speed, the crash outcomes for other road users involved can be catastrophic.

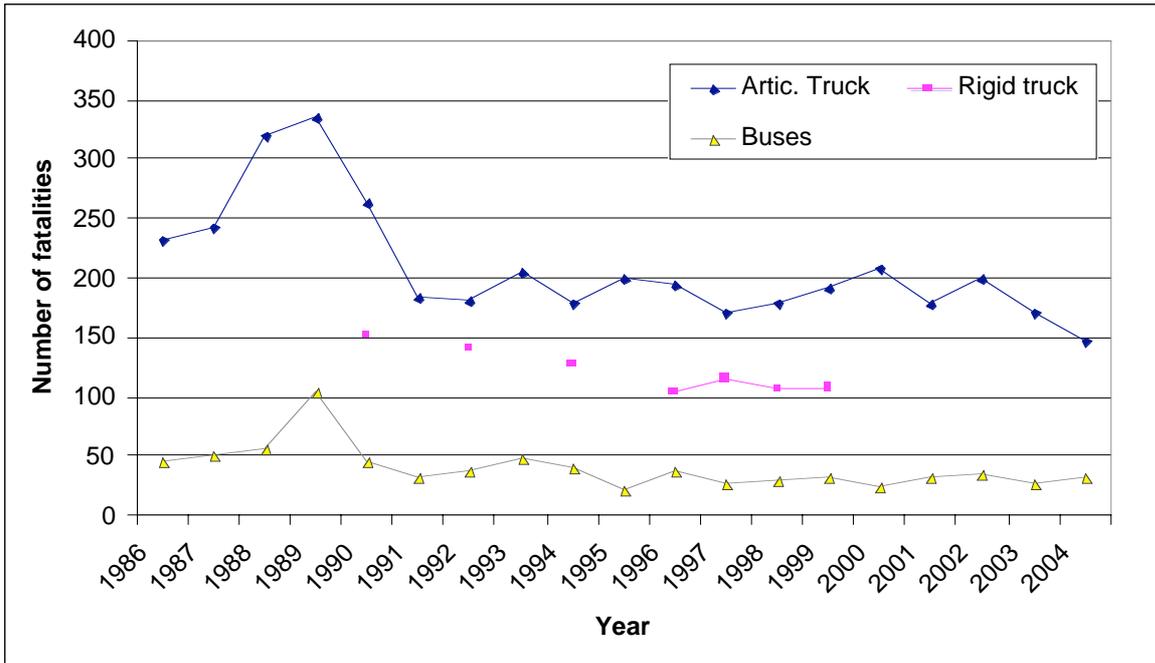


Figure 1. Fatalities involving articulated trucks, rigid trucks and buses, Australia 1986-2004 (ATSB 2005)

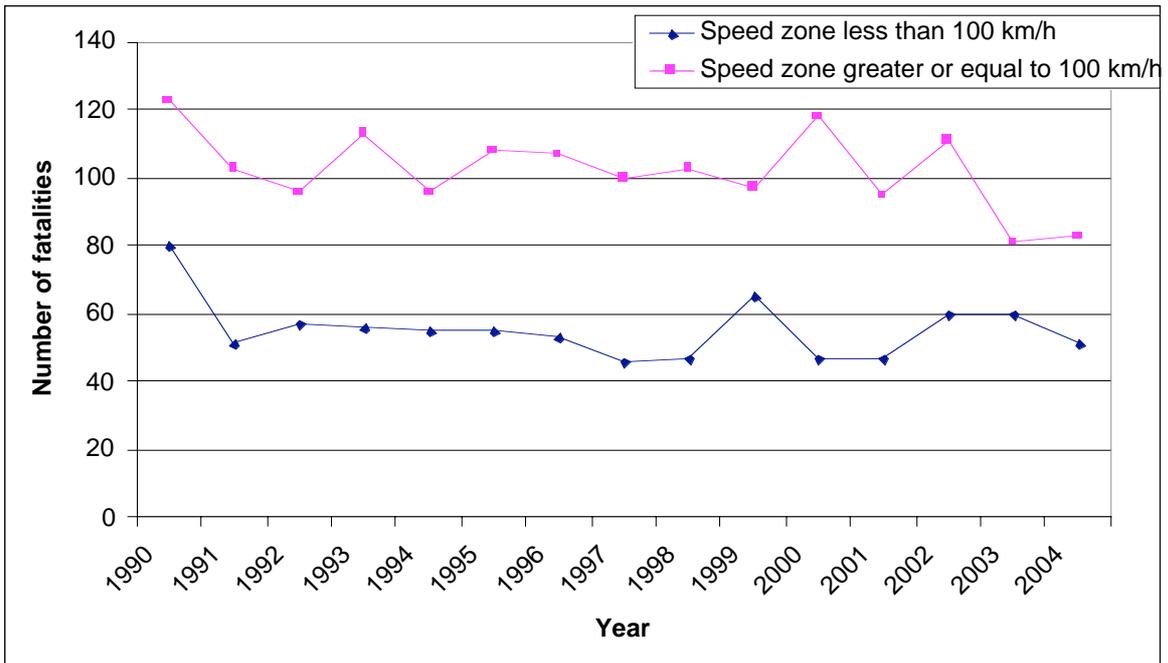


Figure 2. Fatal crashes involving articulated trucks and the speed limit at crash sites, 1990 to 2004 (ATSB 2005)

2.2 Heavy Vehicle Speeding on Roads Posted 100 km/h or Greater

Through the 1970s and early 1980s, speeds of heavy vehicles were largely constrained by their performance limitations. Time series data presented in Figure 3 show that heavy vehicle speeds increased markedly during the late 1980s, reflecting the trend to more powerful engines for trucks engaged in inter-regional transport operations. The reduction of road

geometry and congestion constraints on travel speeds through improvements to the inter-regional highway network would have increased the extent to which heavy vehicle performance trends translated into higher operating speeds. Speeds reduced in the 1990s, presumably in response to initiatives to improve heavy vehicle compliance with limits, but there is still a significant proportion of vehicles that speed.

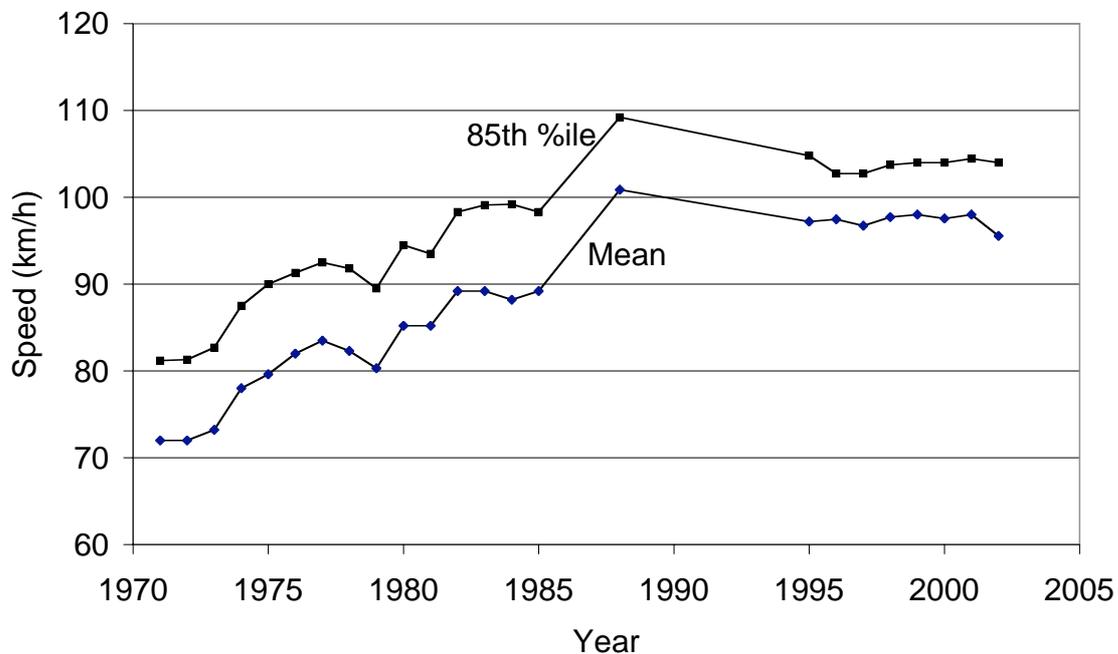


Figure 3. Long term trend for articulated truck speed on Australian rural highways

The adoption of weigh-in-motion (WIM) and automatic classifier/counter technologies from the mid-1980s has provided a rich source of speed data as a by-product of collecting axle mass and classified count data. A review of several recent studies^{1,2,3} was undertaken as part of this project to estimate the extent of speeding by heavy vehicles. In these studies, speeding is defined as speed in excess of the lesser of the posted speed limit or the absolute limit pertaining to the vehicle class. The overall results for data from sites with a posted speed limit of 100 or 110 km/h, predominantly on inter-regional highways, can be summarised as follows:

- rigid trucks or buses: 15% to 20% speeding, 5% to 8% having an excess speed of 5 km/h or greater, and 2% having an excess speed of 10 km/h or greater;
- articulated trucks: approximately 40% speeding, 10% to 15% having an excess speed of 5 km/h or greater, and 2% having an excess speed of 10 km/h or greater; and
- B-doubles: 25% to 50% speeding, 10% to 15% having an excess speed of 5 km/h or greater, and 1% having an excess speed of 10 km/h or greater.

¹ George, R. (2003).

² VicRoads Commercial Vehicle Operations Section and Transport South Australia (2002).

³ Unpublished NTC commissioned analysis of WIM and classifier/counter data by ARRB Transport Research.

The proportion of speeding vehicles increased markedly for sites where the posted speed limit exceeded the absolute limit applicable to the vehicle class. Consistent with this trend, the only results for road trains were from 110 km/h speed zones with about 80% of road trains exceeding the 90 km/h absolute limit and 6% having an excess speed greater than 15 km/h.

2.3 Heavy Vehicle Speeding in Urban Areas

Although there is much data for speeding heavy vehicles on open roads, available data for urban areas is limited.

A study (Friswell et al., 2003) into speeding in NSW compared the behaviour of drivers of light and heavy vehicles in urban and open road situations. The percentage of heavy vehicles exceeding the speed limit across both urban and open road sites ranged from 25%-45% (compared to 40%-50% for light vehicles). The study does not disaggregate non-compliance rates for speeding heavy vehicles in urban sites from open road sites. However, heavy vehicles were less likely to be speeding than light vehicles, especially on metropolitan, unclassified and low speed zone roads.

Data from Roads and Traffic Authority NSW obtained for the Sydney metropolitan region showed that the 85th percentile speed for heavy vehicles on 60 km/h roads was 70 km/h in 2002.

Data from Victoria (NRTC 2003) indicates that 10% of articulated and B-doubles were travelling 10 km/h or more above the speed limit in 80 km/h zones.

This limited data indicates that heavy vehicle speeding occurs on urban roads and it is important that strategies to control this need to include urban areas as well as rural roads.

2.4 Extent of Non-compliant Speed Limiters

The *Heavy Vehicle Speeding: Review of Regulatory Approaches* report examines the estimated non-compliance of speed limiters. A summary is listed below:

- Brooks (2002) estimated that at least 21% of heavy vehicles have non-compliant speed limiters by examining Victorian culway data;
- NTC estimated at least 10% - 15% non-compliance overall from examining speed data from NSW, Victoria and South Australia;
- For some specific sites, NTC estimated the rate of non-compliance of ADR 65 can be up to 50% for certain classes of heavy vehicles; and
- SA Police have found approximately 30% of targeted heavy vehicles show some form of illicit tampering with speed limiters.

2.5 Speeding Versus Speed Capability Controls

There are two types of speeding offences: violation of posted speed limits and violation of speed capability controls.

The speed at which a vehicle is driven is at the discretion of the driver, subject to the capabilities of the vehicle. Where driving at a speed in excess of a posted limit is detected, sanctions are imposed on the driver.

It is the responsibility of the operator of a vehicle to ensure that, where a speed limiter is required, the vehicle cannot be operated in excess of the designated speed. Violation of a

speed capability control is a vehicle-related offence, and any sanctions are imposed on the operator.

Speed limiters are primarily compliance tools. Governments, acting on behalf of the community, wish to limit vehicle speeds to acceptably safe levels. It is recognised that, at least in respect of heavy vehicles in rural areas, these limits cannot be effectively enforced by conventional methods. For this reason, the fitting of speed limiters was made mandatory in 1990.⁴

On this basis, speeding can be both a driver and a vehicle (speed limiter) offence. The driver will be subject to a behaviour offence and the operator will be subject to an offence related to the condition of the speed limiter.

3. Policy Options

This section examines a range of potential policy options that may be pursued with the aim of seeking improved speed compliance of heavy vehicles. The options provided in this section are not exhaustive. They have been identified as building on the current regulatory framework. Stakeholder feedback will be used to develop the draft policy proposal.

3.1 Increasing the Likelihood of Detection of Speeding Vehicles

Increasing the likelihood of the detection of speeding vehicles, including heavy vehicles, could be done through more extensive use of existing technology (cameras and radar) and through newer technology (eg, Safe-T-Cam and point-to-point speed detection). Increasing the frequency of detection should reduce the incentive for drivers to speed.

Information collected as part of existing and newer technology is also being used to build up profiles of compliance by companies with road transport law so that more targeted enforcement can be used to increase compliance. This should increase the incentive for operators to install measures to modify the behaviour of drivers who speed frequently.

Increased information flow between jurisdictions would allow patterns of behaviour to be identified and acted upon so as to improve the likelihood of detecting speeding vehicles.

Depending on the technique employed, a range of areas can be targeted such as low and high level speeding, and for different locations and road types.

3.2 Reviewing the Current Penalties and Sanctions for Heavy Vehicle Speeding

States and territories have different penalties and sanctions for heavy vehicle speeding. Reviewing the current penalties and sanctions could be undertaken to seek national consistency. This review could focus on penalties (fines) and/or sanctions (for example, review the time for loss of licence where demerit points are exceeded). This could provide a more consistent national approach to speed management by aligning offences, tolerances and other deterrence measures such as demerit points. This approach focuses on deterring the driver from speeding.

⁴ Australian Design Rule 65 – Maximum Road Speed Limiting for Heavy Goods Vehicles and Heavy Omnibuses.

3.3 Speed Limiters

It is estimated that the range of tampering of speed limited heavy vehicles is 10% to 30% and for some classes it may be even higher. There is a range of options to increase compliance with ADR 65 (Australian Design Rule) which are outlined below.

3.3.1 Increasing the Effectiveness of Speed Limiters

Increasing the effectiveness of speed limiters to ensure that they comply with ADR 65 could be pursued as a policy option. This could include seeking to make speed limiters more tamper proof and/or tamper evident. Today, all new truck engines are electronically controlled which is different from when ADR 65 was originally developed and mechanical means to speed limit vehicles was common.

It can be argued that there is little benefit in making speed limiters more tamper proof, as those who carry out tampering would soon find ways to get around higher levels of security. Tamper evidence of changes to speed limiter settings may be a more effective option to explore, as any changes to settings are recorded and can be followed up.

3.3.2 Enforcement of ADR 65

South Australia Police (SAPOL) has implemented a program of interrogating engine management systems with laptop computers to identify forms of tampering. This provides electronic evidence of an offence and supports prosecutions based on unroadworthiness. In other jurisdictions, little evidence exists of any major on-road enforcement program related to speed limiters, with concerns over establishing the offence and the need for the technical tools and expertise required to undertake enforcement being raised. These issues could be further explored as part of this option to remove barriers for enforcement of ADR 65. For example, speed limiter requirements could be enhanced through standardised arrangements for roadside inspection and downloading of speed limiter settings.

3.3.3 Increasing the Penalties and Sanctions for Non-compliance with ADR 65

The current penalties and sanctions for non-compliant speed limiters could be reviewed. Alternative sanctions such as requiring operators who have been detected with a number of ADR 65 breaches to enter a speed compliance arrangement audited by a third party, where jurisdictions are informed of any non-compliance, could be considered as part of this option.

3.3.4 Speed Deeming

Speed deeming legislation, such as exists in NSW and Queensland, where a vehicle is issued with a defect notice for not complying with ADR 65 if detected travelling at 115 km/h or greater, could be considered for all jurisdictions. This approach would impact the operators who would have to demonstrate compliance with ADR 65 before vehicles were allowed back onto the road.

3.3.5 Specific Provisions for Vehicle Standards under the Compliance and Enforcement Bill

The NTC is currently developing provisions for vehicle standards under the Compliance and Enforcement Bill. The aim of the project is to develop a national policy and associated model legislation introducing chain of responsibility principles and appropriate offences, powers, evidence and sanctions consistent with the Road Transport Reform (Compliance and Enforcement) Bill, to laws governing standards for both heavy and light vehicles. Speed limiters will be included in this project.

Chain of responsibility provisions for vehicle standards could include a broad provision that any person (including an organisation) who knows or reasonably ought to know that a vehicle does not, or is not likely, to conform to vehicle standards but has taken no action to prevent the breach, is guilty of an offence. If this were done, operators with access to vehicle records (eg, through downloading of engine management systems) and the vehicle service industry could be liable for offences. Specific sanctions could be developed for non-compliance with ADR 65, such as fines and intervention orders (eg, requiring an operator with a number of non-compliances to enter a speed compliance arrangement audited by a third party).

3.4 Specific Provisions for Speeding under the Compliance and Enforcement Bill

The application of the chain of responsibility principle to heavy vehicle speed could result in the imposition of specific duties on those in the transport chain to take reasonable steps to control speed. This could provide more comprehensive measures than ‘three strikes’, which applies only to breaches of open-road limits (or speed limiters) and only to breaches of at least 15 km/h.

An issue to be considered in the application of chain of responsibility to heavy vehicle speed is what is reasonable to expect of an operator. Modern vehicle and engine management technology allows an operator to gain detailed information on the performance of vehicles and drivers. Combined with available communications technology, this information can be accessed in real time.

Chain of responsibility provisions for vehicle speed could include:

- A broad provision that any person (including an organisation) who knows or reasonably ought to know that speeding has or will occur, but has taken no action to prevent the breach, is guilty of an offence. If this were done, operators with access to vehicle records (eg, through downloading of engine management systems) could be liable for offences.
- The creation of an offence for behaviour that resulted in systematic speeding. This could enable action to be taken against transport operators, freight forwarders or consignors with businesses based on delivery times requiring drivers of heavy vehicles to speed.

The national compliance and enforcement provisions include a wider range of sanctions than has previously been available. These include sanctions for persistent or systematic behaviour which is in breach of road transport laws. This would enable courts to impose sanctions including fines, intervention orders or even exclusion from the road transport industry for operators responsible for persistent or systematic breaches.

3.5 Three Strikes Policy

The three strikes policy was an early example of chain of responsibility. This policy has been adopted in three states (NSW, South Australia and Victoria) and specifically targets high level speeding on roads of 100 km/h or greater. The options for the three strikes policy include:

1. do nothing;
2. increase effectiveness of the existing policy, such as extending it to all states, examining how the transfer of information between jurisdictions can be improved, assessing the opportunity for have graduated penalties for lower speed breaches, and examining how information can be provided to owners to make them aware when penalties have been imposed on their drivers; and

3. sunset the three strikes policy and develop the same or other deterrents in specific provisions for vehicle standards or speed under the Compliance and Enforcement Bill.

4. Developing the Policy Proposal

The previous section presented a range of policy options that could achieve greater compliance of heavy vehicles with relevant speed limits. The NTC is seeking feedback on these options from stakeholders, with a particular focus on the potential effectiveness and outcomes that could result from adopting a particular option. This stakeholder feedback will be used to refine the policy proposal by selecting the option/s which can deliver the best outcomes against the aim of this regulatory review. For example, several options outlined in section three may be pursued in developing the draft and final policy proposal.

5. Summary

The NTC is undertaking a review of regulatory approaches for heavy vehicle speeding and a policy options paper has been released to stimulate discussion about potential regulatory tools that can increase heavy vehicle compliance with speed limits.

References

Australian Transport Safety Bureau (2005). Road Deaths Australia: 2004 Statistical Summary, June.

Brooks, C. (2002). Speed and heavy vehicle safety. Papers for the NRTC/ATSB National Heavy Vehicle Safety Seminar, Melbourne, October 2002.

Friswell, R., Irvine, P. and Williamson, A. (2003). Heavy vehicles and speeding: Evidence from traffic survey data. Paper presented at the Research, Policing and Education Conference, Sydney.

National Road Transport Commission (2003). National Heavy Vehicle Safety Strategy 2003 – 2010.