

Department of Infrastructure and Regional Development
Feedback Form for Regulation Impact Statement

To be used by all interested parties

Closing date for comments – **2 February 2018**

Report No.: INFRASTRUCTURE VSS 03/2017	Report Date: December 2017	File No.: 17/2295	OBPR Reference No.: 23081
Title: Regulation Impact Statement Improving the Stability and Control of Heavy Vehicles			

A. Please provide details of your organisation¹

Name of Organisation	Australian Trucking Association
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B. Please indicate which option you support

Option 1 – No intervention	<input type="checkbox"/>
Option 2 – User information campaigns	<input type="checkbox"/>
Option 3 – Fleet purchasing policies	<input type="checkbox"/>
Option 4 – Codes of practice	<input type="checkbox"/>
Option 5 – Mandatory standards under the Competition and Consumer Act 2010	<input type="checkbox"/>
Option 6a – Mandatory standards under the Motor Vehicle Standards Act 1989 (Australian Design Rule) – broad scope	<input checked="" type="checkbox"/>
Option 6b – Mandatory standards under the Motor Vehicle Standards Act 1989 (Australian Design Rule) – medium scope	<input type="checkbox"/>
Option 6c – Mandatory standards under the Motor Vehicle Standards Act 1989 (Australian Design Rule) – narrow scope	<input type="checkbox"/>

¹ The final version of the Regulation Impact Statement will include an analysis of the feedback received. Peak representative bodies and government agencies may be identified as part of this analysis.

C. Please include any comments

See attached submission.



IMPROVING THE STABILITY AND CONTROL OF HEAVY VEHICLES CONSULTATION RIS

AUSTRALIAN TRUCKING ASSOCIATION SUBMISSION 2 FEBRUARY 2018

1. About the Australian Trucking Association

The Australian Trucking Association (ATA) is the peak body representing trucking operators. Its members include state and sector associations, some of Australia's major logistics companies and businesses with leading expertise in truck technology. Through its members, the ATA represents many thousands of trucking businesses, ranging from owner drivers to large fleets.

2. Summary of recommendations

Recommendation 1

[to the Department of Infrastructure, Regional Development and Cities]

The final version of the RIS should value the cost of a serious injury at \$392,967, consistent with the willingness-to-pay approach endorsed by governments.

Recommendation 2

[to the Australian Government]

The Australian Government should adopt RIS option 6a, because it is the option that would save the greatest number of lives and avoid the greatest number of accidents, and would do so at a reasonable cost.

If necessary, proposed ADR 35/06 could be amended to provide a reasonable (but still defined) extension to the application dates for 4.5-12t rigid trucks only.

Recommendation 3

[to the Australian Government]

If, despite ATA recommendation 2, the Government adopts option 6b or 6c, it should put in place controls to reduce the risk of loss of control/rollover crashes involving new trucks not covered by the mandate. This could, for example, include the awareness campaign envisaged in RIS option 2.

Recommendation 4

[to the National Heavy Vehicle Regulator]

Before ADRs 35/06 and 38/05 come into force, the NHVIM should be amended to provide inspectors and the industry with guidance that:

- new trucks and trailers used in road train combinations must be wired for 24V power
- the power cables connecting new trucks and trailers in road train combinations must be configured and connected to supply 24V power.

3. Introduction

On 28 December 2009, just after Christmas, David Carolan was driving a fuel tanker southbound on the Princes Highway at East Lynne, NSW. Just north of Pebbly Beach Road, the tanker rolled over, slid into the northbound lane, and collided with a Toyota RAV 4, a Honda sedan and a Subaru Forester. There was a massive explosion.

Mr Carolan died at the scene of the crash. The driver of the Subaru, David Bridge, survived the explosion but died in hospital five days later. His children, Jordan and Makeely, died. His wife, Deborah, miraculously survived but was critically injured.

Two years later, in 2011, Deputy State Coroner Carmel Forbes recommended that all vehicles in Australia used for the transportation of dangerous goods should be fitted with a stability control system.²

In 2013, after another tanker crash in New South Wales, the ATA repeated this call.³

The NSW Government subsequently required all dangerous goods tanker trailers built after 1 July 2014 to be fitted with RSC.⁴ From 1 January 2019, every dangerous goods tanker trailer used in NSW will need to have RSC.⁵ The NSW Government was not able to secure national agreement on these requirements.

The ATA went on to make stability control for new trucks and trailers a central part of its 2016 election and ongoing safety campaign.⁶

4. About the RIS

The consultation RIS considers six options, and a number of sub-options, for improving the stability and control of heavy vehicles. After dealing with the base case (option 1), non-regulatory options (options 2-3) and the development of a voluntary code of practice or mandatory standards under the *Competition and Consumer Act 2010* (options 4-5), the RIS focuses on three sub-options for amendments to the Australian Design Rules, as set out in table 1.⁷

Table 1: ADR options considered in the RIS

Option	Rigid trucks ESC	Prime mover ESC	Trailers
6a (broad scope)	>4.5t	>4.5t	ABS>4.5t, RSC>10t
6b (medium scope)	>12t	>12t	ABS>4.5t, RSC>10t
6c (narrow scope)	Not required	>12t	ABS>4.5t, RSC>10t

Table 2 summarises the estimated costs and benefits of each sub-option.

² Findings of inquest into the deaths of Jordan Bridge, Makeely Bridge, David Bridge and David Carolan, 17 November 2011.

³ Simon, D. [Make businesses accountable for truck maintenance](#). Media release, 28 October 2013.

⁴ NSW EPA. [Determination: Transport of Dangerous Goods in Tank Trailers](#). January 2014.

⁵ NSW EPA. [Determination: Transport of Dangerous Goods in Tank Trailers](#). August 2014.

⁶ ATA, [Mandate stability control to improve truck safety](#). Media release, May 2016.

⁷ DIRD, [Consultation regulation impact statement: National heavy vehicle braking strategy phase II – improving the stability and control of heavy vehicles](#). December 2017. 20.

The *Australian Government Guide to Regulation* requires regulatory impact statements to recommend the option that delivers the highest net benefits.⁸ As a result, the RIS recommends option 6c.

It should be noted that option 6c would deliver the lowest number of lives saved and serious injuries avoided.

Table 2: summary of benefits, costs, lives saved and serious injuries avoided under each ADR option

	Net benefits (\$m)	Cost to business (\$m)	Cost to govt (\$m)	Benefit cost ratio	Lives saved	Serious injuries avoided
Option 6a (broad scope)						
Best case	266	70	0.7	4.75		
Likely case	167	169	0.7	1.99	148	1496
Worst case	-24	360	0.7	0.93		
Option 6b (medium scope)						
Best case	273	30	0.7	9.96		
Likely case	204	98	0.7	3.07	136	1292
Worst case	75	228	0.7	1.33		
Option 6c (narrow scope)						
Best case	264	4.5	0.7	51.8		
Likely case	216	52	0.7	5.10	124	1084
Worst case	140	129	0.7	2.08		

Section 5 of this submission considers the way the RIS values the cost of a serious injury. Section 6 sets out the ATA's views about the option we think the Government should adopt; section 7 examines some of the technical issues raised in the RIS.

5. Valuing the cost of serious injuries

The RIS estimates the cost of a serious injury at \$271,012 in 2016 dollar terms,⁹ based on a BITRE research report.¹⁰

The report uses a hybrid human capital approach to reach the estimate. The approach sums 11 economic and non-economic costs together, such as workplace and household losses, hospital and medical costs and the cost of workplace disruption and replacement.¹¹

The alternative approach to calculating a statistical cost for deaths and injuries is known as willingness to pay. This approach generates its values by asking individuals how much they are willing to pay for gains such as a certain improvement in health or the reduction in risk of a crash.¹²

⁸ Australian Government. [The Australian Government Guide to Regulation](#). 2014. 48.

⁹ DIRD, 2017, table 75, 142.

¹⁰ BITRE, [Cost of road crashes in Australia 2006](#). Report 118. BITRE, Canberra, 2009.

¹¹ BITRE, 25.

¹² Abelson, 5.

Willingness to pay estimates of the cost of road crashes are markedly higher than human capital estimates: people are risk averse and are prepared to pay a premium for not being killed or injured. According to BITRE, a willingness to pay valuation of the cost of serious injury would generate values 45 per cent higher than those generated using its human capital approach.¹³

Governments agreed in the 2011-2020 National Road Safety Strategy to use the willingness to pay approach to valuing the cost of deaths and injuries in road crashes.¹⁴ Accordingly, the ATA considers that DIRDC should revalue the cost of a serious injury in the RIS to **\$392,967**.

At the ATA's request, DIRDC modelled the impact of this increase on the net benefits and BCRs of options 6a, 6b and 6c. The results of this modelling are shown in table 3.

Table 3: RIS results using willingness-to-pay values for avoiding serious injury

Option	Net benefits (\$m)	Benefit-cost ratio
6a (broad scope)	209	2.24
6b (medium scope)	241	3.44
6c (narrow scope)	247	5.68

Source: Additional DIRDC modelling

Recommendation 1

[to the Department of Infrastructure, Regional Development and Cities]

The final version of the RIS presented should value the cost of a serious injury at \$392,967, consistent with the willingness-to-pay approach endorsed by governments.

6. The Government should adopt option 6a

The ATA considers that the Government should lean in on safety and adopt option 6a instead of option 6c, as recommended in the draft RIS.

The ATA supports option 6a because it would save more lives and prevent more serious injuries than option 6c.

In addition, option 6a would provide drivers with a consistent braking environment across all vehicle categories.

It is true that option 6a would deliver a smaller net economic benefit than option 6c. In the ATA's view, however, the imperative need to reduce the road toll means the Government should, in this case, prioritise safety and accept the lower, but still positive, economic benefits offered by option 6a.

¹³ BITRE, table T7.10, Cost of injury and disability, 91.

¹⁴ Australian Transport Council, [National Road Safety Strategy 2011-2020](#), 55.

Saving lives and avoiding injuries

Option 6a would save an additional 24 lives and avoid an additional 412 serious injuries to workers and the public, compared to option 6c.

It would cost businesses an additional \$117 million in NPV terms; however, this cost would not be borne by the trucking industry alone. The cost would be spread across all business purchasing new rigid trucks and <12t prime movers.

The additional cost of option 6a would, in reality, be very small compared to its potential safety benefits.

The ATA's support for option 6a is consistent with the approach that underpins Australia's work health and safety legislation and safety risk management generally, as well as the UK Treasury approach to appraising the costs and benefits of managing risks to the public.

Work health and safety approach

Australia's work health and safety laws generally require businesses to eliminate or minimise risk so far as is reasonably practicable.¹⁵ The Heavy Vehicle National Law will include a comparable requirement from mid-2018.¹⁶

In its Australian form, the concept of 'so far as is reasonably practicable' requires businesses to take into account and weigh up all relevant matters, including:

- The likelihood of the relevant hazard or risk occurring
- The degree of harm that might result
- The availability and suitability of ways to eliminate or minimise the risk.

A business can only consider the costs involved after making this assessment. The cost must be grossly disproportionate to the risk for a control measure to be regarded as not reasonably practicable.¹⁷

Regulatory decisions are not within the ambit of work health and safety law; however, the ATA considers that a systematic, standards-based approach to assessing and treating risk is a powerful tool that can support government decision-makers as they make safety decisions.

Table 4 applies a typical work health and safety/safety risk management framework to the hazard of a rollover or loss of control crash involving a rigid truck or a semitrailer with a GVM of <12t.

¹⁵ Model Work Health and Safety Act, s 19

¹⁶ Heavy Vehicle National Law and Other Legislation Amendment Act 2016, s 10.

¹⁷ Safe Work Australia, [How to manage work health and safety risks code of practice](#). December 2011, 16.

Table 4: Risk assessment of the safety gap between options 6a and 6c

The likelihood of the relevant hazard or risk occurring	The difference between options 6a and 6c would be one serious injury each quarter by year 4 and a fatality every year by year 10
The degree of harm that might result	Fatalities and serious injuries
Risk rating	High or extreme, depending on the risk matrix used
Potential risk treatments	<p>Potential risk treatments could include:</p> <ul style="list-style-type: none"> • mandatory ESC for new vehicles in these categories (ie: option 6a) • providing businesses with information to encourage the purchase of vehicles equipped with ESC (ie: RIS option 2)
Preferred treatment	<p>Mandatory ESC for rigid trucks and semitrailers <12t. Engineering controls are more effective than administrative controls or awareness/training and the cost would not be grossly disproportionate to the risk.</p> <p>If the government was not prepared to adopt option 6a, a risk management approach would suggest it should apply other treatments rather than leave the risk uncontrolled</p>

UK Treasury approach

In 2005, the UK Treasury issued guidance to UK Government policy makers about how to assess proposals that affect public safety. The guidance supplemented the Treasury Green Book, the UK equivalent of the *Australian Government Guide to Regulation*.

UK Government policy makers are advised to avoid, prevent or reduce high risks virtually whatever the cost implications. Very low risks should be mitigated further if the costs are justified. In the intermediate range, risks should be reduced as low as reasonably practicable.¹⁸

Table 5 summarises the UK Treasury's practical interpretation of this framework, based on work done by the UK Health and Safety Executive.^{19,20}


¹⁸ HM Treasury, [Managing risks to the public: appraisal guidance](#). June 2005, 26.

¹⁹ HM Treasury, 27.

²⁰ Health and Safety Executive (HSE), [Reducing risks: protecting people: HSE's decision-making process](#). 2001. 44-49.

Table 5: HM Treasury risk tolerance categories

Risk category	Action required	Risk of death
Intolerable	Extremely reluctance to accept any argument for not doing more	Workers: 1 in 1000 per year General public: 1 in 10,000 per year
Tolerable if as low as reasonably practicable	Case specific ALARP demonstration required	Risk level between 'intolerable' and 'broadly acceptable'
Broadly acceptable	No case specific demonstration required	Workers and general public: 1 in 1,000,000 per year



Rigid truck rollover/loss of control risk

Sources: HM Treasury, HSE.

According to the RIS, the probability of a fatality in a category NB2 vehicle ranges between 1 in 1,000,000 and 2 in 1,000,000. The probability of a serious injury is up to 40 in 1,000,000.²¹

The RIS notes, however, that the difference in crash risk between rigid trucks and semitrailers is more due to differences in the way these vehicles are used (for example, localised vs long distance transport) rather than their design characteristics.²²

There is also no doubt that some classes of rigid trucks are far more likely to roll over than these probabilities suggest. For example, the industry considers that cement agitators are far more likely to rollover than semitrailers. And as one operator told the ATA:

If we had to make a choice of fitting the system to just one vehicle type, it would definitely be our rigid trucks first.

In short, the UK Treasury framework would suggest that the risk of a rollover/loss of control crash involving a rigid truck or <12t semitrailer is sufficiently high to warrant control measures to reduce it so far as is reasonably practicable. Option 6a would achieve this aim at a reasonable cost.

Option 6a would deliver consistent braking for inexperienced drivers

ESC has been mandatory for new passenger cars since 2012. As a result, recent school leavers who decide to seek jobs in the trucking industry may have always driven vehicles with ESC.

In transitioning to their first industry jobs, these drivers would typically start out driving light or medium rigid trucks. Under option 6c, new rigid trucks like these would not need to be fitted with ESC.

²¹ DIRD, 120.

²² DIRD, 55.

ATA members with extensive training expertise are concerned that inexperienced drivers transitioning from cars with ESC to trucks without ESC will have higher than anticipated crash rates.

Although there are many excellent driver trainers, including ATA member DECA Training, there is no empirical evidence that suggests current driver training programs are effective in reducing fatality or serious injury rates following a loss of control event.

Option 6a would address this issue by ensuring that a greater number of rigid trucks would have ESC over time.

Comparing the net economic benefits of option 6a and 6c

It is true that option 6a would deliver a smaller forecast net economic benefit than option 6c.

The BCR for the option would still be in line with the BCRs for other approved road safety measures.

As the table 6 shows, option 6a would return a BCR of 1.99, or 2.24 if willingness to pay values for avoiding serious injuries are used. The table should be used cautiously, because the values used in the benefit-cost analyses have changed over time. Nonetheless, the table highlights that the BCR for option 6a falls well within the acceptable range.

Table 6: BCRs of road safety measures

Measure	Year	BCR
Advanced motor cycle braking systems	2017	37.2
Pole side impact protection	2015	4.7
Brake assist systems for passenger vehicles and LCVs	2013	3.3
ESC for light commercial vehicles	2013	2.5
Heavy vehicle ESC (option 6a with ATA recommendation 1)	2017	2.24
Heavy vehicle ESC (option 6a)	2017	1.99
ESC for passenger cars	2009	1.6
Heavy vehicle ABS	2013	1.5
Seatbelt reminders mandatory seatbelts for folding seats	2012	1.25

Source: Regulatory impact statements

In the ATA's view, the imperative need to reduce the road toll means the Government should, in this case, prioritise safety and accept the lower, but still positive, economic benefit offered by option 6a.

Potential application date for 4.5-12t rigid trucks

The ATA is aware that some manufacturers of rigid trucks in the 4.5-12t range may have difficulty introducing ESC without a considerable period of product development.

The ATA would not oppose an amendment to proposed ADR 35/06 to provide a reasonable (but still defined) extension to the application date for these trucks only.

Recommendation 2 *[to the Australian Government]*

The Australian Government should adopt RIS option 6a, because it is the option that would save the greatest number of lives and avoid the greatest number of accidents, and would do so at a reasonable cost.

If necessary, proposed ADR 35/06 could be amended to provide a reasonable (but still defined) extension to the application dates for 4.5-12t rigid trucks only.

Recommendation 3 *[to the Australian Government]*

If, despite ATA recommendation 2, the Government adopts option 6b or 6c, it should put in place controls to reduce the risk of loss of control/rollover crashes involving new trucks not covered by the mandate. This could, for example, include the awareness campaign envisaged in RIS option 2.

7. Technical considerations

The RIS examines a number of issues relating to the technical specifics of the proposed ADR amendments, including:

- exempting converter dollies and non-standard low-loaders
- imposing the proposed RSC requirement on new trailers with steel spring suspension as well as those with airbag suspension
- requiring all new vehicles under ADR 35 and 38 to be fitted with automatic slack adjusters
- requiring trucks designed for road train use and trailers designed to pull other trailers to be fitted with 24 volt connectors and
- allowing the vehicle stability function to be turned off, with the system re-engaging at key-on or if the vehicle exceeds 40 km/h.^{23,24}

²³ DIRD, 2017, 27-28.

²⁴ DIRD, Consultation draft of [Vehicle Standard \(Australian Design Rule 35/06 – Commercial Vehicle Brake Systems\) 2018](#), appendix 3, s 2.4.

Converter dollies and non-standard low loaders

The RIS proposes that converter dollies, as well as trailers fitted with an axle group consisting of more than four tyres in a row or more than four axles in an axle group (ie: non-standard low loaders), be exempt from the RSC requirement.²⁵

The ATA and ALRTA jointly proposed the converter dolly exemption, because of issues with the technology in the rough conditions encountered by road trains in rural and remote areas.

There is, however, a safety case for requiring all of the units in PBS A-doubles to be fitted with ABS/RSC, including converter dollies. The risk of a rollover or a loss of control crash faced by these A-doubles could be treated by amending the PBS rules for new designs and new vehicles built under existing designs rather than altering the exemption in draft ADR 38/05.

Trailers with steel spring suspensions

Under the proposals in the RIS, RSC would be required on new trailers with steel spring suspensions as well as air suspensions. The RIS argues that there may no longer be a technical barrier to fitting effective RSC systems on these trailers, and that steel spring suspension is more common in Australia than in Europe.²⁶

The ATA supports the RIS proposal. There are steel spring trailers with stability control systems operating successfully in Australia already.

Automatic slack adjusters

The RIS proposes that automatic slack adjusters be required for all vehicles under ADR 35/06 with drum brakes, and all new trailers over 4.5t with drum brakes.²⁷ At present, automatic slack adjusters are only required for trailers with drum brakes that are fitted with ABS.²⁸

The ATA supports the proposed requirement. Automatic slack adjusters are mechanical devices designed to maintain a pre-determined stroke or clearance between the brake drum and brake block under most operating situations. This process of maintaining near optimum brakes adjustment by continuously adjusting the brakes as their surfaces wear assists in ensuring the friction balance of the foundation brakes.

When smart brake systems technologies are engaged, the functioning of the ABS and/or RSC can result in significant cycling of brake applications that can place demands on the air supply. Maintaining optimum brake adjustment minimises air consumption during the cycling of the smart brake system functions.

The ATA supports the proposed requirement.

²⁵ DIRD, 2017, 28.

²⁶ DIRD, 2017, 28.

²⁷ DIRD, 2017, 99.

²⁸ [Vehicle Standard \(Australian Design Rule 38/04 –Trailer Brake Systems\) 2013](#), s 5.12.

24V connectors

The ATA's ESC/RSC Technical Advisory Procedure recommends that operators should use a 24V power supply where there are more than two trailers in a combination.²⁹

The RIS broadly reflects this advice.³⁰ New trucks designed to be used in road train combinations would need to provide 24V for trailer braking.³¹ New trailers designed to be used in road trains (including converter dollies) would need to be able to provide 24V through power.³² The existing in-service vehicle standards would require operators to connect new trucks and trailers used in road trains to 24V power as envisaged.³³

Plain English, consequential amendments would need to be made to the National Heavy Vehicle Inspection Manual to provide inspectors and the industry with guidance that:

- new trucks and trailers used in road train combinations must be wired for 24V power
- the power cables connecting new trucks and trailers in road train combinations must be configured and connected to supply 24V power.

Recommendation 4 [to the National Heavy Vehicle Regulator]

Before ADRs 35/06 and 38/05 come into force, the NHVIM should be amended to provide inspectors and the industry with guidance that:

- new trucks and trailers used in road train combinations must be wired for 24V power
- the power cables connecting new trucks and trailers in road train combinations must be configured and connected to supply 24V power.

Turning stability control systems off

The ATA and ALRTA jointly proposed that truck drivers should be able to disable a vehicle's stability function temporarily, so they could negotiate creeks, paddocks or tight turns through farm gates.³⁴ The ATA and ALRTA argued that stability control should automatically re-engage at key on or at speeds above 40km/h.

The RIS would implement this proposal.

²⁹ ATA, [RSC and ESC systems for trucks and trailers: technical advisory procedure](#). 2nd edition, May 2016. 14.

³⁰ DIRD, 2017, 28.

³¹ DIRD, 2017, 95.

³² DIRD, 2017, 103.

³³ [Heavy Vehicle \(Vehicle Standards\) National Regulation](#), s 11.

³⁴ ATA/ALRTA, [Mandate truck, trailer stability control to save lives](#). Joint media release, 10 August 2017.