



Australian Government

Department of Infrastructure, Regional Development and Cities

Road Vehicle Standards



Focus Group on Vehicle Standards Bulletin No.1 Building Small Trailers

Mantra Bell City Victoria – 14 March 2019

Introduction

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Agenda

- 9.30 am Opening session – Introduction to the RVSA
- 10.30 am Morning Tea
- 10.45 am Second session – VSB 1 Scope – Style and Structure
- 12.30 pm Lunch – Chill Restaurant
- 1.15 pm Third Session – Technical Requirements part 1
- 3.00pm Afternoon Tea
- 3.15 pm Fourth Session – Technical Requirements part 2
- 4.30pm Wrap Up

Focus Group Aims

- To seek stakeholder views on:
 - Specific approaches to technical requirements incorporated in VSB 1 (Revision 6), reflective of current Australian Design Rules (ADRs).
 - Proposed changed content in VSB 1 (Revision 6) to better achieve the strategic intentions.
 - Proposed changed emphasis in VSB 1 (Revision 6) to better achieve the strategic intentions.
 - Ambiguities, errors and other shortcomings in VSB 1 (Revision 5).

Strategic Intentions

The revision to the existing Vehicle Standards Bulletin 1 (VSB 1 Revision 5) is being undertaken with four strategic intentions:

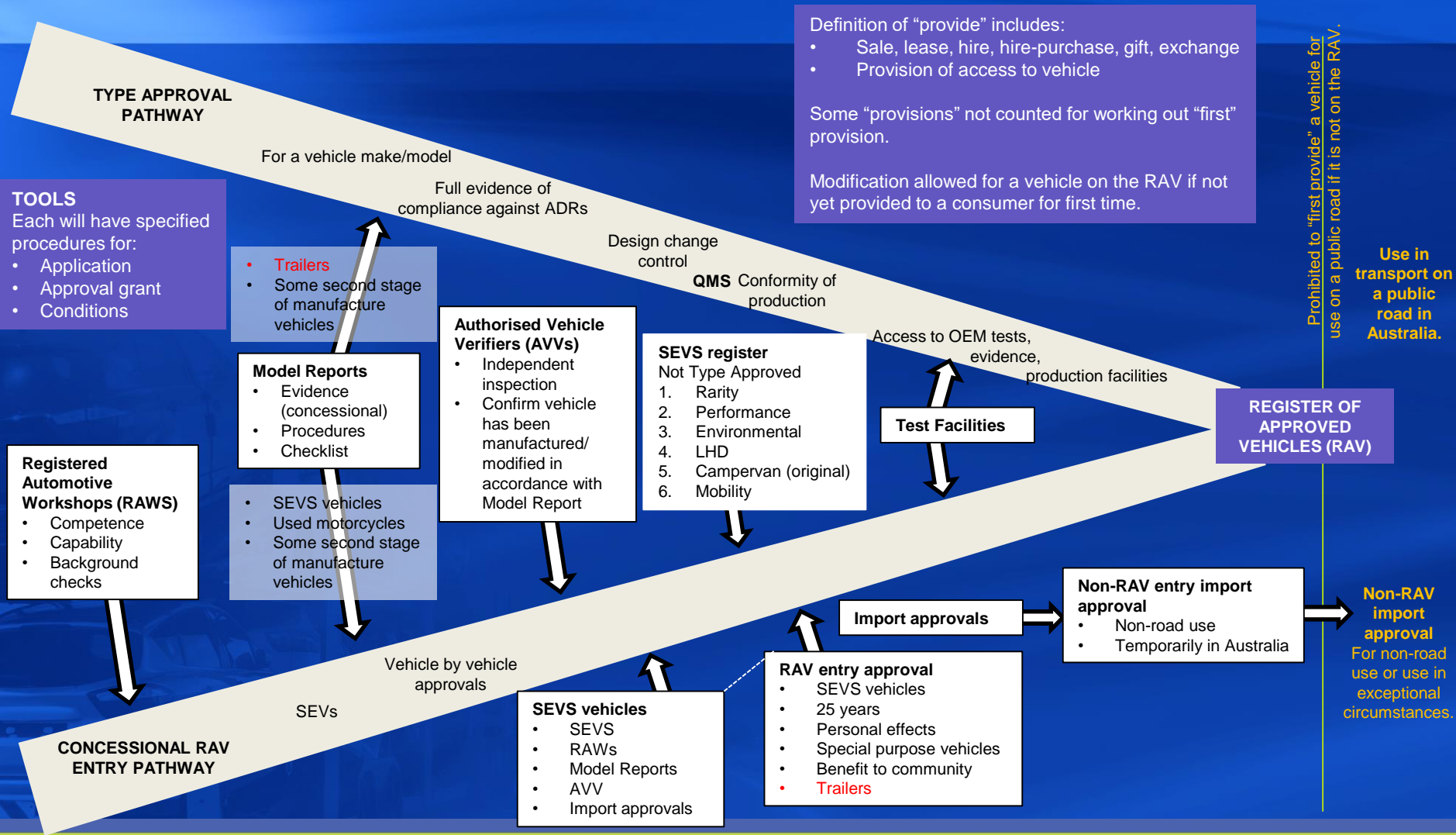
- New legislation for the regulation of road vehicles in Australia is being introduced. The new legislation, known as the Road Vehicle Standards legislation, will include a new Road Vehicle Standards Act, Road Vehicle Standards Rules and several determinations. VSB 1 (Revision 6) needs to reflect this new legislation.
- Since VSB 1 (Revision 5) was last updated, changes have occurred to the Australian Design Rules. These changes need to be reflected in VSB 1 (Revision 6).
- Light trailers are currently over-represented in consumer complaints. A major aim of VSB 1 (Revision 6) is to address the underlying causes of consumer complaints.
- Compliance audits frequently show failure to meet safety standards. A major aim of VSB 1 (Revision 6) is to improve compliance with the Australian Design Rules by light trailer manufacturers.

Note that changes to the Australian Design Rules are not within scope of this VSB 1 revision.

How to contribute

- By participating in the focus group
- By submitting comments that have arisen from the focus group meeting and the consultation paper – within two weeks of the focus group
- By making comments on the draft VSB 1 Version 6 when it is released for comments around May 2019
- By familiarising yourself with the Road Vehicle Standards Legislation and supporting material as it is released.
 - Emails to RVSAimplementation@infrastructure.gov.au
 - Website
<https://infrastructure.gov.au/vehicles/rvs/index.aspx>

Introduction



Register of Approved Vehicles (RAV)

The Register of Approved Vehicles (RAV) – a publicly searchable database of approved vehicles will replace the need to fit road vehicles with identification plates.

As well as being entered on the RAV, light and heavy trailers will retain the existing physical 'vehicle plate' due to the need for visibility of load limits. Component Type Approvals (currently SARN) information may also be reallocated to this plate.

The RAV captures most information currently on the 'vehicle' plate for heavy busses and heavy commercial vehicles. The need to retain this vehicle plate will be discussed with the industry and state and territory authorities.



Legends: O – Only required where applicable to the vehicle, N/A – Not Applicable, X – Mandatory			
Date of Entry	X	Seating Capacity	O
VIN	X	Month and year of Build Date (mm/yyyy)	X
Approval Number	X	Country of Purchase - This requirement has been removed	N/A
Vehicle Category Code (VOC)	X	Gross Combination Mass (kg)	O
Name of Holder of Approval	X	Road Train	O
Make	X	B Double	O
Model	X	Entry pathway	X
GVW (kg)	O	Authorised by Name	X
GTM (kg)	O	Authorised by Number	X
Tare (kg)	X	Added by (NEVDIS to populate)	X
Power (kW)	O	Seating Capacity	O

RAV Public Search

Register of Approved Vehicles Search

VIN:

VIN: 6V9GLT3TRGB014001

RAV Entry Date	Entry Pathway Sub-Category	Approval Number	Approval Holder	VCC	Make	Model	Build Date	GVM / ATM (kg)	GTM (kg)	Tare (kg)	Authorised by Name
23/03/2018	Type Approval - Standard	12345	GRAHAM LUSTY TRAILERS	TB	Graham Lusty Trailers	TB	05/2017	2000	1950	1000	Graham Lusty Trailers

Disclaimer:

New Wording to be supplied

Type Approval Pathway



Similar to Identification Plate Approvals



Stronger requirements for approval holders to control design and manufacturing processes



Secure vehicle identification marking
All new vehicles will require secure vehicle identification marking (ADR)



Testing facilities
Testing facilities will now need to apply for an approval and affirm the facilities are appropriate.



New arrangements for type approvals of light trailers
Manufacturers required to hold a type approval if providing more than four trailers per 12 months

Concessional RAV Entry

- Older Vehicles
- Special Exemption
- Personal Effects
- RAWs Vehicles
- Concessional Trailers
- Suitable to Add to RAV

Concessional RAV Entry Pathway



Concessional Trailers



Where does VSB 1 fit in?

- The Department will accept compliance with VSB 1 as evidence of compliance with the ADRs for both type approval and the concessional RAV entry pathways
- VSB 1 will provide a simplified set of the most commonly used ADR requirements for light trailers
- The intention is to make it easier for light trailer manufacturers and importers to produce compliant trailers as well as to give examples of common issues experienced by manufacturers and consumers.

Morning Tea



VSB 1 Revision 6 Scope

- It is proposed that VSB 1 could be improved by reducing the scope of vehicles or requirements that it covers. This would reduce the complexity of the document and make it less daunting to read and understand.
- This could be achieved by not include requirements related to less common trailer types

Focusing Questions

Should VSB 1 take this 90% approach?

If so should the following trailer types be included in VSB 1?

- Narrow trailers (less than 980mm wide)
- Trailers over 3.5 tonne ATM
- Pole Trailers
- Other?

VSB 1 Revision 6 Scope

- It is proposed that VSB 1 should take into account the broader audience of potential readers, including:
 - Trailer users
 - Manufacturers
 - Importers
 - Modifiers and
 - Regulators
- It is believed that expanding the audience will assist in industry self regulation

Focusing Questions

- Should VSB 1 be tailored for multiple audiences?

If so who?

- Trailer Users
- Manufacturers
- Importers
- Modifiers
- Regulators
- Other

VSB 1 Style and Structure

Improving the style and structure of the VSB 1 can greatly improve its readability. Some ideas are:

- A lead photo at the beginning of each section
- A summary opening paragraph
- Bullet points
- Extensive use of white space
- Grey breakout boxes to expand on or clarify the requirements
- Breakout boxes for reader questions and answers
- Improved and additional diagrams
- Photos
- Checklists
- Procedural flow charts

Focusing Questions

- The Department is interested in the views of focus group members on the proposed style and structure of VSB 1 version 6. We would welcome comments about the proposed style and structure.
- An example of the proposed style is on the next slide.

25.0 Drawbar safety chains and their mounting

The Australian Design Rules specify the:

- type of trailers to which safety chains must be fitted
- number of safety chains that must be used
- strength rating of those chains
- strength rating of the chain attachment points on the trailer.



25.1 Drawbar safety chains

Safety chains or cables must be fitted to:

- trailers with rigid drawbars, excluding converter dollies
- all trailers without breakaway brakes.

Trailers that do not exceed 2.5t ATM

- Must use at least one safety chain.
- The chain must comply with Australian Standard AS 4177-4-2004, or be a safety cable with the same certified load rating.

Trailers over 2.5t but not exceeding 3.5t ATM

- Must use two safety chains.
- The chains must comply with Australian Standard AS 4177-4-2004, or be a safety cable with the same certified load rating.

Trailers over 3.5t ATM

- Must use two safety chains.
- The chains must be made from steel of a minimum 800 MPa breaking stress that conforms to the mechanical properties of Grade T chain as specified in Australian Standard AS 2321-2006.
- Each chain must have a minimum breaking load greater than the trailer ATM and use a 6mm chain size with a minimum breaking load of 5.1t.

25.2 Drawbar Safety Chain Attachment Points

Safety chains are attached to the trailer's drawbar.

- The chain attachment points must be located as near as practical to the trailer coupling.
- Where two safety chains are used, they must be mounted one each side of the centreline of the drawbar.

Each safety chain attachment point must withstand at least the following forces without:

- any residual deformation that would interfere or degrade the function of the assembly
- any breaks, cracks or separation of the components.

The test forces must be maintained for at least 10 seconds.

Safety chain attachment point test forces:

- Longitudinal tension (N) = $9.81 \times \text{trailer ATM (kg)}$
- Vertical tension (N) = $0.5 \times 9.81 \times \text{trailer ATM (kg)}$

The requirement for safety chain attachment longitudinal load is the same force on the attachment as that created if the fully-loaded trailer were suspended vertically by one safety chain.

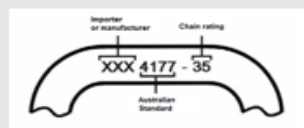
The requirement for safety chain attachment vertical load is the same force as that created by half the weight of the fully-loaded trailer pulling upwards or downwards on one safety chain.

Safety chain markings

Chain that complies with Australian Standard 4177 is marked in the following way:

- manufacturer or importer identification
- 4177
- a hyphen and two digits.

For example, 4177-35 indicates a 3500kg rating.



Safety chain for trailer ATMs not exceeding 3.5t should be selected using the following table.

Chain designation (kg)	Trailer ATM (kg)
1000	0-1000
1800	Up to 1800
2500	Up to 2500
3500	Up to 3500

Grade T chain is marked with T, 8, 80 or 800. Note: T-rated safety chains should not be welded.

Questions

"Should the safety chains for a 3-tonne caravan be marked with the Australian Standard?"

Yes! A 3.0t ATM trailer must use two chains, each marked with the AS 4177 standard. For a trailer of this ATM, the designation should be: (name of manufacturer or importer) 4177-35.

"My trailer's safety chain attachment points scrape on the road when the trailer is uncoupled but the safety chains are still connected. Is this an issue?"

While it is not required by the Australian Design Rules, in the situation you have described the attachment points for the safety chains should not touch the road.

VSB 1 Language

- The language in VSB 1 Version 6 will be
 - Unambiguous
 - Clear and
 - Direct
- It is proposed that all content should be easily able to be identified as:
 - Obligatory
 - Restrictive or Prohibiting
 - Permissible or
 - Advisory

Focusing Questions

- What are focus group members views on the use of the proposed approach to describing requirements
 - Obligatory
 - Restrictive or Prohibiting
 - Permissible or
 - Advisory
 - Other?

Lunch

Technical Requirements

Rear Overhang vs Front Load Space

- ADR 43/04 states that:
 - *For a 'Pig Trailer', the 'Rear Overhang' must not exceed the length of the load space forward of the line from which 'Rear Overhang' is measured, or 3.7 metres, whichever is the lesser.*
- *Front load space is not described in the ADR definitions*
- *As trailer manufacturers add fittings to trailer drawbars, the allowable rear overhang increases – resulting in trailers with a greater overhang that potentially results in stability issues.*

Focusing Questions

- Should VSB 1 Version 6 include an advisory along the lines of:
 - An answer to a ‘reader’ question “the exposed area of the drawbar ahead of the main body of the trailer be excluded from the definition of front load area, irrespective of the placement of items on the drawbar such as gas bottles, tool boxes and spare tyres.
- Are there any other options to limit adding loads to the drawbar?

Technical Requirements

Towball Weight

- It is proposed that VSB 1 require manufacturers to set a minimum towball weight and a recommended fully loaded towball downweight
- The objective of this is to provide an easily measured value for consumers to used to confirm if their trailer is properly loaded
- It would also encourage manufacturers to be conscious of the distribution of loads in trailers

Focusing Questions

- Do you support the idea of maximum and minimum towball loads?
- Would you support the labeling of load capacity for different load spaces within the trailer?

Technical Requirements

Efficient Service Brake System

- ADR 38/05 specifies that a trailer over 0.75t GTM must be fitted with an 'efficient' service brake system. We propose that an 'efficient' service brake be defined as a braking system that:
 - Has sufficient capacity to stop the trailer by itself;
 - Has the ability to dissipate the heat generated by multiple brake applications;
 - Is able to provide the braking force to stop the vehicle in about the same distance the tow vehicle would stop by itself;
 - Is able to be adjusted and balanced so that the appropriate proportion of braking is done by each wheel; and
 - Effectively varies the stopping force based on the rate at which the tow vehicle is stopping.

Focusing Questions

- What criteria do focus group members currently use to decide their trailer brakes are efficient?
- Would members support the proposed interpretation?

Technical Requirements

Over-run braking

- UN regulation 13: 5.2.2.2, an alternative standard mentioned in ADR38/05, allows over-run brakes on trailers of up to 3.5t (GTM) while the body of ADR 38/05 only allows over-run brakes only up to 2 tonnes GTM.
- As such, these will be permitted on trailers up to 3.5 tonnes, but only if they can be demonstrated to comply with the technical requirements of the UN standard.

Focusing Question

- Should VSB 1 include provision for the use of over-run brakes on trailers over 2 tonnes GTM, or should these requirements be left in the detail of ADR 38/...
- How would a state or territory regulator know if such a vehicle complied with the UN requirements?

Technical Requirements

Emergency Brakes

- ADR 38/05 requires that every trailer with a GTM over 2 tonnes must be equipped with an efficient emergency brake system. We propose that an 'efficient' emergency brake system is one that:
 - Has sufficient capacity to stop the trailer by itself and
 - Has sufficient stored energy to apply the brakes for at least 15 minutes.

Focusing Questions

- How do members currently meet this requirement?
- Would members support the proposed interpretation?
- We understand that NSW require a charge monitoring system – should this be included as an advisory in VSB 1?

Technical Requirements

Lighting

We suggest that in VSB 1 (Revision 6), lighting requirements be simplified and clarified.

- This could be achieved by using diagrams showing the front, side and rear of *typical* trailer designs, for example:
 - box trailer
 - caravan
 - car carrier
 - horse float
 - boat trailer
 - plant trailer.
- These diagrams would show the most common, compliant lighting approaches. Some examples of non-compliant approaches would also be shown; these would have a large red cross placed through them.
- Where more unusual trailer designs are being considered, the reader would be directed to the ADRs.

Focusing Questions

- How do members currently confirm compliance?
- Would a generic lighting layout drawings work for your trailer designs?

Technical Requirements

Fit for purpose

It is proposed that this section in VSB 1 (Revision 6) be expanded to better illustrate the roles and responsibilities of light trailer manufacturers and importers.

- *Products must be:*
 - *safe, lasting, with no faults*
 - *do all the things someone would normally expect them to do.*
 - *be fit for the purpose the business told you it would be fit for and for any purpose that you made known to the business before purchasing*
 - *Products must be of acceptable quality. Acceptable quality takes into account what would normally be expected for the type of product and cost.*

Focusing Questions

- Should VSB 1 Revision 6 use advisories and reader questions to emphasise manufacturer obligations to produce trailers that are fit for purpose?

Technical Requirements

Post RAV Modifications

- It may be an offence for a trailer added to the RAV to be modified before it has been provided to a consumer.
- The Department is aware that many trailers are modified by dealers before being sold.
- Such modifications have the potential to make the trailers non-compliant or unsafe.

Focusing questions

- How do members currently ensure that modifications made by dealers do not make the trailers non-compliant or unsafe?
- How should VSB1 be used to ensure consumers can only purchase compliant trailers?

Thank You