

# Vehicle Standards Information

VSI.5 | Rev. 6 | 11 March 2015

5

## Light vehicle dimension limits

### Purpose

This Vehicle Standards Information (VSI) No. 5 is intended as a guide to the dimension limits applicable to road vehicles not exceeding 4.5 tonnes gross vehicle mass (GVM) or aggregate trailer mass (ATM), that may be registered for use on NSW roads and road-related areas.

### Introduction

Dimension limits for road vehicles are set to ensure vehicles using the road network have adequate manoeuvrability and are compatible with the road systems and other road users.

Vehicles in NSW are classified as either 'light' or 'heavy' depending on their GVM or ATM as follows:

#### A light vehicle is:

- A motor vehicle that has a GVM not exceeding 4.5 tonnes
- A trailer that has an ATM not exceeding 4.5 tonnes.

In NSW, the dimension limits for light vehicles are prescribed in the *Road Transport (Vehicle Registration) Regulation 2017* (the Regulation). The limits are summarised in this VSI.

#### A heavy vehicle is:

- A motor vehicle that has a GVM exceeding 4.5 tonnes
- A trailer that has an ATM exceeding 4.5 tonnes.

Dimension limits for heavy vehicles are prescribed in the *Heavy Vehicle (Mass, Dimension and Loading) National Regulation*, and are not covered in this VSI. For information on heavy vehicles refer to the National Heavy Vehicle Regulator – see page 7 for contact details.

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## 1. Motor cycles

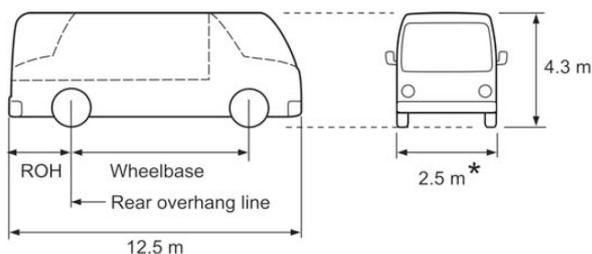
For motor cycle dimension limits refer to:

- TfNSW VSI No. 28 'Guidelines for modifications to motor cycles', or
- VSB.14 'National Code of Practice for Light Vehicle Construction and Modification' published by the [Commonwealth] Department of Infrastructure, Transport, Regional Development and Communications (DITRDC).

## 2. Motor vehicles

The following dimensions limits are the maximum allowable for light rigid motor vehicles such as:

- Cars and car derivatives
- Sports utility vehicles
- Four-wheel drive vehicles
- Small buses
- Small trucks: either load carrying, or complying plant vehicles (eg air compressors, concrete mixers, drilling rigs).



\* Width is measured across the body and includes wheel guards, but excludes any anti-skid device mounted on the wheel, central tyre inflation systems, lights, mirrors, reflectors and signalling devices.

In addition to the dimension limits, light rigid motor vehicles must meet all other applicable requirements of the Regulation, including those described in 'Other requirements' on page 4.

**Rear overhang (ROH):** 60% of the wheelbase or 3.7 metres, whichever is the lesser, measured from the rear overhang line (see 'Rear overhang' on page 5).

**Note:** Any object permanently fitted to a vehicle (eg bull bar, winch or equipment/tool box) is considered part of the vehicle and must be included within the applicable dimension limit (except for those specific items excluded when measuring width).

## 3. Trailers

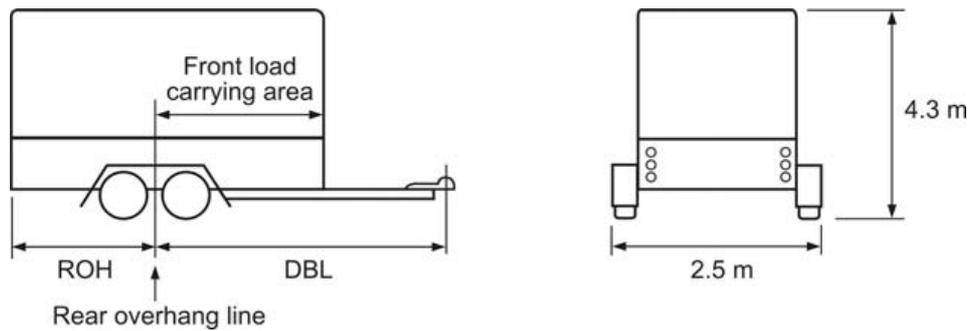
Light trailers must be designed and constructed to meet the requirements of Vehicle Standards Bulletin No. 1 'Building small trailers' issued by the [Commonwealth] Department of Infrastructure, Transport, Regional Development and Communications – see page 7 for contact details.

The dimension limits shown on page 3 are the maximum allowable for light trailers including:

- Pig trailers eg box trailers
- Dog trailers
- Semi-trailers

In addition to the dimension limits, light trailers must meet all other applicable requirements of the Regulation, including those for ground clearance described on page 4.

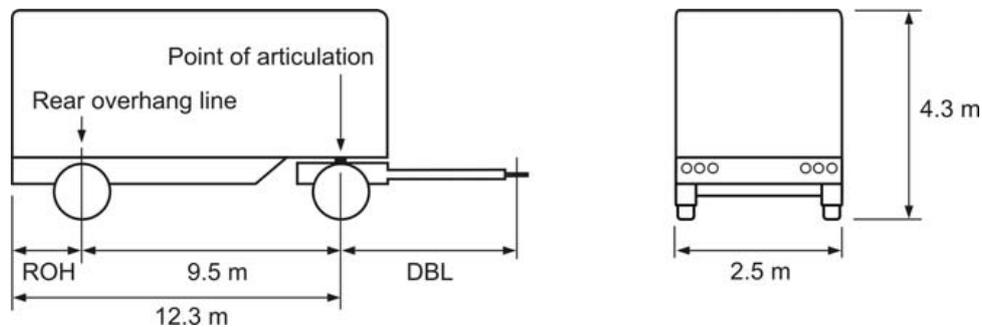
**Pig trailer** – a trailer that has only one axle group near the middle of the length of the goods carrying surface.



Rear overhang (ROH): No more than the length of the front load carrying area, or body, ahead of the rear overhang line, or 3.7 metres, whichever is the lesser.

Drawbar length (DBL): Measured from the centre of the axle/axle group to the centre of the drawbar coupling pivot point with the drawbar level, must not be more than 8.5 metres.

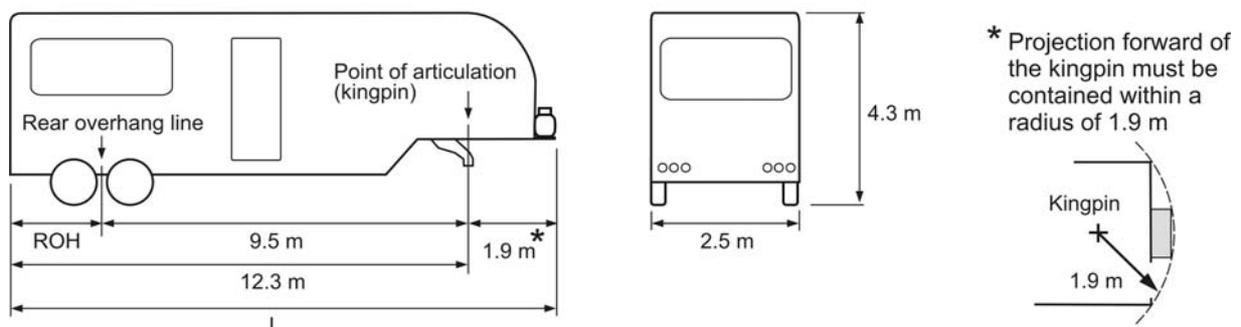
**Dog Trailer** – a trailer that has a front axle or axle group steered by a drawbar attached to a towing vehicle, and a rear axle or axle group.



Rear overhang (ROH): 60% of the distance between the point of articulation at the front of the trailer and the rear overhang line or 3.7 metres, whichever is the lesser.

Drawbar length (DBL): Measured from the centre of the front axle group or single front axle to the centre of the drawbar coupling pivot point with the drawbar level, must not be more than 5 metres.

**Semi-Trailer** – a trailer with a single axle or axle group towards the rear, with a means of attachment to a prime mover that would result in some of the load being imposed on the prime mover.

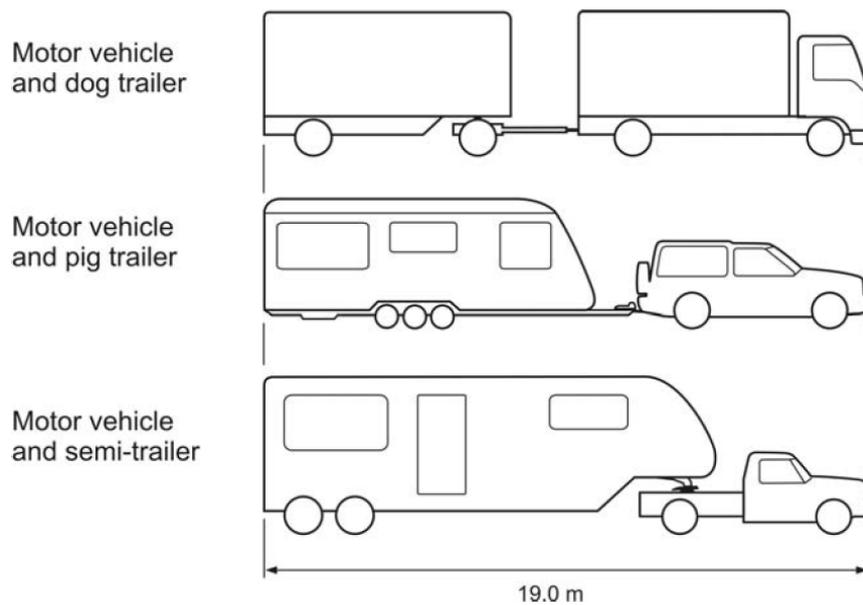


Rear overhang (ROH): 60% of the distance between the point of articulation at the front of the trailer and the rear overhang line or 3.7 metres, whichever is the lesser.

Length (L): No specific limit, however, when combined with a prime mover, the overall combination length must not exceed 19 metres.

**Note:** If a semi-trailer has two or more points of articulation at the front of the trailer, it must continue to comply with the dimension limits when measured at one of the points.

## 4. Combinations and articulated vehicles

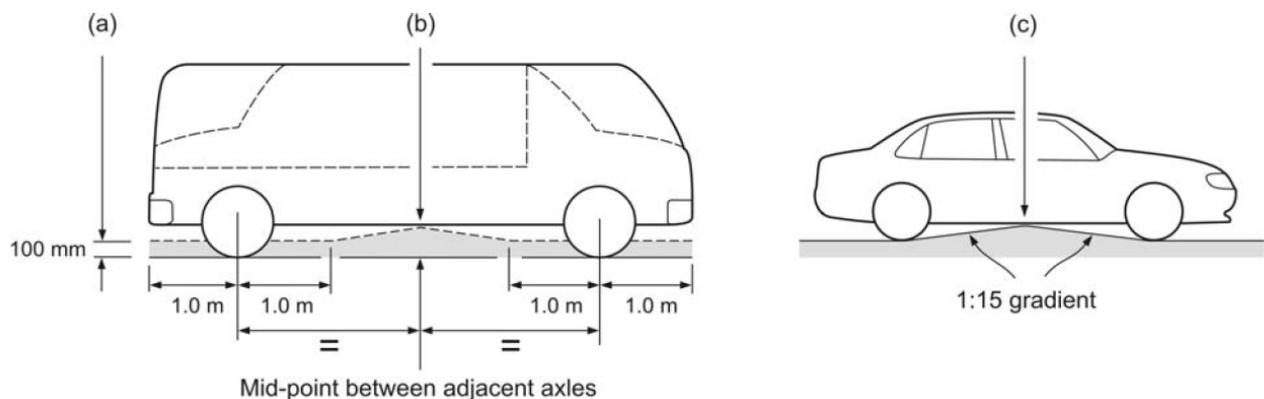


The maximum allowable length for a vehicle combination or articulated vehicle is 19 metres eg:

## 5. Other requirements

### Ground Clearance

Ground clearance is the minimum distance to the ground from the underside of a vehicle excluding its tyres, wheels, wheel hubs, brake backing plates and flexible mudflaps or mudguards.



The requirements for ground clearance apply whether the vehicle is laden or unladen, as follows:

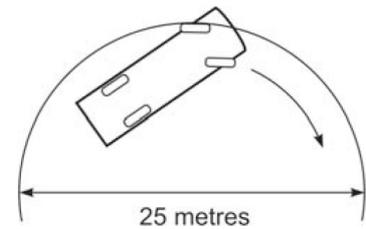
Ground clearance, shown as the shaded area in the above diagram, must:

- Be a height of at least 100 mm within one metre of an axle, and
- Be a height of at least one-thirtieth of the distance between centres of adjacent axles, measured at the midpoint between them, and
- Allow the vehicle to pass over a peak in the road with a gradient on either side of 1:15, with the wheels of one axle of the vehicle on the slope on one side of the peak and the wheels of the next axle on the slope of the other side. This requirement applies between all axles of a vehicle or combination.

**Note:** The above requirements do not apply to a motor vehicle with less than 4 wheels, or a combination that includes a motor vehicle with less than 4 wheels.

## Turning circle

A motor vehicle must be able to turn to the left or to the right within a circle not over 25 metres in diameter, measured at the outer edge of the tyre track at ground level.



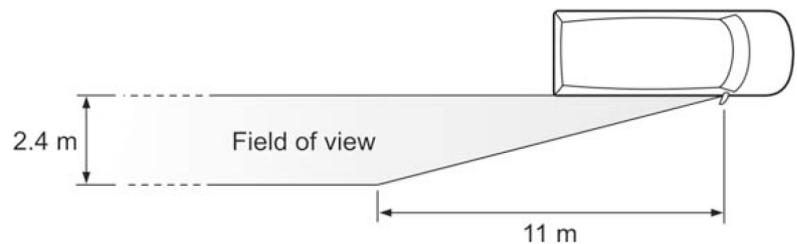
## Projection of mirrors

The distance an external rear view mirror may protrude depends on the vehicle's Australian Design Rule (ADR) category and the type of mirror/s it is fitted with as set down in ADR 14/02 'Rear Vision Mirrors'.

Generally, the requirements are:

### A. For a vehicle not exceeding 3.5 tonnes GVM

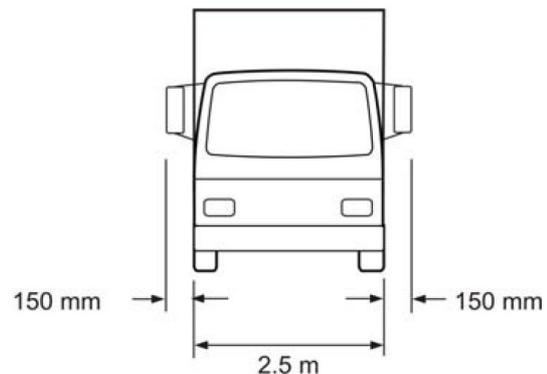
Mirrors must not protrude further than the widest part of the vehicle body, except to the extent necessary to produce a field of view as shown in the diagram at right.



**Note:** Buses up to 3.5 tonnes GVM with more than 12 seats, and light goods vehicles up to 3.5 tonnes GVM, may be fitted with mirrors meeting either the above requirements, or the requirements of (B) below.

### B. For a vehicle exceeding 3.5 tonnes GVM but not exceeding 4.5 tonnes GVM

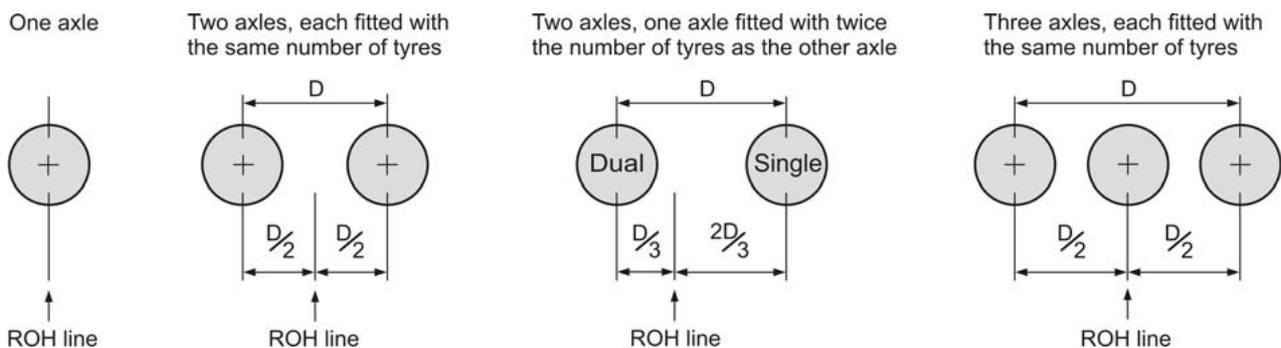
- i. Except where allowed by (ii) below, the rear view mirrors must not project more than 150 mm beyond the widest part of the vehicle or combination on either side.
- ii. However, the rear vision mirrors may project up to 230 mm beyond the widest part of the vehicle or combination if they can fold to project not more than 150 mm beyond the widest part of the vehicle on either side.



## Rear overhang

Rear overhang (ROH) is the distance between the rear overhang line (ROH line) and the rearmost point of the vehicle.

The rear overhang line is the point from which rear overhang is measured. It is determined as follows:



## Axles and axle groups

Axles and axle groups relevant to light vehicles are a single axle, single axle group, tandem axle group or tri-axle group.

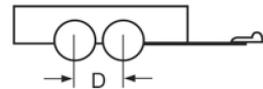
Rigid vehicles and prime movers are supported by two axle groups only. The wheels of the front axle group must be connected to a steering mechanism for the vehicle.

Axle groups on vehicles first registered in NSW after 28 April 1978 must be within the dimension limits shown in the following diagrams. If an axle group on any vehicle is modified after 28 April 1978 it must, after modification, also conform to these requirements.

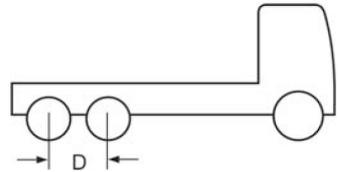
**Single axle** – an axle not forming part of an axle group



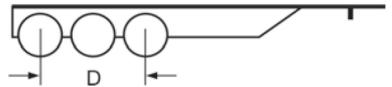
**Single axle group** – A group of two or more axles in which the distance 'D' between centrelines of outermost axles is less than one metre.



**Tandem axle group** – A group of 2 or more axles in which the distance 'D' between centrelines of the outermost axles is at least one metre, but not more than two metres. If 'D' is less than 1 metre, the group is treated as a single axle.



**Tri-axle group** – A group of three or more axles in which the distance 'D' between centrelines of the outermost axles is more than two metres, but not more than 3.2 metres. If 'D' is less than two metres, the group is treated as a tandem axle group.



## 6. Glossary

**Aggregate trailer mass (ATM)** is the maximum laden mass of a trailer. The ATM is specified by the trailer manufacturer and is shown on the identification plate fitted to the trailer.

**Bus** means a motor vehicle built mainly to carry people and that seats more than nine adults, including the driver. A coach is classified as a bus.

**Car** means a motor vehicle built mainly to carry people that:

- Seats not more than 9 adults (including the driver), and
- Has a body commonly known as a sedan, station wagon, coupe, convertible, or roadster, and
- Has 3 or more wheels.

**Car derivative** means a motor vehicle:

- That is of the kind known as a utility, station wagon or panel van, and
- That is of the same make as a factory produced car, and
- In which that part of the body form that is forward of the windscreen and the greater part of the mechanical equipment are the same or substantially the same as in a factory produced car.

**Gross vehicle mass (GVM)** is the maximum laden mass of a motor vehicle as specified by the vehicle's manufacturer.

**Plant vehicle** means a motor vehicle that wholly comprises a:

- Machine or implement that is not capable of carrying any load other than tools and accessories usually carried, or
- Crane or a fork lift truck.

**Prime mover** means a motor vehicle built to tow a semi-trailer.

**Wheelbase** means the distance from the centreline of the vehicle's foremost axle to the rear overhang line.

**Trailer** means a vehicle without motive power constructed to be drawn behind a motor vehicle.

## Further information

### Transport for NSW

for contact details of your nearest Service NSW centre

[roads-waterways.transport.nsw.gov.au](https://roads-waterways.transport.nsw.gov.au) | T 13 22 13

### Transport for NSW Technical Enquiries

PO Box 1120, Parramatta NSW 2124

E [technical.enquiries@transport.nsw.gov.au](mailto:technical.enquiries@transport.nsw.gov.au) | T 1300 137 302 | F (02) 8837 0037

- Vehicle construction and registration requirements in NSW

### Transport for NSW Vehicle Safety Compliance Certification Scheme (VSCCS)

[roads-waterways.transport.nsw.gov.au](https://roads-waterways.transport.nsw.gov.au) | E [vscs@transport.nsw.gov.au](mailto:vscs@transport.nsw.gov.au) | T 1300 336 206

- VSCCS Bulletin No.1 'Licensed certifiers'

### NSW Legislation

[legislation.nsw.gov.au](https://legislation.nsw.gov.au)

- *Road Transport (Vehicle Registration) Regulation 2017*

### Department of Infrastructure, Transport, Regional Development and Communications

GPO Box 594 Canberra ACT 2601

[infrastructure.gov.au](https://infrastructure.gov.au) | T 1800 815 272 | F (02) 6274 6013

- VSB No. 4 'Steering conversions for left-hand drive vehicles'
- VSB No.10 'Importing vehicles to Australia'

### National Heavy Vehicle Regulator

PO Box 492, Fortitude Valley Q 4006

[nhvr.gov.au](https://nhvr.gov.au) E [info@nhvr.gov.au](mailto:info@nhvr.gov.au) | T 1300 696 487 | F (07) 3309 8777

- Matters related to vehicles exceeding 4.5 tonnes GVM