

Correct as at 24th May 2019. It may be superseded at any time.

Extract taken from: NZTA Vehicle Portal > VIRMs > Heavy vehicle specialist certification > Dimensions

3 Dimensions

3-1 Dimensions

Certifier categories: **HVEC** | **HVCD** | **HVS1** | **HVS2** | **HVS3** | **HVP1** | **HVP2**

Reasons for rejection

1. A vehicle dimension does not comply with **Table 3-1-1** and is not qualified to be overdimensional.
2. The inter-vehicle spacing between a towing vehicle and a full trailer when the combination is in a straight line is less than the greater of:
 - a) 1 metre, or
 - b) half the width of the foremost point of the trailer (including its load but excluding the drawbar and front dolly assembly).
3. An articulated bus cannot complete a 360-degree turn in either direction without any part of the vehicle (except collapsible mirrors) encroaching within a turning radius of 5.3m.
4. Except for the articulation mechanism, any parts of a vehicle combination come into contact when completing a 360-degree turn within a 25m diameter circle.
5. The mass on a front-axle set or twin-steer axle set of a heavy rigid vehicle is at any time less than 20% of the sum of the axle mass of the vehicle.
6. Axle spacing and masses do not meet the legal requirements.
7. An HPMV does not comply with one of the 'pro forma' designs in the Rule and is not approved as an alternative design.

Table 3-1-1

Dimension	Maximum distance (metres except where indicated otherwise)
Width:	
All vehicles	2.55 or 1.275 from each side of the longitudinal centreline of the vehicle.
Overall length (excluding collapsible mirrors):	
Towing vehicle, full trailer, simple trailer, pole trailer (excluding load)	11.5
Simple trailer	12.5
Rigid vehicle (not towing)	12.6
Rigid bus with 3 axles where the rearmost axle is a single-tired steering axle that is: <ol style="list-style-type: none"> a) either positively and continuously linked to the front steer axle (except may be locked for reverse or high-speed operations), or b) automatically locked at a speed of 30km/h in the straight ahead position or for reverse operations. 	13.5

Articulated bus	Dimension	18	Maximum distance (metres except where indicated otherwise)
Towing vehicle and semi-trailer with:			
<ul style="list-style-type: none"> a quad-axle set with two steering axles (and first registered before 1/2/17) any other quad-axle set. 		18 19	
Towing vehicle and full trailer:			
<ul style="list-style-type: none"> excluding load including load if load overhanging the rear of the trailer does not exceed 2.3m width, or 1.15m from the longitudinal centreline of the vehicle 		20 22	
Towing vehicle and simple trailer		22	
Any other combination of vehicles		20	
Height:			
All vehicles		4.3	
Forward distance (excluding collapsible mirrors):			
Rigid vehicle		8.5 if fitted with tow coupling, 9.5 otherwise	
Full trailer, simple trailer, pole trailer with drawbar at full extension, articulated bus (both front and rear sections)		8.5	
Semi-trailer		9.2	
Rear overhang:			
Heavy rigid vehicle		4.0 or 70% of wheelbase (whichever is less) for a vehicle whose rear-most axle is a non-steering axle 4.25 or 70% of wheelbase (whichever is less) for a vehicle whose rear-most axle is a steering axle	
Articulated bus, heavy simple trailer, heavy pole trailer with one axle set		4.0 or 50% of forward distance (whichever is less)	
Heavy semi-trailer other than a class TC caravan trailer		4.3 or 50% of forward distance (whichever is less)	
Heavy full trailer, heavy pole trailer with two axle sets		4.0 or 50% of wheelbase (whichever is less)	
Class TC caravan trailer that is a semi-trailer		4.0 or 65% of forward distance (whichever is less)	
All other vehicles		4.0	
Minimum ground clearance:			
Heavy motor vehicle		The greater of 100mm or 6% of the distance from the nearest axle to the point where the ground clearance is measured (except when vehicle is loading or unloading)	
Front overhang:			
Semi-trailer		2.04 radius arc ahead of kingpin centre	
Simple trailer		2.04 radius ahead of tow coupling centre	
Full trailer		2.04 radius arc ahead of turntable centre	

Pole trailer	Dimension	Maximum distance (metres) except where indicated otherwise
Agricultural motor vehicle		4.0
All other vehicles		3.0
Rear trailing unit distance:		
A-train, B-train, towing vehicle and two trailers		14.5
Articulated vehicle point of attachment (excluding articulated buses)		No further rearward than the rear-most axle of the towing vehicle or rear-most axle of the leading trailer, and if the towing vehicle is a rigid vehicle and has more than one axle in its rear set, not more than 300 mm rearward of the rear axis of the towing vehicle
Tow coupling position (for towing heavy trailer)		
Full trailer		45% of wheelbase towing vehicle
Simple trailer		At least 700mm rearward of the rear axis of the towing vehicle and not more than a distance equal to 50% of the wheelbase
Articulated bus		45% of wheelbase of the leading unit
Coupling point distance		
A-train		30% of forward distance of semi-trailer
Inter-vehicle spacing (between towing vehicle and trailer, except for a laden pole trailer)		4.0
Outside turning circle in either direction for 360-degree turn		25.0 diameter (kerb to kerb, excluding collapsible mirrors)

Notes on Table 3-1-1

Note 1

A vehicle does not have to comply with the ground clearance requirements in **Table 3-1-1** when the vehicles suspension is lowered temporarily to enable the vehicle to clear an overhead obstruction.

Note 2

Unless otherwise stated, the dimensions in **Table 3-1-1** are maximum dimensions.

Note 3

The following items are not included in determining whether a vehicle complies with the width requirements in **Table 3-1-1**:

- side-marker lamps and direction indicators
- collapsible mirrors that extend not more than 240 mm beyond the side of a vehicle or its trailer and 1.49m when measured from a vehicles longitudinal centre line
- central tyre inflation system hoses that extend not more than 75mm beyond the outside of the tyre on the drive axles of a heavy motor vehicle
- a hubodometer that extends not more than 50mm beyond one side of a vehicle from a non-lifting, non-steering axle whose outer casings are of a light colour, provided the hubodometer is fitted on the axle that causes the least overwidth
- cab exterior grab rails that extend not more than 1.325m when measured from a vehicles longitudinal centre-line
- the bulge towards the bottom of a tyre
- trolley bus poles and their safety cables when extended to collect electric power from overhead conducting wires provided that there is a 2.5m ground clearance outside the body of the bus
- cameras or close-proximity monitoring systems mounted on the side exterior of a vehicle that extends not more than 70mm from the side wall of the vehicle
- devices for improving the aerodynamic performance of a vehicle that extend not more than 25mm from either side of a vehicle.

Note 4

Trolley bus poles when extended to collect electric power from an overhead conducting wire are not included in determining whether a vehicle complies with the height requirements in **Table 3-1-1**.

Note 5

Ground clearance for a heavy motor vehicle does not include flexible mudflaps, wheels, tyres or devices designed to discharge static electricity.

Note 6

An engineer when designing or modifying a vehicle that will be outside the standard mass or dimensions should ensure that it can be used on the road. For this purpose, it must be either:

- a) a specialist overdimension motor vehicle, or
- b) a motor vehicle designed primarily to transport an overdimension load, or
- c) a high productivity motor vehicle to one of the pro forma designs approved by the Transport Agency, or
- d) a high productivity motor vehicle that is not a pro forma design but has been approved by the Transport Agency to operate on specified routes at greater dimensions and mass limits than otherwise allowed..

A motor vehicle that is not designed primarily to transport overdimension or overweight loads may exceed the dimension limits in this chapter, if the vehicles primary purpose is to carry out a specialist function that requires overdimension equipment, and:

- a) dismantling of the vehicles equipment would make the equipment unusable for its intended purpose, or
- b) it would take more than four hours to dismantle the vehicles equipment.

Table 3-1-2. Dimension tolerances

Dimension	Permitted tolerance
Width	2550mm + 0
Height	4300mm + 0
General internal dimensions up to 5.0 m: height wheel base ground clearance distance between axles front and rear overhang tow coupling position inter-vehicle spacing	+ 10mm - 10mm + 10mm
Overall vehicle dimensions between 5.01 m and 13.0 m, which include: overall vehicle length forward distance	+ 15mm
Overall length of combination and all large dimensions over 13.01 m, which include rear trailing unit distance (rigid vehicle towing two trailers)	+ 30mm

Summary of legislation**Applicable legislation**

- [Land Transport Rule: Vehicle Dimensions and Mass 2016](#)

- [Land Transport Rule: Passenger Service Vehicles 1999](#).

Vehicle Dimensions and Mass

General requirements for all vehicles

1. A vehicle and its load must comply with dimension requirements in this rule and must be manoeuvrable, fit safely on a road and interact safely with road users for the route on which it operates.
2. The distribution of the gross mass of a motor vehicle over its axles and the position of the centre of gravity of the vehicle must ensure that the dynamic handling characteristics of the vehicle remain safe in terms of stability and steering manoeuvres for the design speed of the road on which the vehicle operates.

Requirements for specific types of vehicle and vehicle configurations

3. Except as otherwise provided in this section a vehicle must comply with the applicable requirements in **Table 3-1-1** and with other applicable requirements in this section.

Specific requirements for mass and dimension limits

4. The inter-vehicle spacing between a towing vehicle and a full trailer when in a straight line must not be less than the greater of 1 m or half the width of the foremost point of the trailer (including its load but excluding the drawbar and front dolly assembly).
5. An articulated bus must be able to complete a 360-degree turn in either direction without any part of the vehicle except for collapsible mirrors encroaching within a concentric internal radius of 5.3m.
6. In carrying out a 360-degree turn at the 25m diameter as specified in **Table 3-1-1**, no part of a vehicle in a combination, other than its articulation mechanism, may come into contact with the other vehicle in the combination.

Passenger Service Vehicles Rule: Safety design features and loading

7. A passenger service vehicle must be designed and constructed to ensure that at any normal loading condition of the vehicle no component overloading will occur.
8. For the purposes of requirement 7 the permitted loading imposed by the trailer must also be taken into account if the passenger service vehicle is fitted with a towbar.

Page amended **1 February 2017** (see [amendment details](#)).