

# Class 2 road trains

## Operating a road train on NSW roads



Transport  
Roads & Maritime  
Services

FACT SHEET UPDATED DEC 2012

This fact sheet applies to Type 1 and Type 2 road trains which may operate in NSW, under the Class 2 Road Train Notice 2012 (the Notice) as a Restricted Access Vehicle (RAV).

The fact sheet aims to assist road train owners, operators and drivers by outlining the rules and specifications that generally apply to road trains, as detailed in NSW road transport legislation and the Notice. The fact sheet should be read in conjunction with the Notice, the Road Transport (Vehicle Registration) Regulation 2007 and the Road Transport (Mass, Loading and Access) Regulation 2005 (the MLA).

It is the responsibility of owners/operators/drivers to be aware of the laws which apply to a particular vehicle. The legislation and the Notice will prevail over any inconsistencies within this fact sheet. NSW legislation can be accessed at [www.legislation.nsw.gov.au](http://www.legislation.nsw.gov.au)

### Class 2 Road Trains

A road train is a combination, other than a B-double, consisting of a motor vehicle towing at least two trailers (counting as one trailer a converter dolly supporting a semi-trailer).

- A Type 1 road train is a road train with an overall length not exceeding 36.5 metres; and
- A Type 2 road train is a road train with an overall length exceeding 36.5 metres in length but not exceeding 53.5 metres.

**A road train is a restricted access vehicle.**

### Operating Requirements

#### Approved Routes

Road trains may only operate on approved routes and areas provided by the Notice. The travel conditions imposed on any approved route or area must be observed. Deviation from a route may occur in case of an emergency and only if the vehicle has been exempted by Roads and Maritime Services (RMS), pursuant to Clause 75 of the MLA Regulation.

It is the responsibility of the owner/operator/driver of a road train to find out which routes are approved for road trains.

Approved road train routes are published in the Notice and are updated in the NSW Government Gazette from time to time.

Copies of the gazette can be viewed and downloaded at [www.gazette.nsw.gov.au](http://www.gazette.nsw.gov.au)

Restricted Access Vehicle (RAV) maps are also available, and are regularly updated on the RMS website at:

[www.rta.nsw.gov.au/heavyvehicles/oversizeovermass/rav\\_maps.html](http://www.rta.nsw.gov.au/heavyvehicles/oversizeovermass/rav_maps.html)

#### Route Assessment Procedures

For assessment of a route in NSW that has not yet been approved for road train use, an application must be made to RMS in the first instance.

More information about route assessment procedures is available in the Restricted Access Vehicle Route Assessment Guidelines, which may be downloaded at:

[www.rta.nsw.gov.au/doingbusinesswithus/lgr/downloads/information/heavy-vehicles/rav.html](http://www.rta.nsw.gov.au/doingbusinesswithus/lgr/downloads/information/heavy-vehicles/rav.html)

#### Safe travel distance

The Road Rules require that except when travelling on a multi-lane road or in a built up area, a long vehicle (7.5 metres or longer) which is travelling behind another long vehicle must maintain a minimum distance of 60 metres.

In a gazetted road train area the minimum distance between long vehicles is 200 metres.

#### Speed Limiting

A motor vehicle used in a road train must be speed limited to 90 km/h – clause 163 of Part 9 of Schedule 2 to Road Transport (Vehicle Registration) Regulation 2007 which applies the third edition of Australian Design Rule (ADR) 65.

## Tracking Requirements

When travelling in a straight line on a level, smooth surface, all units in a road train must track in the path of the prime mover without shifting or swerving more than 100 millimetres either side of the prime mover.

## Warning Signs

A road train that is more than 30 metres long must be fitted with a horizontal “Road Train” warning sign to both the front and rear of the combination.

A road train that is more than 22 metres but less than 30 metres must be fitted with either a:

- “Road Train” warning sign fitted horizontally to both the front and rear of the combination; or
- a “Long Vehicle” warning sign fitted horizontally to the rear of the combination.

## Mass & Dimension Limits

### Maximum Overall dimension limits

A Type 1 road train must not be more than 36.5 metres long or more than 2.5 metres wide.

A Type 2 road train is longer than 36.5 metres in length but must not be more than 53.5 metres and not wider than 2.5 metres.

A road train must not be more than 4.3 metres high. However, a road train may be higher than 4.3 metres, but not more than 4.6 metres high, subject to compliance with the conditions set out in the current 4.6 Metre High Vehicle Route Notice, as well as the current Class 2 Road Train Notice.

**Cautionary note: The maximum overall length of a prime mover and semi trailer combination is 19 metres. When a road train is reconfigured to become a prime mover and semi trailer combination it is the operator’s responsibility to ensure that the legal overall dimension limit of the reconfigured combination is met.**

### Maximum Drawbar Length

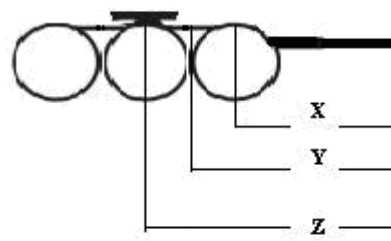
The distance between the coupling pivot point on the drawbar and the centre line of the axle (for single axle) or axle group of a converter dolly, must:

- Not be over 5 metres; and
- Not be under 3 metres if used in a road train over 19 metres long:

The length of a drawbar is measured as shown in **Diagram 1**, in the case of a:

- Single axle converter dolly; from the coupling pivot point to the centre line of the axle of the converter dolly – X.
- Tandem axle converter dolly; from the coupling pivot point to the centre line of the tandem axle converter dolly – Y.
- Tri-axle converter dolly; from the coupling pivot point to the centre line of the second axle of the converter dolly – Z.

**Diagram 1: Measuring Drawbar Length**



### Drawbar Height

A drawbar-type coupling, or drawbar eye, used in a road train must be built and positioned so that it is at a height of at least 800 millimetres, but not over 950 millimetres, when the road train is unloaded and parked on level ground.

A drawbar coupling may be exempt from the above height dimension requirements if the drawbar coupling is designed such that it permits the drawbar eye, when coupled to have the following degree/s of articulation:

- $\pm 90^\circ$  horizontally about the vertical axis from the longitudinal axis of the vehicle; and
- $\pm 20^\circ$  vertically about the transverse axis from the horizontal plane of the vehicle; and
- $\pm 25^\circ$  axial rotation about the longitudinal axis from the horizontal plane of the vehicle.

The above measurements must be verified and approved by a Vehicle Safety Compliance Certification Scheme (VSCCS) Licensed Certifier and evidence of verification must be carried in the vehicle and produced when requested by a police officer or an authorised person.

### Maximum General Mass Limits (GML) for axles and axle groups

- The maximum axle mass limits for a road train must be the lowest of:
- The manufacturers’ mass ratings; or
- The sum of the mass limits for the tyres fitted to the axles and axle groups in Table A.

**Table A: Axle and Axle Group Mass Limits**

Steering single axle	6.0 tonnes gross*
Single axle consisting of 4 tyres	9.0 tonnes gross
Tandem axle group consisting of 8 tyres	16.5 tonnes
Tri-axle group consisting of 12 tyres	20.0 tonnes
Tri-axle group consisting of 6 tyres with section widths at least 375 millimetres	20.0 tonnes

\*6.5 tonnes is permitted on the steer axle if the vehicle complies with the Class 3 Single Steer Axle Mass Limit Exemption Notice 2010.

### Maximum GML Total Combination Mass Limits

Under the Notice different GML total combination mass limits will apply depending upon the type of road train and whether the road train is or is not fitted with a tri-axle dolly which is equipped with certified Road Friendly Suspension (RFS<sup>#</sup>). The following total combination mass limits apply:

#### Type 1 Road Train – *no certified RFS<sup>#</sup>*

The following total combination mass limits apply to a Type 1 road train fitted with a converter dolly which is not equipped with certified RFS. The maximum permissible total combination mass is the lowest of:

- 79.0 tonnes; or
- The sum of the axle and axle group mass limits as determined by Table 1, Clause 2, Schedule 1 to the MLA Regulation; or
- The sum of the manufacturers' mass limits for the prime mover (GVM) and the semi-trailers; or
- The gross combination mass (GCM) limit specified by the prime mover manufacturer.

#### Type 2 Road Train – *no certified RFS<sup>#</sup>*

The following total combination mass limits apply to a Type 2 road train fitted with two converter dollies which are not equipped with certified RFS. The maximum permissible total combination mass is the lowest of:

115.5 tonnes; or

The sum of the axle and axle group mass limits as determined by Table 1, Clause 2, Schedule 1 to the MLA Regulation; or

- The sum of the manufacturers' mass limits for the prime mover (GVM) and the semi-trailers; or
- The gross combination mass (GCM) limit specified by the prime mover manufacturer.

#### Type 1 Road Train – *equipped with certified RFS<sup>#</sup>*

The following total combination mass limits apply to a Type 1 road train fitted with one tri-axle converter dolly which is equipped with certified RFS. The maximum permissible total combination mass is the lowest of:

- 82.5 tonnes; or
- The sum of the axle and axle group mass limits as determined by Table 1, Clause 2, Schedule 1 to the MLA Regulation; or
- The sum of the manufacturers' mass limits for the prime mover (GVM) and the semi-trailers; or
- The gross combination mass (GCM) limit specified by the prime mover manufacturer.

#### Type 2 Road Train – *equipped with certified RFS<sup>#</sup>*

The following total combination mass limits apply to a Type 2 road train fitted with two tri-axle converter dollies both of which are equipped with certified RFS.

The maximum permissible total combination mass is the lowest of:

- 122.5 tonnes; or
- The sum of the axle and axle group mass limits as determined by Table 1, Clause 2, Schedule 1 to the MLA Regulation; or
- The sum of the manufacturers' mass limits for the prime mover (GVM) and the semi-trailers; or
- The gross combination mass (GCM) limit specified by the prime mover manufacturer.

#### Type 2 Road Train – *equipped with certified RFS<sup>#</sup> on one tri-axle group only*

The following total combination mass limits apply to a Type 2 road train fitted with two tri-axle converter dollies one of which is a tri-axle converter dolly which is equipped with certified RFS and one is a converter dolly (whether one, two or three axles) which is not equipped with certified RFS. The maximum permissible total combination mass is the lowest of:

- 119.0 tonnes; or
- The sum of the axle and axle group mass limits as determined by Table 1, Clause 2, Schedule 1 to the MLA Regulation; or
- The sum of the manufacturers' mass limits for the prime mover (GVM) and the semi-trailers; or
- The gross combination mass (GCM) limit specified by the prime mover manufacturer.

#### Requirements for a road train that is fitted with certified RFS<sup>#</sup> tri-axle converter dollies

Operators must ensure that they carry evidence verifying that each tri-axle converter dolly is fitted with certified RFS<sup>#</sup>. The evidence must be produced when requested by a police officer or an authorised person.

The following evidence can be produced:

- A manufacturer's decal, label or plate affixed to, or near, the suspension system indicating the RFS Certificate Number; or
- A certificate or signed letter from the manufacturer identifying the road friendly suspension make and model; or
- Any other documentation approved by Roads and Maritime Services (RMS).

#### Axle spacing requirements

A Type 1 road train must comply with the adjacent axle groups spacing requirements calculated in accordance with the formula\*:

$M = 3L + 12.5$  where:

**M** is the mass limit in tonnes.

**L** is the distance in metres.

In addition a type 1 road train must maintain a spacing between the outermost axles of not less than 26.5 metres. (see Figure: 1 on page 4)

A Type 2 road train must comply with the axle spacing requirements calculated in accordance with the formula\*:

$M = 3L + 12.5$  where:

**M** is the mass limit in tonnes.

**L** is the distance in metres.

**Cautionary note:** Where a Type 2 road train is reconfigured to become a Type 1 road train, different axle spacing requirements may apply. It is the operator's responsibility to ensure that the different requirements are met when there has been a change in the vehicle configuration.

#### Concessional Mass Limits

Type 1 and Type 2 road trains are eligible for operation at Concessional Mass Limits (CML) provided they comply with the requirements of the current Class 3 Concessional Mass Limits Notice.

#### Higher Mass Limits

Type 1 road trains are eligible for operation at Higher Mass Limits (HML) provided they are enrolled into the Intelligent Access Program (IAP) and meet all

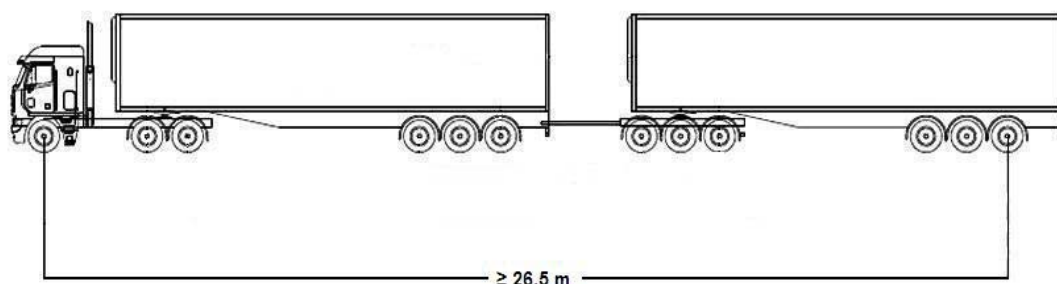
operating requirements. Further information on HML including conditions and eligibility requirements can be found at:

[www.rta.nsw.gov.au/heavyvehicles/iap/hml.html](http://www.rta.nsw.gov.au/heavyvehicles/iap/hml.html)

**Type 2 road trains are not eligible for HML.**

**Cautionary note:** Road train vehicles loaded to the maximum tri-axle dolly mass limits (i.e. 20 tonnes GML, 21 tonnes CML and 22.5 tonnes HML) will be unable to de-couple the rear trailer and use it to operate in a semi-trailer combination while complying with mass limits. This is because the load on the tri-axle dolly (i.e., 20 tonnes GML, 21 tonnes CML, and 22.5 tonnes HML) is in excess of the capacity of the tandem drive axle group of the prime mover (16.5 tonnes GML, 17 tonnes CML/HML). It is the Transport Operator's responsibility when de-coupling to ensure compliance with mass limits.

**Figure 1 – Axle Spacing Requirements**



**Note:** The outermost axle spacing is measured from the centre line of the steer axle on the prime mover to the centre line of the last axle in the combination as illustrated in Figure 1.

**Special Note:** Where a tri-axle converter dolly without certified RFS is used in a road train combination - that tri-axle dolly may carry up to 20 tonnes, subject to the combination complying with the total combination mass limit specified in **Table B**. (see page 5)

\***Road Friendly Suspension (RFS)** can be either airbag or mechanical/spring suspension systems. A suspension system can only be considered "certified" if it has been certified by the Commonwealth Department of Infrastructure and Transport as being RFS. Further information on the certification process can be found using the following link [http://www.infrastructure.gov.au/roads/vehicle\\_regulation/bulletin/](http://www.infrastructure.gov.au/roads/vehicle_regulation/bulletin/)

\*Note this formula does not apply to the non adjacent or extreme axle groups for the road train combination

~ The **Total Combination Mass Limit** is increased by 0.5 tonne for vehicles that comply with the conditions set out in the Class 3 Single Steer Axle Mass Limit Exemption Notice 2010.

To access heavy vehicle notices, including the **Class 2 Road Train Notice 2012**, and further information about heavy vehicle licensing and registration please visit [www.rms.nsw.gov.au/heavyvehicles](http://www.rms.nsw.gov.au/heavyvehicles)

**Table B: Summary of Mass Limits by Combination**

<b>Type 1 Road Train with Tandem Axle Dolly</b>	
	GML: 79.0t~
	CML: 81.0t~
	HML: 85.0t~
<b>Type 1 Road Train with Tri-axle Dolly NOT fitted with RFS<sup>#</sup></b>	
	GML: 79.0t~
	CML: 81.0t~
	Not Eligible for HML
<b>Type 1 Road Train with Tri-axle Dolly fitted with RFS<sup>#</sup></b>	
	GML: 82.5t~
	CML: 84.5t~
	HML: 90.5t~
<b>Type 2 Road Train with two Tandem Axle Dollies</b>	
	GML: 115.5t~
	CML: 117.5t~
	Not Eligible for HML
<b>Type 2 Road Train with one Tandem axle Dolly and one Tri-axle Dolly NOT fitted with RFS<sup>#</sup></b>	
	GML: 115.5t~
	CML: 117.5t~
	Not Eligible for HML
<b>Type 2 Road Train with Two Tri-axle Dollies NOT fitted with RFS<sup>#</sup></b>	
	GML: 115.5t~
	CML: 117.5t~
	Not Eligible for HML
<b>Type 2 Road Train with one Tandem axle Dolly and one Tri-axle Dolly fitted with RFS<sup>#</sup></b>	
	GML: 119.0t~
	CML: 121.0t~
	Not Eligible for HML
<b>Type 2 Road Train with one Tri-axle Dolly NOT fitted with RFS<sup>#</sup> and one Tri-axle Dolly fitted with RFS<sup>#</sup></b>	
	GML: 119.0t~
	CML: 121.0t~
	Not Eligible for HML
<b>Type 2 Road Train with two Tri-axle Dollies fitted with RFS<sup>#</sup></b>	
	GML: 122.5t~
	CML: 124.5t~
	Not Eligible for HML

For more information please call 13 22 13.